PRJ19-00008 Attachment 060

TRANSPORTATION TECHNICAL REPORT

for

High School #4 / Elementary School #17

APPLICANT:

Issaquah School District

PREPARED BY:

heffron transportation inc

6544 NE 61st Street, Seattle, WA 98115

ph: (206) 523-3939 ◆ fx: (206) 523-4949

September 1, 2020

PRJ19-00008 Attachment 060

Transportation Technical Report
for

Issaquah School District
High School #4 / Elementary School #17

PARCEL ID 1624069001
ISSAQUAH, WA 98029

APPLICATION # COM20-00001

APPLICANT:
Issaquah School District No. 411

Contact
Tom Mullins, Director of Capital Projects
5150–220th Avenue SE
Issaquah, WA 98029

Phone: (425) 837-7000

PREPARED BY:

Jennifer A. Barnes, PE, Associate Principal
Marni C. Heffron, PE, PTOE, Principal
Tod S. McBryan, PE, Principal

Heffron Transportation, Inc.
6544 NE 61st Street,
Seattle, WA 98115

Phone: (206) 523-3939

September 1, 2020

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

1. INTRODUCTION 4

2. PROJECT DESCRIPTION 4
   2.1. Project Location 4
   2.2. Proposed School Project 4
   2.3. Study Area 7
   2.4. Analysis Periods 9

3. BACKGROUND CONDITIONS 10
   3.1. Study Area Street System 10
   3.2. Programmed Roadway Improvements 12
   3.3. Traffic Volumes 12
   3.4. Traffic Operations 17
   3.5. Collision History 21
   3.6. Transit Facilities and Service 22
   3.7. Non-Motorized Transportation Facilities 22

4. PROJECT IMPACTS 23
   4.1. Trip Generation 23
   4.2. Trip Distribution and Assignment 26
   4.3. Traffic Operations 30
   4.4. On-Site Circulation and Queuing 39
   4.5. Safety Analysis 42
   4.6. Evaluation of Transit, Bicycle and Pedestrian Facilities 43
   4.7. Parking Analysis 43
   4.8. Short-Term Impacts from Construction 50

5. MITIGATION AND RECOMMENDATIONS 51

APPENDIX A – Site Plan
APPENDIX B – Traffic Counts
APPENDIX C – 2024 Background and Pipeline Volumes
APPENDIX D – Level of Service Definitions and Reports
APPENDIX E – Historical Collision Data
APPENDIX F – Trip Generation and Distribution
APPENDIX G – Total Project and Shifted Trips – With Project
APPENDIX H – Site Access Operational and Queuing Summary Reports
APPENDIX I – Vehicle Loading Area Queuing Model Summary Reports

LIST OF FIGURES

Figure 1. Site Location....5
Figure 2. Conceptual Site Plan....6
Figure 3. Transportation Study Area....8
Figure 4. Existing (2019) Traffic Volumes....14
Figure 5. Future (2024) Traffic Volumes Without Project....16
Figure 6. Cumulative Trips for High School and Elementary School....24
Figure 7. Net New Trips with Project....28
Figure 8. Forecast (2024) Traffic Volumes With Project....29
Figure 9. Peak Hour Volumes at Site Access Driveway....30
Figure 10. Example Shared Left-Thru Lane – NE 124th Street / 100th Avenue NE, Kirkland....33
Figure 11. Proposed On-Site Circulation....40

LIST OF TABLES

Table 1. Off-Site Intersections for Transportation Analysis....7
Table 2. Study Area Arterial Street Characteristics....11
Table 3. Factors Applied to Estimate Afternoon Peak Hour Volumes....13
Table 4. Level of Service Summary – Existing and 2024-Without-Project Conditions....19
Table 5. Collision History in Study Area....21
Table 6. Collision Detail in Vicinity of Project Site....22
Table 7. Cumulative Trips Generation for Analysis Peak Hours....25
Table 8. Signal Warrant Analysis Summary – 2024 Conditions With Project....32
Table 9. Level of Service at 228th Ave SE / Site Access Driveway – 2024 With-Project....34
Table 10. Peak Queuing Conditions Site Access Driveway – 2024 With-Project....35
Table 11. Level of Service Summary – 2024 Conditions Without- and With-Project....37
Table 12. School Day Parking Demand – ISD Elementary Schools....44
Table 13. School Day Parking Demand – ISD High Schools....44
Table 14. School Day Parking Demand for HS #4 / ES #17....45
Table 15. Expected Special Events and Parking Demand – Elementary School #17....46
Table 16. Expected Special Events and Parking Demand – High School #4....48

EXECUTIVE SUMMARY

Proposal

The Issaquah School District (ISD) proposes to co-locate a new elementary school (serving grades pre-kindergarten through 5) and a new high school (serving grades 9 through 12) on property located west of 228th Avenue SE and north of SE 43rd Way. The site is located within Issaquah, but is at the boundary with Sammamish. The site access driveway on 228th Avenue SE would be within City of Sammamish jurisdiction. The elementary school is planned for an enrollment capacity of 744 students (552 in permanent buildings plus potentially 192 in portable classrooms) with about 75 faculty and staff. The high school is planned for an enrollment capacity of 1,823 students (1,631 in permanent buildings plus potentially 192 in portable classrooms) with about 150 faculty and staff. About 667 vehicle parking spaces and 30 bus parking spaces are currently planned, although the parking supply could be adjusted as site design progresses. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 759 vehicles to be parked on site during special events. The proposed school facilities include athletic fields, tennis courts, an auditorium, and a gymnasium.

A signalized access driveway is proposed on 228th Avenue SE. In addition to installing a signal, the project would construct extensive improvements of 228th Avenue SE along the site frontage. Improvements would include widening the current two-lane section (one travel lane in each direction) to a five-lane section (two travel lanes in each direction plus a center left-turn lane), consistent with the City of Sammamish's ultimate plans for the street. Additional turn lanes would be constructed at the site driveway intersection as needed to ensure that it would meet the City's traffic operational standards during all times of day. New 6-foot wide sidewalk and landscaping would be constructed along the site frontage, with a length of approximately 1,700 feet. The intersection at the site driveway/228th Avenue SE would be signalized to facilitate site access and egress as well as pedestrian crossings of the intersection.

Traffic Generation

With both schools at capacity, they are forecast to cumulatively generate 1,303 vehicle trips the morning peak hour, 862 vehicle trips in the afternoon peak hour, and 476 vehicle trips in the commuter PM peak hour. These estimates assume that the schools would have similar characteristics to other ISD schools. Implementation of a Transportation Management Plan (TMP) to encourage travel by modes other than single-occupant-vehicles is recommended for each school, which would seek to reduce project-generated trips compared to what is reflected in the analysis. It is important to note that if the proposed schools are not constructed, the students living in the enrollment areas would still need to attend a different school, and therefore, would still generate trips to and from the schools they would otherwise attend. These shifts are reflected in the traffic forecasts developed for the project.

Traffic Operations

Two configuration options were evaluated for the northbound approach of the site access driveway intersection which would result in either a six-lane or seven-lane cross section on 228th Avenue SE; the configuration of the other approaches would be the same for each option. With the proposed signalized access, the main driveway intersection at 228th Avenue SE is projected to operate at LOS C or D during the morning peak hour, depending on the option. With either option, the intersection is projected to operate at LOS B during the afternoon peak hour and LOS A during the commuter PM peak hour.

To the north of the site, project-generated traffic would increase delay at SE 40th Street / 228th Avenue SE, which is projected to operate at LOS F under 2024 conditions without the project, requiring mitigation at

this location. Analysis determined that installing a traffic signal would improve operations to LOS D or better for all peak hours. ISD would work with the City of Sammamish to determine the optimal improvement for this location.

Project-generated traffic is also expected to add delay to the NW Sammamish Road / 17th Avenue W and SE 56th Street / East Lake Sammamish Parkway intersections in Issaquah, which are projected to operate at LOS E or F in 2024 without the project. The City of Issaquah has identified future capacity improvements that would improve traffic operation at these locations. In its payment of traffic impact fees to the City of Issaquah, the project would mitigate its share of traffic impacts at these intersections.

During the morning peak hour, the SE 43rd Way / East Lake Sammamish Parkway roundabout is projected to operate at LOS E with the project. However, because (1) the projected average delay is less than a half second above the LOS D threshold, (2) the cumulative conditions reflect a 4% annual background traffic growth that is substantially higher than the 1.1% average rate reflected in the City of Issaquah's models, and (3) the City has chosen to implement a capacity reduction at this location, no mitigation is recommended. Additionally, ISD would develop a TMP to encourage travel by modes other than single-occupant-vehicles, which would seek to reduce project-generated trips compared to what is reflected in the analysis.

On-Site Circulation

The proposed internal lane configuration, combined with separation of loading and major parking activity, would minimize the potential for internal vehicle conflicts on site. The primary location where conflicts could occur is the intersection of the main access road with the high school parking garage/ passenger loading area access road. However, when westbound left-turns (toward the high school and parking garage) would be highest, there would be a low volume of opposing traffic (from the elementary school, bus loop, and parking west of the athletic facilities). The proposed site design would separate circulation of buses and vehicles generated by each school, so that maximum queuing conditions at one school would not impede vehicles or buses traveling to or from the other school. Analysis indicates that the proposed site configuration would be adequate to accommodate expected queues generated by both schools without affecting other on-site circulation functions.

Traffic Safety

Historical collision data indicated no unusual safety patterns in the transportation study area. Transportation improvements constructed by the project would be built to meet design standards established by the City of Sammamish and would not result in adverse safety impacts.

A traffic signal at the 228th Avenue SE/school driveway intersection has been incorporated into the proposal to address traffic operational and queuing needs. Signals typically reduce the likelihood of angle collisions, which can be more severe in terms of injury and property damage, but can result in increased numbers of less-severe rear-end collections.

It is recommended that with the school project, ISD work with the City of Sammamish to implement a school zone speed limit on 228th Avenue SE adjacent to and approaching the site, as provided along 228th Avenue SE near other elementary schools. This would improve safety conditions for both vehicles and pedestrians in the vicinity of the school site.

Transit & Non-Motorized Facilities and Service

The project would provide substantial improvements that would enhance the pedestrian environment along the site frontage. Improvements would include construction of a new 6-foot wide sidewalk and

landscaping, and provision of signalized pedestrian crosswalks in the north-south and east-west directions at the site access driveway. The project would also provide bike racks to accommodate 68 bicycles on the site. The project is not expected to result in adverse impacts to transit, bicycle or pedestrian facilities.

Typical School-Day and Event Parking

A peak school-day parking demand of 644 vehicles is projected for both schools combined. This could be accommodated by the planned on-site supply of 667 spaces.

Events would include scholastic events, performances, athletics, and business meetings. On typical school days, 23 spaces would be available to accommodate daytime events during periods of peak school day demand unless the loading zone spaces were also made available. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 758 vehicles to be parked on site during special events. Parking demand would vary based on the type of event and attendance; most types of events could be accommodated by the proposed parking supply. The proposed parking supply would be adequate to accommodate all single evening/weekend events held by either school except the high school's Curriculum Night. Additionally, without management, some higher attendance elementary school events during the day have the potential to generate a higher level of parking demand cumulatively with typical school day demand than available supply. Recommended measures include development and implementation of an Event Management Plan by each school to ensure that on-site parking is adequate for all combinations of events.

Construction

Project construction would generate truck trips, as well as construction employee commute trips. Construction truck traffic is expected to average between 2 to 3 trips per hour during a typical eight-hour construction work day, over a 6-month period.

Mitigation and Recommendations

Based on the extensive analysis prepared for the proposed High School #4 / Elementary School #17 project, the following physical measures have been incorporated into the proposal.

A. Widen and improve SE 228th Avenue SE

B. Construct pedestrian improvements along 228th Avenue SE

C. Signalize site driveway intersection at 228th Avenue SE and construct a southbound right-turn lane and northbound double-left-turn lanes at the intersection approaches

The following additional mitigation has been identified for the project:

D. Capacity Improvement at SE 40th Street / 228th Avenue SE (to be determined in coordination with the City of Sammamish)

E. Establish School-Zone Speed Limit on 228th Avenue SE

F. Construction Management Transportation Plan (CMTP)

G. Transportation Management Plans (TMPs)

H. School-Event Management Plans for evening events with more than 1,000 expected attendees (for a single event or more than one event combined).

I. Issaquah Transportation Impact Fees

1. INTRODUCTION

This report presents the transportation impact analyses for a new elementary school and a new high school proposed by the Issaquah School District (ISD) at a site located in Issaquah at its boundary with Sammamish. It documents the existing transportation conditions in the site vicinity, presents estimates of project-related traffic, and evaluates the anticipated impacts to the surrounding transportation system, including traffic operations, site circulation and safety, parking, transit, and non-motorized facilities. The scope of this analysis was coordinated extensively between ISD and the Cities of Sammamish and Issaquah. This report was prepared in accordance with the City of Sammamish's *Traffic Impact Analysis Report Guidelines*[1] because the site access driveway and a large portion of the transportation study area are in Sammamish. It is also consistent with the City of Issaquah's *Traffic Impact Analysis Guidelines.*[2,3]

2. PROJECT DESCRIPTION

2.1. Project Location

ISD proposes to co-locate a new elementary school (serving grades pre-kindergarten through 5) and a new high school (serving grades 9 through 12) on property located west of 228th Avenue SE and north of SE 43rd Way. The site location is shown on **Figure 1**. The site is located within Issaquah, but is at the boundary with Sammamish. The site access driveway on 228th Avenue SE would be within City of Sammamish jurisdiction.

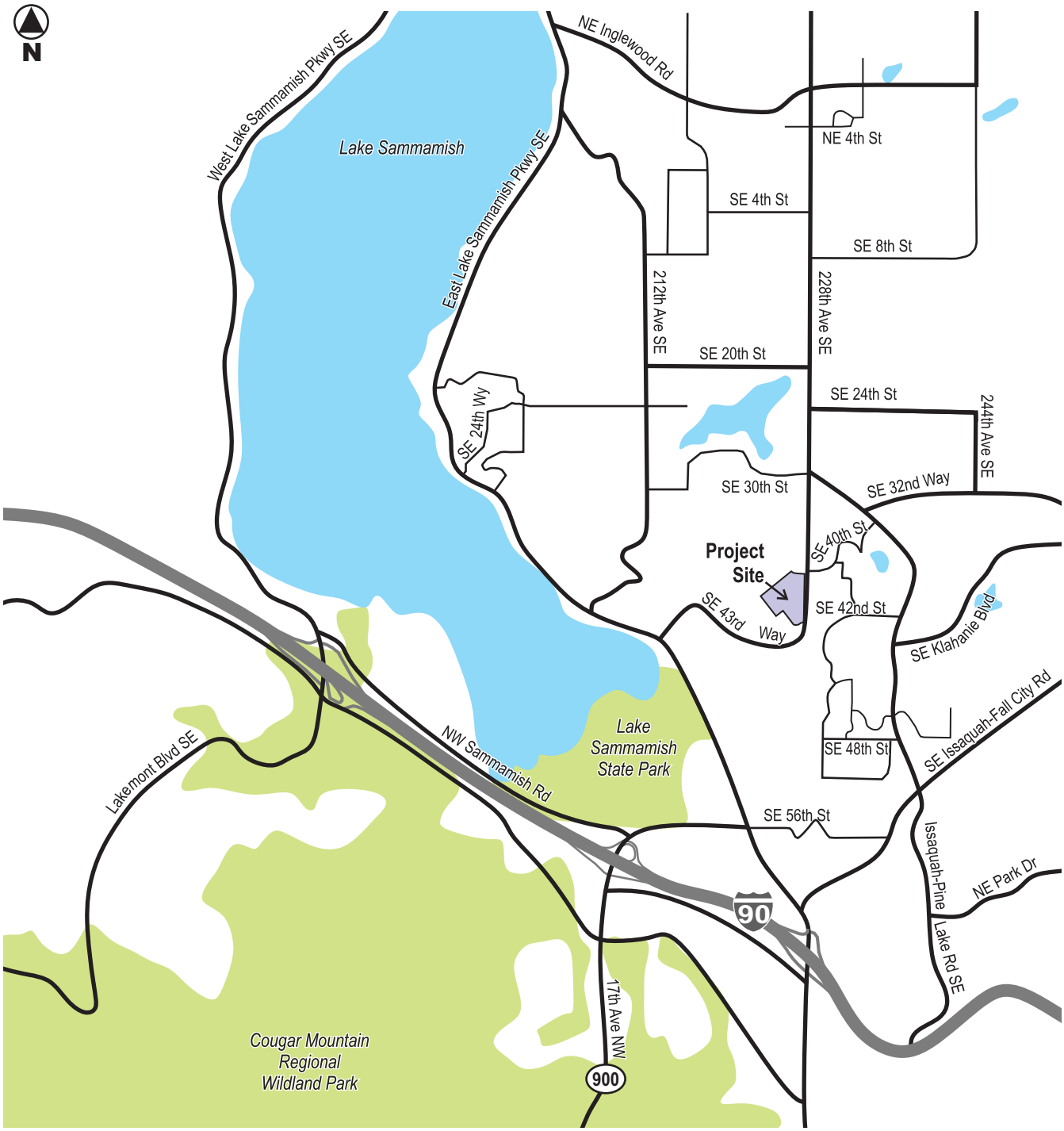
2.2. Proposed School Project

A conceptual site plan for the proposed project is shown on **Figure 2**; a detailed site plan is provided in **Appendix A**. On the site, the elementary school building and parking/loading facilities would be located to the west of the athletic field and tennis courts, and the high school building and parking/loading facilities would be located to the east. The elementary school is planned for an enrollment capacity of 744 students (552 in permanent buildings plus potentially 192 in portable classrooms) with about 75 faculty and staff. The high school is planned for an enrollment capacity of 1,823 students (1,631 in permanent buildings plus potentially 192 in portable classrooms) with about 150 faculty and staff. About 667 vehicle parking spaces and 30 bus parking spaces are currently planned, although the parking supply could be adjusted as site design progresses. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 759 vehicles to be parked on site during special events. The proposed school facilities include athletic fields, tennis courts, an auditorium, and a gymnasium.

A signalized access driveway is proposed on 228th Avenue SE. In addition to installing a signal, the project would construct extensive improvements of 228th Avenue SE along the site frontage. Improvements would include widening the current two-lane section (one travel lane in each direction) to a five-lane section (two travel lanes in each direction plus a center left-turn lane), consistent with the City of Sammamish's ultimate plans for the street. Additional turn lanes would be constructed at the site driveway intersection as needed to ensure that it would meet the City's traffic operational standards during all times of day. New 6-foot wide sidewalk and landscaping would be constructed along the site frontage, with a length of approximately 1,700 feet. The intersection at the site driveway/228th Avenue SE would be signalized to facilitate site access and egress as well as pedestrian crossings of the intersection.

---

1 City of Sammamish, 2016 Public Works Standards, Appendix E – Traffic Impact Analysis Report Guidelines, December 31, 2016.
2 City of Issaquah, Traffic Impact Analysis Guidelines, April 8, 2015.
3 The overall approach to the transportation analysis was confirmed in a meeting between ISD staff, Steven Chen and Andrew Zagars, City of Sammamish, and Kurt Seemann and Doug Schlepp, City of Issaquah, on October 24, 2019.



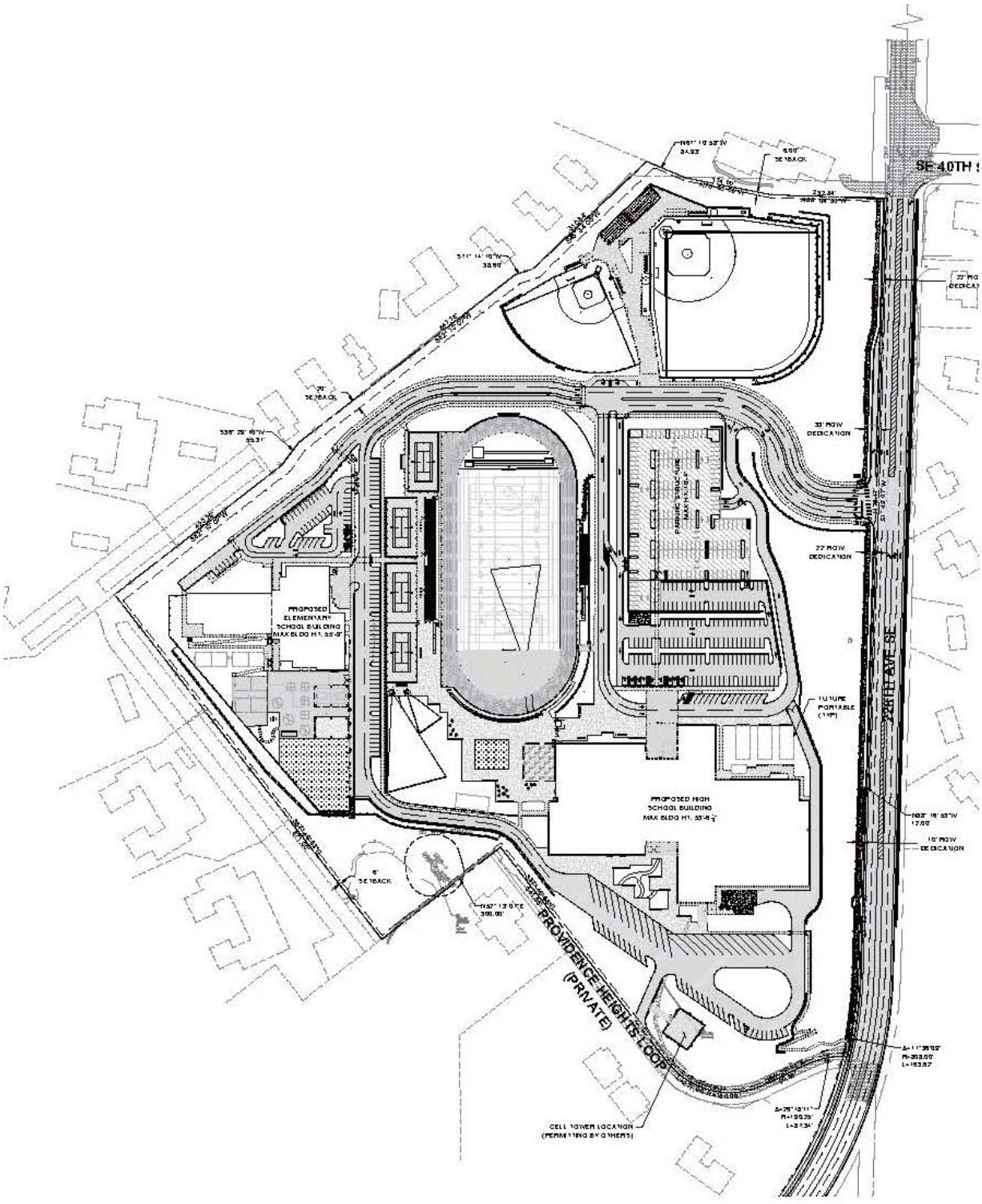
High School #4
Elementary #17

Figure 1

Site Location

heffron transportation inc

09.01.20



Source: AHBL, July 31, 2020

High School #4
Elementary #17

Figure 2

Conceptual Site Plan

heffron transportation inc

09.01.20

A separate emergency-access/service driveway connection to the fire lane east of the school building is also proposed on the south side of the site. Each school would have separate passenger vehicle and bus loading zones. For the elementary school, the passenger vehicle loading area would be located along the north side of the school building, and the bus loading area would be located along the east side. For the high school, the passenger vehicle loading area would be located on the north side of the school building and the bus loading area would be located along the south side.

2.3. Study Area

The scope and study area for this analysis were coordinated with City of Sammamish and City of Issaquah staff. Study area intersections were identified in coordination with both Cities after review of preliminary trip generation and distribution estimates prepared for the project,[4] and then reconfirmed after review of the updated trip generation analysis[5] that incorporated City comments on the initial estimates (note, the updated trip generation analysis is presented in *Section 4.1* of this report). The study area intersections confirmed by the Cities are shown on **Figure 3** and summarized in **Table 1**.

Table 1. Off-Site Intersections for Transportation Analysis

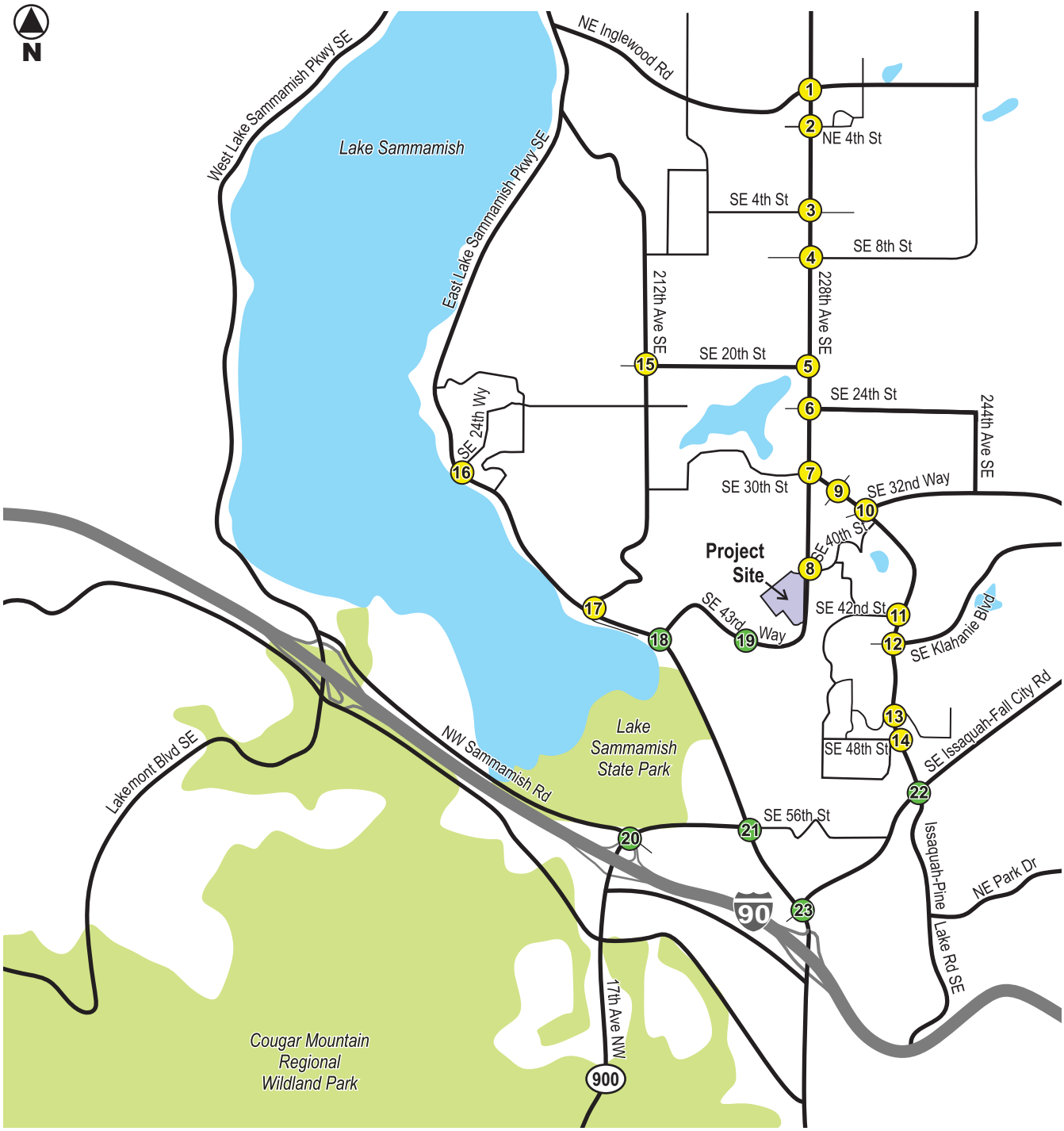
City of Sammamish	
Signalized	
(1) NE Inglewood Drive / 228th Avenue NE	(9) SE 230th Lane / Issaquah-Pine Lake Road SE
(2) NE 4th Street / 228th Avenue NE	(11) SE 42nd Street / Issaquah-Pine Lake Road SE
(3) SE 4th Street / 228th Avenue SE	(12) SE Klahanie Boulevard / Issaquah-Pine Lake Road SE
(4) SE 8th Street / 228th Avenue SE	(13) 238th Way SE / Issaquah-Pine Lake Road SE
(5) SE 20th Street / 228th Avenue SE	(14) SE 48th Street / Issaquah-Pine Lake Road SE
(6) SE 24th Street / 228th Avenue SE	(17) 212th Way SE / East Lake Sammamish Parkway SE
(7) 228th Avenue SE / Issaquah-Pine Lake Road SE	
Stop Sign-Controlled	
(8) SE 40th Street / 228th Avenue SE	(16) SE 24th Way / East Lake Sammamish Parkway SE
(15) SE 20th Street / 212th Avenue SE	
Roundabout-Controlled	
(10) SE 32nd Way / Issaquah-Pine Lake Road SE	
City of Issaquah	
Signalized	
(19) SE 43rd Way / Providence Point Drive SE [a]	(22) SE Issaquah-Fall City Road / Issaquah-Pine Lake Road SE
(20) N Sammamish Road / 17th Avenue NW	(23) SE Issaquah-Fall City Road / East Lake Sammamish Pkwy SE
(21) SE 56th Street / East Lake Sammamish Parkway SE	
Roundabout-Controlled	
(18) SE 43rd Way / East Lake Sammamish Parkway SE	

Note: (X) indicates the intersection ID number presented in the figures and tables in this report.

a. SE 43rd Way / Providence Point Drive SE is currently stop-sign controlled, but will be signalized by 2024.

4 Heffron Transportation, Inc., ISD High School #4 / Elementary School #17, Trip Generation and Distribution, December 12, 2019.

5 Heffron Transportation, Inc., ISD High School #4 / Elementary School #17, Trip Generation and Distribution - Updated, June 9, 2020.



Sammamish Analysis Intersection

Issaquah Analysis Intersection

High School #4
Elementary #17

Figure 3

Transportation Study Area

heffron transportation inc

09.01.20

2.4. Analysis Periods

The schools are planned to be completed and partially occupied by Fall 2022, and fully occupied by Fall 2023. Analysis presented in this report was completed for future 2024 conditions with the schools operating at full capacity and taking into account traffic from development growth unrelated to the project (described in *Section 3.3.2* of this report).

Analysis was completed for the peak morning (arrival) and afternoon (dismissal) periods, when school-generated trips are typically highest, and for commuter PM peak hour when traffic on the adjacent streets is typically highest. Sammamish Municipal Code (SMC) §14A.05.010 defines the period from 7:00 to 8:00 A.M. as the model morning peak hour, and the period from 4:45 to 5:45 P.M. as the model PM peak hour. The following peak hours were defined for the analysis presented in this report, and are described in more detail *Section 4.1 Trip Generation.*

- **Morning peak hour** – The morning peak hour for background traffic was identified as the hour from 7:00 to 8:00 A.M., consistent with SMC §14A.05.010. However, analysis found that the schools' combined morning peak hour is offset from the City-defined peak hour by 15 minutes—starting at 7:15 A.M. instead of 7:00 A.M. To ensure analysis of the potential worst-case condition, the school's peak morning volumes were assumed to overlap the City's defined morning peak.

- **Afternoon peak hour** – The afternoon peak hour period was determined to be from 3:00 to 4:00 P.M., because that is the hour in which the trips generated by the combined schools' dismissal periods would be highest.

- **Commuter PM peak hour** – The commuter PM peak hour was identified as the hour from 4:45 to 5:45 P.M., consistent with SMC §14A.05.010.

3. BACKGROUND CONDITIONS

This section presents the existing and future conditions without the proposed project. The impacts of the proposed project were evaluated against these base conditions. The following sections describe the existing street network, traffic volumes, traffic operations, traffic safety, transit facilities, parking, non-motorized facilities, and planned future projects in the study area.

3.1. Study Area Street System

The school site is bounded by 228th Avenue SE on its east side. Development to the north, south, and west consists primarily of the Providence Point senior residential community; there would be no direct roadway connections between the project site and the surrounding residential development.

228th Avenue is a north-south Principal Arterial. To the north of NE 25th Way it turns into Sahalee Way NE, which connects to Redmond-Fall City Road (State Route [SR] 202). To the south of the project site it turns into SE 43rd Way, which connects to East Lake Sammamish Parkway. North of Issaquah-Pine Lake Road SE, it has two travel lanes in each direction, with left-turn lanes at major intersections and median where turn lanes are not present. Between Issaquah-Pine Lake Road and Providence Point Drive SE (where it has become SE 43rd Way) it has one travel lane in each direction with left-turn lanes at some intersections—this includes the segment adjacent to the project site. Between Providence Point Drive SE and East Lake Sammamish Parkway, SE 43rd Way has two travel lanes in the northbound/eastbound (uphill) direction, and one travel lane in the southbound/westbound (downhill) direction. 228th Avenue has a speed limit of 35 miles per hour (mph) to the north of about NE 2nd Avenue, and a speed limit of 40 mph to the south, which includes the segment adjacent to the project site. North of about 33rd Court SE, there are sidewalks and painted bike lanes on both sides of the street. To the south, there are shoulders on both sides of the street, with the exception of intermittent segments where sidewalk has been constructed adjacent to a development project. There is no on-street parking allowed on either side. The segment of 228th Avenue SE adjacent to the project site has one travel lane with shoulder in each direction.

Characteristics of the key study area arterial streets are summarized in **Table 2**.

Table 2. Study Area Arterial Street Characteristics

Street	Classification [a]	Number of Lanes	Speed Limit (mph) [b]	Non-Motorized Facilities
Sammamish Jurisdiction				
228th Avenue	Principal Arterial	2 – 5	35 – 40	Sidewalks and painted bike lanes to the north of SE 33rd Court. Shoulder with intermittent sidewalk to the south.
East Lake Sammamish Parkway (west of Peregrine Point Way SE)	Minor Arterial	2 – 3	35	Shoulders, both sides
212th Avenue SE	Collector Arterial	2	25	Combination of sidewalks and shoulders, both sides
Issaquah-Pine Lake Road SE	Principal Arterial	2 – 4	35	Sidewalks, painted bike lanes both sides
NE Inglewood Road / NE 8th Street	Minor Arterial	3	35	Sidewalks both sides. Painted bike lanes both sides on NE Inglewood Road
SE 4th Street	Collector Arterial	2 – 3	25	Sidewalk, north side
SE 8th Street	Collector Arterial	3	30	Sidewalks and painted bike lanes, both sides
SE 20th Street	Collector Arterial (west of 228th Ave)	2	30	Sidewalk, north side
SE 24th Street	Collector Arterial	2	35	Sidewalk, north side
SE 32nd Street	Minor Arterial	2	35	Sidewalks and painted bike lanes, both sides
SE Klahanie Boulevard	Collector Arterial	2	25	Sidewalks, both sides
SE Issaquah-Fall City Road	Principal Arterial	4 – 5	40	Sidewalks, both sides
Issaquah Jurisdiction				
SE 43rd Way	Principal Arterial	2 eastbound 1 westbound	40	Narrow shoulders, both sides
East Lake Sammamish Parkway (east of Peregrine Point Way SE)	Principal Arterial	3 – 7	35 – 40	Sidewalks, one or both sides
NW Sammamish Road	Minor Arterial	3	35	Sidewalks and painted bike lanes, both sides
SE 56th Street	Principal Arterial (west of ELSP)	5	35	Sidewalks, both sides
17th Avenue NW (SR 900)	Principal Arterial	5 – 8	40	Sidewalk or trail, one or both sides

a. *Sources: City of Sammamish, Comprehensive Plan, Amended September 18, 2018; City of Issaquah, Comprehensive Plan, Amended 2019.*

3.2. Programmed Roadway Improvements

The current *Capital Improvement Plans* (CIPs)[6,7] for each city were reviewed to determine if any transportation projects are planned that would affect the operation or capacity of the study area intersections. The following projects would affect capacity of study area intersections and are either under construction or planned to be complete by 2024. They were assumed to be complete in the future analysis presented in this report.

- SE 4th Street / 228th Avenue SE – addition of an eastbound right-turn lane (TR-01)
- East Lake Sammamish Parkway / SE 24th Way – addition of left-turn pocket and acceleration lane on East Lake Sammamish Parkway, separate turn lanes on SE 24th Way (TR-04)
- East Lake Sammamish Parkway / SE 43rd Way – removal of southeast-bound slip lane at the roundabout (TR-046)
- SE 43rd Way / Providence Point Drive SE / Providence Point Place SE – installation of a new traffic signal and associated channelization (TR-031)

3.3. Traffic Volumes

3.3.1. Existing Traffic Volumes

Due to the COVID-19 pandemic and associated state-wide school closures initiated by Governor Inslee in March 2020, it was not possible to collect representative new traffic data for this analysis. Therefore, all analyses were based on 2019 traffic data provided by the Cities of Sammamish and Issaquah.

For the morning and commuter PM peak hours, existing traffic volumes were obtained directly from the Cities. The City of Sammamish provided peak hour turning movement counts for the study intersections that were conducted in May 2019, and are provided in **Appendix B**. The City of Issaquah provided traffic operational models with 2019 traffic volumes for the morning and commuter PM peak hours; the traffic operational reports for existing conditions, provided in **Appendix D,** reflect the volumes provided. The one exception was the intersection of SE 43rd Way / Providence Point Drive. Existing volumes at this intersection were based on a 2017 traffic count (also provided in Appendix B), with volumes increased to balance the 2019 volumes reflected in the counts at the nearest adjacent intersections.

The afternoon peak hour is an analysis period unique to school projects, and is not generally counted as part of regular City data collection efforts. Typically for school projects, new traffic counts would be conducted during the afternoon peak hour at all analysis intersections. However, due to conditions caused by the COVID-19 pandemic and noted above, it was not possible to conduct new representative traffic counts. Instead, existing afternoon peak hour volumes were estimated by applying factors derived from 24-hour count volumes collected by the City of Sammamish in May 2019, which are also provided in Appendix B.

The afternoon volumes were derived by reviewing and comparing hourly counts conducted on along the study area arterials. Traffic volumes were compiled and averaged for Tuesday and Thursday, which are typical weekdays when schools in the study area are on regular schedules. A graphic that shows the ratio of afternoon to commuter PM peak hour volumes, reflected in the traffic counts within the study area, is provided in Appendix B. In general, the counts found that traffic volumes during the afternoon peak hour are lower than volumes during the commuter PM peak hour. However, within some corridors, the counts indicated that the southbound volumes are somewhat higher. This primarily occurred along corridors where a

6 City of Sammamish, 2020-2025 Six-Year Transportation Capital Improvement Plan, Adopted June 18, 2019.
7 City of Issaquah, 2020-2025 Capital Improvement Plan (CIP), Adopted through Resolution No. 2019-07, July 15, 2019.

number of other schools are located, and is likely due to traffic generated during the school dismissal periods. For corridors where the counts indicated that one direction was higher and one direction was lower than the commuter PM peak hour, the different factors were applied to the respective directions. For corridors where counts indicated afternoon volumes in both directions were generally lower than the commuter PM peak hour, an average value was applied to both directions. The factors applied are summarized in **Table 3**. In addition, it is expected that traffic volumes would fluctuate more within the afternoon peak hour than they do during the commuter PM peak hour. Based upon comparison of available afternoon and commuter PM peak hour counts conducted in Fall 2019 adjacent to Skyline High School, Discovery Elementary School, and Sunny Hills Elementary School, the commuter PM peak hour factors at each study intersection were reduced by 11% to estimate the peak hour factors for the afternoon peak hour volumes (traffic counts conducted at existing schools and peak hour factors are described in more detail in Section 4.1 of this report).

Table 3. Factors Applied to Estimate Afternoon Peak Hour Volumes

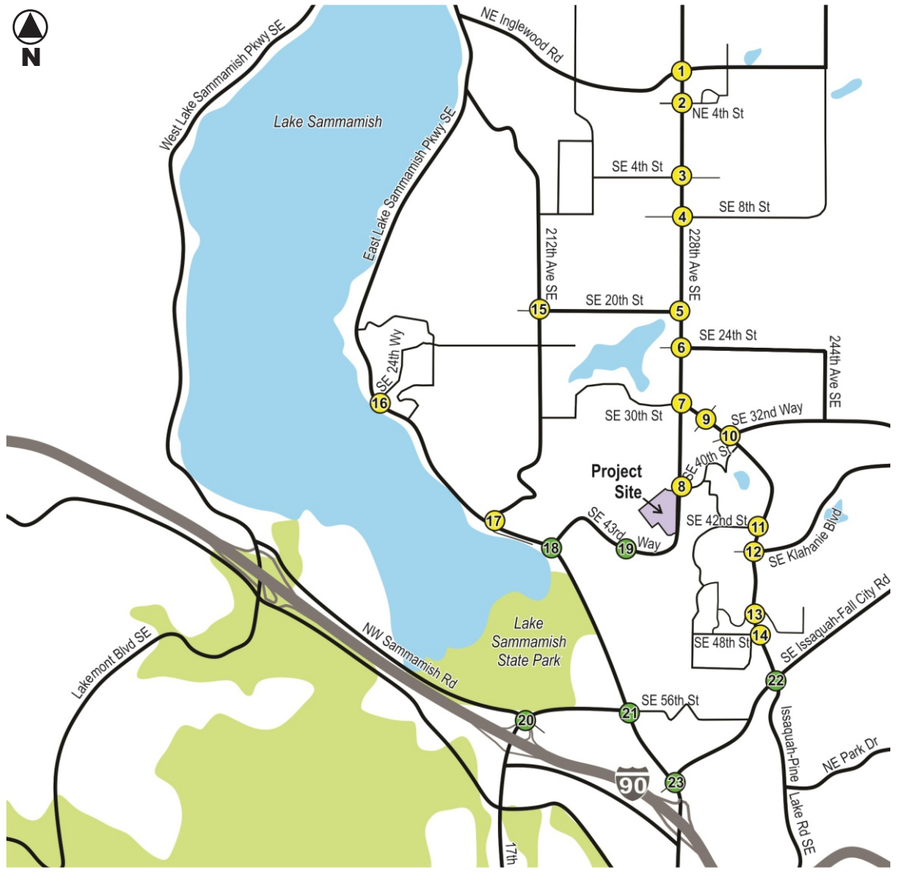
Street Corridor	Factor Applied to Commuter PM Peak Hour Volumes	
	Northbound/Eastbound	Southbound/Westbound
228th Avenue / SE 43rd Way	0.76	1.34 [a]
Issaquah Pine Lake Road	0.77	1.02
East Lake Sammamish Parkway	0.72	1.04
212th Avenue SE	0.85	0.85
NW Sammamish Road / SE 56th Street, and to the south	0.88 [b]	0.88 [b]

Source: Heffron Transportation, July 2020.

a. North of SE 4th Street, the count data indicated that afternoon volumes are lower than commuter PM peak hour volumes in the southbound direction. However, due to the presence of several high schools in this area and to be consistent with factors applied at the south end of the corridor, the higher factor was applied.

b. 24-hour count data were not available for corridors at the south end of the study area in Issaquah. This factor was estimated based upon counts in south Sammamish nearest to Issaquah.

The existing vehicle volumes in the project study area for the morning, afternoon, and commuter PM peak hours are shown on **Figure 4**.



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[43] (58) 56	[481] (645) 493	[229] (307) 113
[243] (185) 64		
[232] (244) 133		
[280] (375) 231		

182 (102) [134]		
196 (179) [170]		
147 (249) [186]		
260 (213) [280]	468 (394) [519]	71 (103) [135]

2 228th Ave NE/NE 4th St

[3] (4) 6	[745] (998) 595	[73] (98) 224
[17] (13) 24		
[3] (3) 5		
[11] (15) 17		

160 (258) [129]		
3 (18) [9]		
133 (564) [282]		
5 (8) [11]	737 (701) [922]	123 (54) [71]

3 228th Ave SE/SE 4th St

[79] (106) 39	[903] (1210) 594	[19] (25) 128
[106] (81) 72		
[2] (2) 39		
[105] (141) 63		

71 (17) [23]		
11 (7) [7]		
80 (39) [29]		
45 (105) [138]	726 (657) [864]	243 (10) [13]

4 228th Ave SE/SE 8th St

[77] (103) 41	[810] (1085) 605	[115] (154) 110
[82] (62) 28		
[38] (40) 18		
[18] (24) 5		

325 (174) [87]		
29 (64) [32]		
250 (326) [163]		
45 (74) [97]	675 (655) [862]	217 (188) [247]

5 228th Ave SE/SE 20th St

[84] (113) 78	[954] (1278) 1021	[16] (21) 7
[81] (62) 150		
[6] (6) 1		
[180] (241) 89		

19 (12) [16]		
1 (1) [1]		
31 (25) [19]		
153 (92) [121]	851 (948) [1247]	15 (24) [32]

6 228th Ave SE/SE 24th St

[16] (21) 7	[821] (1100) 871	[273] (366) 103
[13] (10) 3		
[4] (4) 2		
[7] (9) 0		

176 (198) [261]		
1 (5) [5]		
91 (95) [71]		
4 (14) [18]	585 (942) [1240]	87 (112) [147]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[31] (42) 37	[358] (480) 616	[410] (549) 322
[132] (100) 90		
[83] (87) 90		
[12] (16) 14		

361 (285) [375]		
82 (102) [97]		
170 (158) [118]		
6 (11) [14]	338 (603) [793]	54 (147) [194]

8 228th Ave SE/SE 40th St

[449] (602) 843	[27] (36) 17	

66 (16) [21]		
32 (15) [11]		
386 (733) [964]	7 (18) [24]	

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[6] (6) 102	[725] (740) 347	[44] (45) 8
[10] (8) 113		
[0] (1) 0		
[11] (11) 58		

36 (21) [27]		
1 (1) [0]		
22 (17) [17]		
89 (8) [11]	515 (491) [638]	10 (22) [28]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[5] (5) 2	[521] (531) 353	[228] (233) 77
[4] (3) 7		
[1] (1) 1		
[0] (1) 1		

223 (108) [156]		
1 (2) [2]		
189 (126) [124]		
3 (2) [3]	565 (483) [627]	64 (132) [172]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[15] (15) 14	[580] (592) 535	
[29] (20) 23		
[28] (29) 22		

18 (22) [29]	471 (507) [659]	

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[4] (4) 3	[538] (549) 536	[65] (66) 18
[2] (1) 12		
[0] (1) 0		
[1] (1) 19		

81 (26) [37]		
3 (1) [0]		
268 (89) [87]		
1 (11) [14]	396 (500) [649]	45 (186) [242]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[4] (4) 1	[596] (608) 870	[18] (18) 11
[2] (1) 4		
[0] (1) 0		
[7] (7) 12		

17 (18) [26]		
0 (1) [0]		
103 (45) [44]		
3 (8) [11]	407 (711) [924]	21 (84) [109]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[40] (41) 12	[639] (652) 991	
[34] (23) 39		
[91] (93) 162		

44 (127) [165]	359 (782) [1015]	

15 212th Ave SE/SE 20th St

[7] (6) 1	[138] (117) 123	[182] (155) 42
[2] (2) 10		
[30] (26) 20		
[30] (26) 37		

134 (60) [70]		
25 (28) [33]		
113 (88) [104]		
38 (26) [30]	139 (122) [144]	127 (79) [93]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[472] (491) 427	[8] (8) 13	

11 (5) [7]		
33 (35) [34]		
	292 (382) [530]	12 (32) [45]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[9] (6) 7	[2] (2) 0	[119] (124) 288
[11] (11) 7		
[537] (558) 520		
[0] (0) 0		

85 (197) [273]		
305 (449) [623]		
0 (2) [3]		
0 (1) [1]	0 (1) [1]	0 (1) [1]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[36] (48) 42	[609] (816) 958	
[38] (40) 40		
[629] (654) 783		

389 (723) [1004]		
389 (616) [856]		

19 Providence Point Dr SE/ SE 43rd Way

[31] (42) 24	[0] (0) 0	[0] (0) 0
[34] (26) 12		
[976] (742) 382		
[1] (1) 5		

1 (3) [2]		
859 (598) [446]		
15 (16) [12]		
9 (13) [10]	0 (0) [0]	11 (9) [12]

20 NW Sammamish Rd/ 17th Ave NW

[270] (238) 480	[1570] (1382) 1225	[15] (13) 10
[380] (334) 115		
[155] (136) 30		
[365] (321) 135		

15 (22) [25]		
55 (88) [100]		
100 (238) [270]		
315 (202) [230]	1145 (1078) [1225]	175 (202) [230]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[665] (585) 840	[490] (431) 415	[40] (35) 15
[1070] (942) 415		
[145] (128) 60		
[455] (400) 185		

15 (40) [45]		
175 (145) [165]		
30 (75) [85]		
490 (277) [315]	435 (695) [790]	15 (35) [40]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[460] (469) 593	[316] (322) 525	[40] (41) 76
[547] (421) 169		
[508] (457) 114		
[9] (9) 5		

33 (51) [66]		
739 (365) [406]		
402 (285) [279]		
2 (13) [17]	197 (420) [545]	242 (497) [646]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[20] (18) 45	[790] (695) 370	[250] (220) 55
[40] (35) 25		
[35] (31) 15		
[80] (70) 40		

145 (119) [135]		
35 (9) [10]		
875 (528) [600]		
75 (13) [15]	820 (854) [970]	405 (858) [975]

High School #4
Elementary #17

Figure 4
Existing Traffic Volumes
AM, Afternoon and Commuter PM Peak Periods

heffron transportation inc

08.15.20

3.3.2. Future/Background Volumes Without Development

To estimate year 2024 background traffic for the study area intersections, traffic expected to be generated by pipeline development projects (permitted or under construction, but expected to be complete by the future analysis year) in the vicinity of the site, as well as traffic resulting from regional development growth, was added to the existing volumes.

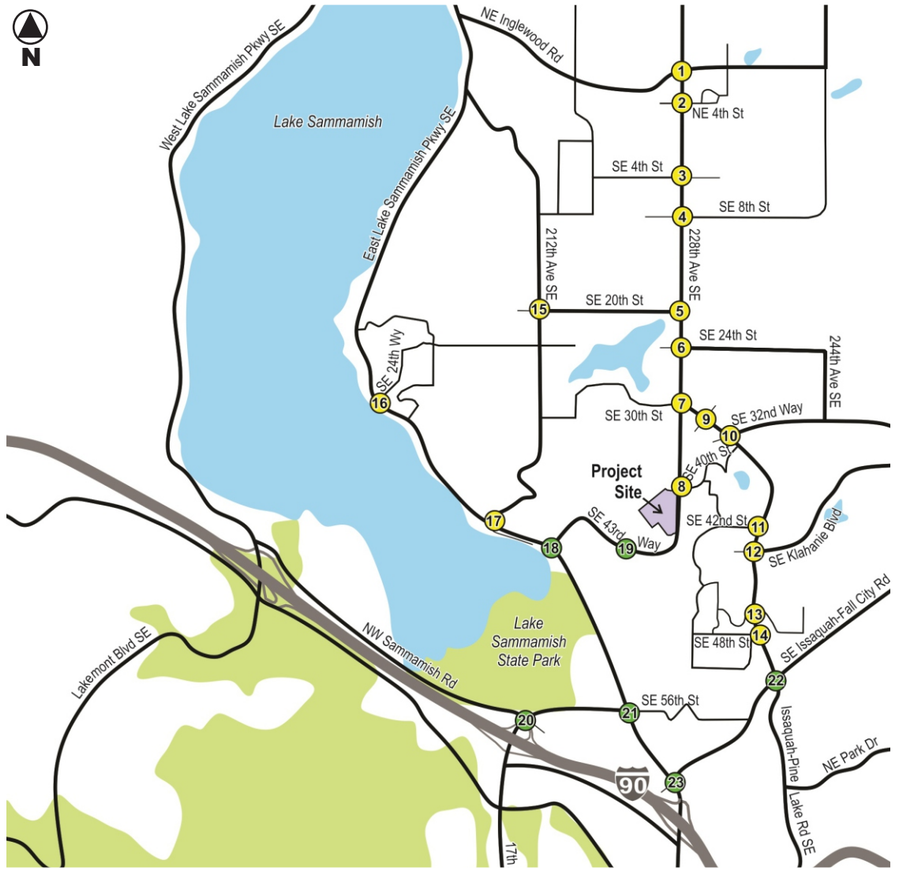
The analysis presented in this report evaluates cumulative conditions with traffic generated by other future planned development in the vicinity. Traffic generated by the following pipeline projects (permitted or under construction, but expected to be complete by the future analysis year) identified by the City of Sammamish[8] is also reflected in the analysis.

- ISD's Elementary School #16, analyzed for a capacity of 756 students, located at Issaquah-Pine Lake Road / Klahanie Boulevard [9]
- Sammamish Town Center Project, Phase 1 (413 multi-family residential units, 10 single-family houses, and 82,000 square feet of commercial space), located at SE 4th Street / 228th Avenue SE [10]

In addition to the pipeline traffic described above, an annual background traffic growth rate was applied to the existing traffic volumes, to account for traffic increases from regional development growth. For intersections in Sammamish, an annual growth rate of 4% was applied as directed by the City of Sammamish. For intersections in Issaquah, traffic volumes in the City of Issaquah's 2019 and 2040 traffic operational models for the commuter PM peak hour were compared—these reflect 1.1% annual growth at the study area intersections located in Issaquah, and therefore a rate of 1.2% was applied. (Note, even though the intersections of SE 43rd Way with Providence Point Drive SE and East Lake Sammamish Parkway are within Issaquah's jurisdiction, the higher Sammamish growth assumptions were applied at these intersections since they are located nearer the Sammamish city limits and the project site). The projected 2024 background volumes without pipeline trips at the study intersections, as well as the projected pipeline trips, are provided in **Appendix C**. These volumes were added together to estimate the 2024 volumes without the proposed project.

Figure 5 shows the forecast 2024 traffic volumes for conditions without the project, for the morning, afternoon, and commuter PM peak hours.

8 Pipeline projects were identified in an email from Steven Chen, City of Sammamish, March 10, 2020.
9 Jake Traffic Engineering, Sammamish Elementary School #16, Traffic Impact Analysis Revised, September 18, 2019.
10 Transpo Group, Sammamish Town Center Traffic Impact Analysis, October 2019.



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[52] (71) 68	[593] (791) 613	[279] (374) 137
[296] (225) 78		
[282] (297) 162		
[342] (457) 283		

221 (124) [163]		
238 (218) [207]		
182 (311) [235]		
317 (260) [342]	591 (489) [642]	92 (130) [170]

2 228th Ave NE/NE 4th St

[4] (5) 7	[929] (1234) 742	[89] (119) 273
[21] (16) 29		
[4] (4) 6		
[13] (18) 21		

195 (314) [157]		
4 (22) [11]		
164 (693) [351]		
7 (11) [14]	928 (878) [1150]	154 (66) [86]

3 228th Ave SE/SE 4th St

[176] (199) 66	[1091] (1465) 733	[23] (30) 156
[185] (148) 127		
[2] (2) 63		
[171] (210) 110		

86 (21) [28]		
23 (10) [10]		
97 (47) [35]		
86 (162) [206]	891 (793) [1044]	296 (12) [16]

4 228th Ave SE/SE 8th St

[100] (130) 59	[1004] (1336) 763	[149] (195) 141
[104] (79) 36		
[46] (49) 22		
[22] (29) 6		

401 (218) [113]		
35 (78) [39]		
304 (397) [198]		
55 (90) [118]	852 (815) [1069]	264 (229) [301]

5 228th Ave SE/SE 20th St

[102] (137) 95	[1178] (1570) 1266	[19] (26) 9
[99] (75) 182		
[7] (7) 1		
[219] (293) 108		

23 (15) [19]		
1 (1) [1]		
38 (30) [23]		
186 (112) [147]	1064 (1170) [1535]	18 (29) [39]

6 228th Ave SE/SE 24th St

[19] (26) 9	[1013] (1350) 1081	[334] (447) 127
[16] (12) 4		
[5] (5) 2		
[9] (11) 1		

218 (244) [321]		
1 (6) [6]		
111 (116) [86]		
5 (17) [22]	737 (1160) [1524]	106 (136) [179]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[38] (56) 45	[439] (587) 750	[507] (675) 411
[161] (122) 109		
[103] (108) 113		
[15] (19) 17		

454 (359) [469]		
103 (126) [120]		
212 (195) [146]		
7 (13) [17]	420 (734) [965]	70 (183) [238]

8 228th Ave SE/SE 40th St

[551] (738) 1032	[33] (44) 21	

80 (19) [26]		
39 (18) [13]		
	483 (896) [1175]	9 (22) [29]

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[7] (7) 124	[894] (911) 449	[54] (55) 10
[12] (10) 137		
[1] (1) 1		
[13] (13) 71		

44 (26) [33]		
1 (1) [1]		
27 (21) [21]		
108 (10) [13]	650 (614) [793]	12 (27) [34]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[6] (6) 2	[646] (657) 456	[277] (283) 94
[5] (4) 9		
[1] (1) 1		
[1] (1) 1		

271 (131) [190]		
1 (2) [2]		
235 (156) [154]		
4 (2) [4]	710 (605) [780]	82 (164) [212]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[18] (23) 17	[721] (734) 683	
[35] (24) 28		
[40] (58) 82		

69 (55) [42]	600 (637) [822]	

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[5] (5) 4	[676] (705) 739	[79] (80) 22
[2] (1) 15		
[1] (1) 1		
[1] (1) 23		

99 (32) [45]		
4 (1) [1]		
340 (114) [110]		
1 (13) [17]	556 (656) [818]	67 (233) [299]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[10] (25) 36	[761] (810) 1177	[24] (25) 17
[7] (19) 45		
[1] (1) 1		
[9] (9) 15		

26 (24) [34]		
1 (1) [1]		
125 (55) [54]		
4 (10) [13]	630 (923) [1159]	26 (102) [133]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[57] (92) 57	[805] (821) 1283	
[48] (48) 97		
[111] (113) 197		

54 (155) [201]	522 (989) [1263]	

15 212th Ave SE/SE 20th St

[9] (7) 1	[169] (143) 177	[221] (189) 51
[2] (2) 12		
[36] (32) 24		
[36] (32) 45		

163 (73) [85]		
30 (34) [40]		
137 (107) [127]		
46 (32) [36]	170 (165) [194]	155 (96) [113]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[574] (597) 520	[10] (10) 16	

13 (6) [9]		
40 (43) [41]		
	355 (465) [645]	15 (39) [55]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[11] (7) 9	[2] (2) 0	[145] (151) 375
[13] (13) 9		
[654] (681) 640		
[0] (0) 0		

103 (256) [350]		
371 (546) [758]		
0 (2) [4]		
0 (1) [1]	0 (1) [1]	0 (1) [1]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[44] (58) 51	[743] (996) 1172	
[47] (51) 56		
[765] (796) 978		

479 (882) [1223]		
473 (765) [1059]		

19 Providence Point Dr SE/ SE 43rd Way

[38] (51) 29	[1] (1) 1	[15] (20) 30
[41] (32) 15		
[1189] (907) 478		
[1] (1) 6		

1 (4) [2]		
1051 (734) [548]		
18 (19) [15]		
11 (16) [12]	1 (1) [1]	13 (11) [15]

20 NW Sammamish Rd/ 17th Ave NW

[287] (253) 509	[1669] (1469) 1314	[16] (14) 11
[403] (355) 122		
[165] (144) 32		
[387] (341) 143		

16 (23) [27]		
58 (93) [106]		
106 (253) [287]		
334 (214) [244]	1217 (1153) [1309]	186 (214) [244]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[708] (623) 905	[520] (458) 454	[42] (37) 16
[1145] (1009) 443		
[154] (136) 64		
[483] (425) 196		

16 (42) [48]		
186 (154) [175]		
32 (80) [90]		
520 (294) [334]	464 (747) [848]	16 (37) [42]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[488] (498) 629	[349] (356) 597	[55] (57) 116
[590] (455) 179		
[539] (485) 121		
[10] (10) 5		

75 (71) [82]		
784 (387) [431]		
427 (303) [296]		
2 (14) [18]	252 (472) [600]	257 (528) [686]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[21] (19) 48	[839] (739) 406	[265] (234) 58
[42] (37) 27		
[37] (33) 16		
[85] (74) 42		

154 (126) [143]		
37 (10) [11]		
929 (560) [637]		
80 (14) [16]	870 (915) [1039]	430 (911) [1035]

High School #4
Elementary #17

Figure 5
Forecast 2024 Without-Project Traffic Volumes
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

08.15.20

3.4. Traffic Operations

Level of service (LOS) analysis was conducted for the study area intersections for the morning, afternoon, and commuter PM peak hour conditions. Level of service is a qualitative measure used to characterize traffic operating conditions. The quality of traffic conditions is graded into one of six LOS designations, "A" through "F". LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays. The Cities have adopted the following level of service standards for intersections within their respective jurisdictions.

- The City of Sammamish has adopted a standard of LOS D for most intersections that include Principal Arterials (such as 228th Avenue SE). However, for intersections where LOS D cannot be met with three approach lanes in any direction, a standard of LOS E is assigned.[11]

- The City of Issaquah has adopted a standard of LOS D for city street intersections. As a designated Highway of Regional Significance, SR 900 has a standard of LOS "E Mitigated."[12]

Levels of service for the study area intersections were analyzed using methodologies presented in the *Highway Capacity Manual (HCM) Sixth Edition.*[13] **Appendix D** includes level of service thresholds and definitions for signalized and unsignalized intersections. Delay calculations rely on complex equations that consider a number of variables. For example, delay at signalized intersections is determined based on a combination of variables including: the quality of progression, cycle length, green ratio, and a volume-to-capacity ratio for the lane group or approach in question. Delay at unsignalized intersections is determined for vehicles that must stop or yield for oncoming traffic. That delay is related to the availability of gaps in the main street's traffic flow and the ability of a driver to enter or pass through those gaps. Level-of-service calculations for the signalized and stop-sign controlled intersections were performed using the *Synchro 10.3 (Build 151)* traffic operations analysis software. Synchro models that included the channelization and signal timings at the study area intersections were provided by the Cities of Sammamish and Issaquah.

The two roundabouts in the study area were evaluated using the *Sidra 9* analysis software. Existing lane geometry and model parameters established in the *WSDOT Sidra Policy Settings*[14] were used to evaluate the roundabout operations. Level of service criteria for roundabouts is also provided in Appendix D.

Signal timing information was provided by the Cities of Sammamish and Issaquah for the analysis intersections within their respective jurisdictions. Input data for the analysis, including the signal timing and roadway geometric characteristics, were confirmed during field observations. The analyses consider pedestrian, bicycle, and heavy vehicle (trucks and buses) volumes based on counts.

Table 4 summarizes levels of service at the analysis intersections for existing and future conditions without the project; the level-of-service reports are provided in **Appendix D**. The table shows that most study area intersections currently meet the LOS standards; the exceptions are (8) SE 40th Street / 228th Avenue SE which is operating at LOS E during the afternoon peak hour, and (21) SE 56th Street / East Lake Sammamish Parkway, which is operating at LOS E during all peak hours.

---

11 City of Sammamish, Comprehensive Plan, Background Transportation Information, Amended September 18, 2018.
12 City of Issaquah Comprehensive Plan, adopted in 1995 and most recently amended March 27, 2019.
13 Transportation Research Board, 2016.
14 WSDOT, October 2019. https://www.wsdot.wa.gov/Design/Traffic/Analysis/default.htm, accessed June 30, 2020.

Projected background growth would add delay to all study area intersections. With the additional growth, the westbound stop-controlled movement at (8) SE 40th Street / 228th Avenue SE is projected to degrade to LOS F during all three peak hours. (20) NW Sammamish Road / 17th Avenue NW is also projected to degrade to LOS F operation during all three peak hours in 2024. The projected background traffic growth would degrade operation along 228th Avenue NE, to the north of SE 20th Street, to LOS F during the afternoon peak hour. Background growth would also degrade operation to LOS E at SE 48th Street / Issaquah-Pine Lake Road SE during the morning peak hour, and at SE 8th Street / 228th Avenue SE during the commuter PM peak hour.

Table 4. Level of Service Summary – Existing and 2024-Without-Project Conditions

Intersection / Control Type	LOS Std [a]	Morning Peak Hour				Afternoon Peak Hour				Commuter PM Peak Hour			
		Existing		2024 w/o Project		Existing		2024 w/o Project		Existing		2024 w/o Project	
		LOS [b]	Delay [c]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized													
(1) NE Inglewood Dr / 228th Ave NE	E	C	31.0	D	39.8	D	52.5	F	90.2	D	43.3	E	63.1
(2) NE 4th St / 228th Ave NE	D	C	24.3	D	35.8	D	38.9	F	90.5	B	19.0	C	27.5
(3) SE 4th St / 228th Ave SE	D	C	20.4	C	22.6	B	19.2	D	49.4	B	17.4	C	22.3
(4) SE 8th St / 228th Ave SE	D	C	33.5	D	42.8	E	70.0	F	129.4	D	38.3	E	65.4
(5) SE 20th St / 228th Ave SE	D	B	18.7	C	29.6	C	30.4	F	100.3	B	17.4	C	25.5
(6) SE 24th St / 228th Ave SE	D	B	13.8	B	16.0	C	26.4	D	42.3	C	24.8	C	28.7
(7) 228th Ave SE / Issaquah-Pine Lake Rd SE	E	C	29.1	D	36.1	C	34.5	D	47.3	C	32.0	D	40.4
(9) SE 230th Ln / Issaquah-Pine Lake Rd SE	D	B	16.4	B	18.2	A	8.3	A	9.5	A	7.6	A	9.7
(11) SE 42nd St / Issaquah-Pine Lake Rd SE	D	A	4.5	A	8.5	A	8.2	B	11.2	A	8.2	B	11.0
(12) SE Klahanie Blvd / Issaquah-Pine Lake Rd SE	D	B	17.8	C	28.9	B	12.0	B	15.1	B	11.2	B	14.8
(13) 238th Way SE / Issaquah-Pine Lake Rd SE	D	B	15.5	D	36.6	B	10.3	B	14.6	B	10.2	B	17.9
(14) SE 48th St / Issaquah-Pine Lake Rd SE	D	B	16.7	E	74.0	A	9.7	B	16.4	B	10.4	B	15.6
(17) 212th Way SE / East Lake Sammamish Pkwy	D	B	11.0	B	15.5	A	8.6	B	10.6	A	8.2	B	10.1
(19) SE 43rd Way / Providence Point Dr SE / Providence Point Pl SE [d]	D	--	--	A	5.8	--	--	B	12.0	--	--	B	11.3
(20) NW Sammamish Rd / 17th Ave NW (SR 900)	E	E	69.5	F	84.9	E	77.5	F	94.0	E	79.1	F	95.9
(21) SE 56th St / East Lake Sammamish Pkwy	D	E	56.2	E	72.2	E	57.3	E	67.5	E	58.2	E	68.6
(22) SE Issaquah-Fall City Rd / Issaquah-Pine Lake Rd SE	D	C	33.3	D	39.6	D	35.5	D	40.4	D	38.2	D	43.9
(23) SE Issaquah-Fall City Rd / East Lake Sammamish Pkwy	D	D	35.6	D	38.6	C	34.1	D	37.2	C	34.5	D	37.6

Table 4. Level of Service Summary – Existing and 2024-Without-Project Conditions (continued)

	LOS Std[a]	Morning Peak Hour				Afternoon Peak Hour				Commuter PM Peak Hour			
		Existing		2024 w/o Project		Existing		2024 w/o Project		Existing		2024 w/o Project	
		LOS[b]	Delay[c]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
One-or Two-Way Stop Controlled[e]													
(8) SE 40th St / 228th Avenue SE *(overall)*	D	*A*	*3.3*	*B*	*10.5*	*A*	*0.9*	*A*	*3.7*	*A*	*0.8*	*A*	*1.9*
Westbound movement		D	30.3	F	100.1	E	46.0	F	134.3	D	32.7	F	65.3
Southbound left-turn		A	8.3	A	8.6	B	10.2	B	11.4	B	10.8	B	12.4
(16) SE 24th Wy / E Lake Sammamish Pkwy *(overall)*	D	*A*	*0.9*	*A*	*1.0*	*A*	*1.3*	*A*	*1.7*	*A*	*1.2*	*A*	*1.4*
Westbound movement		B	13.9	C	15.4	C	18.9	C	24.0	C	18.8	C	22.8
Southbound left-turn		A	8.1	A	8.4	A	8.6	A	9.0	A	9.0	A	9.6
(19) SE 43rd Way / Providence Point Dr SE / Providence Point Pl SE *(overall)*[d]	D	A	0.4	--	--	A	0.6	--	--	A	0.5	--	--
Eastbound left-turn		B	10.3	--	--	A	9.5	--	--	A	8.7	--	--
Westbound left-turn		A	8.2	--	--	B	10.1	--	--	B	10.9	--	--
Northbound movement		C	15.2	--	--	C	21.6	--	--	C	19.8	--	--
Southbound movement		C	15.8	--	--	B	13.9	--	--	B	11.9	--	--
All-Way Stop Controlled													
(15) SE 20th St / 212th Ave SE	D	B	13.0	C	18.9	B	11.6	B	14.7	B	12.1	C	16.0
Roundabout-Controlled													
(10) SE 32nd Way / Issaquah-Pine Lake Rd SE	D	A	7.9	C	26.4	A	9.0	D	42.7	A	9.8	D	49.9
(18) SE 43rd Way / East Lake Sammamish Pkwy	D	A	9.0	B	17.0	A	7.8	B	10.9	A	7.6	B	15.4

Source: Heffron Transportation, July 2020

a. Sources: Sammamish Comprehensive Plan (2018) for Intersections 1 through 17; Issaquah Comprehensive Plan (2019) for Intersections 18 through 23.

b. LOS = Level of Service

c. Delay = average delay in seconds per vehicle

d. SE 43rd Way / Providence Point Dr SE is currently stop-controlled but will be signalized by 2024.

e. For the one- or two-way way stop-controlled intersections, minor leg LOS reported for the worst stop-controlled approach.

Grey-shaded cells indicate LOS standard is exceeded.

3.5. Collision History

Collision data for the study area intersections were obtained from WSDOT and are summarized in **Table 5**. The data reflect the period between January 1, 2015, and June 4, 2020 (about 5.4 years), and are provided in **Appendix E**.

Table 5. Collision History in Study Area

Intersection	Reported Collisions Per Year						Total	Annual Average	Rate per MEV [b]
	2015	2016	2017	2018	2019	2020 [a]			
(1) NE Inglewood Hill Rd / 228th Ave NE	1	7	6	7	6	4	31	5.7	0.54
(2) NE 4th St / 228th Ave NE	1	3	4	1	1	0	10	1.8	0.22
(3) SE 4th St / 228th Ave NE	3	5	5	3	7	0	23	4.2	0.51
(4) SE 8th St / 228th Ave NE	1	5	4	8	2	3	23	4.2	0.44
(5) SE 20th St / 228th Ave NE	2	1	2	2	6	0	13	2.4	0.24
(6) SE 24th St / 228th Ave NE	3	3	5	3	6	0	20	3.7	0.35
(7) Issaquah-Pine Lake Rd SE / 228th Ave NE	4	4	4	4	6	0	22	4.1	0.43
(8) SE 40th St / 228th Ave NE	2	0	0	1	0	0	3	0.6	0.10
(9) 230th Ln SE / Issaquah-Pine Lake Rd SE	0	0	0	0	0	0	0	0.0	0.00
(10) SE 32nd Way / Issaquah-Pine Lake Rd SE	1	4	1	3	0	1	10	1.8	0.28
(11) SE 42nd St / Issaquah-Pine Lake Rd SE	0	0	0	0	0	0	0	0.0	0.00
(12) SE Klahanie Blvd / Issaquah-Pine Lake Rd SE	3	4	2	5	4	0	18	3.3	0.56
(13) 238th Way SE / Issaquah-Pine Lake Rd SE	3	1	1	2	0	0	7	1.3	0.20
(14) SE 48th St / Issaquah-Pine Lake Rd SE	0	3	0	0	1	0	4	0.7	0.10
(15) SE 20th St / 212th Ave SE	1	1	0	1	0	0	3	0.6	0.18
(16) SE 24th Way / E Lake Sammamish Pkwy	1	0	3	3	0	0	7	1.3	0.32
(17) 212th Way SE / E Lake Sammamish Pkwy	4	3	2	1	0	1	11	2.0	0.35
(18) SE 43rd Way / E Lake Sammamish Pkwy	11	11	6	11	13	2	54	9.9	0.86
(19) SE 43rd Way / Providence Point Dr SE	0	0	2	1	1	0	4	0.7	0.13
(20) NW Sammamish Rd / 17th Ave NW	4	10	6	9	6	2	37	6.8	0.39
(21) SE 56th St / E Lake Sammamish Pkwy	3	9	11	8	5	0	36	6.6	0.42
(22) SE Issaquah-Fall City Rd / Issaquah-Pine Lake Rd SE	15	10	5	11	6	0	47	8.7	0.62
(23) SE Issaquah-Fall City Rd / E Lake Sammamish Pkwy SE	7	14	8	9	12	5	55	10.1	0.71

Source: WSDOT, for period starting January 1, 2015 through June 4, 2020; compiled by Heffron Transportation.

a. 2020 data reported for the period from January 1 through June 4.

*b. MEV = million entering vehicles. Calculated by applying a K-factor of 10 to the commuter PM peak hour entering volumes to estimate average daily traffic (ADT). MEV = ADT * 365 days/year * 5.4 years / 1,000,000.*

The data indicate that collisions occurred at a rate lower than 1 per million entering vehicles (MEV) and do not indicate unusual safety conditions in the study area.

Table 6 summarizes the details of collisions reported in the near-site vicinity. Along the segment of 228th Avenue SE and SE 43rd Way between SE 40th Street and Providence Point Drive SE, most were rear-end collisions or collisions with fixed objects. One collision at SE 40th Street / 228th Avenue SE involved a bicyclist. None of the collisions resulted in fatality. The reported collisions occurred at rates lower than 1 per MEV at the intersections and 1 per million vehicle miles traveled (MVMT) along the segment, and do not reflect unusual safety patterns for a major arterial street.

Table 6. Collision Detail in Vicinity of Project Site

Intersection	Number of Collisions by Type						Total (5.4 Yrs)	Avg / Year
	Rear-End	Side Swipe	Left Turn	Right Angle	Ped / Cycle	Other [a]		
SE 40th St / 228th Ave SE	0	0	0	0	1	2	3	0.6
SE 43rd Way / Providence Point Dr SE	1	0	3	0	0	0	4	0.7
Segment								
228th Avenue SE / SE 43rd Way, between SE 40th St and Providence Point Drive SE	10	4	0	0	1	6	21	3.9 [a]

Source: City of Seattle Department of Transportation, Data from January 1, 2016 through February 19, 2020. https://data-seattlecitygis.opendata.arcgis.com/datasets/collisions, Accessed February 19, 2020.

a. "Other" collisions reported primarily consist of a vehicle hitting a fixed object, with one vehicle that hit a deer, and one vehicle that hit another vehicle while making an illegal U-turn.

*b. Reflects a rate of 0.29 collisions/million vehicle miles traveled (MVMT). ADT estimated by applying a K-factor of 10 to the two-way commuter PM peak hour volumes traveling along the 2,800-ft long segment. MVMT = segment length (miles) * ADT * 365 days/year * 5.4 years / 1,000,000.*

3.6. Transit Facilities and Service

The site is not directly served by public transit. The nearest bus stop is located on Issaquah-Pine Lake Road SE at 228th Avenue SE, located approximately ¾-mile to the north. The stops are served by King County Metro Routes 216, 219, and 269, which serve destinations between Sammamish, Issaquah, Bellevue, and downtown Seattle.

3.7. Non-Motorized Transportation Facilities

As described previously, 228th Avenue S does not have sidewalks in the vicinity of the project site. The nearest signalized crossings are located more than a half a mile to the north and south.

4. PROJECT IMPACTS

This section describes the conditions that would exist with the proposed elementary school and high school at the project site, with each operating at its enrollment capacity. Level of service analysis was performed to determine the proposed project's impact on traffic operations in the study area. Site access, circulation, parking, transit, and non-motorized impacts are also evaluated.

4.1. Trip Generation

4.1.1. Overview of Approach

Trip generation estimates for new school projects are typically developed using one of two methods. The most common method applies rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, [15] and is used when little may be known about expected operational characteristics. In some cases, however, it is appropriate to derive trip generation rates and travel characteristics based on observed conditions at an existing school with similar or representative characteristics. Since the published ITE rates are based on data collected from sites across the country, rates and travel patterns derived from local schools can offer representative travel characteristics for a particular school within the subject school district. The methodology applied herein combines these methods. Local trip generation data were obtained for four local schools in the Issaquah School District, which were compared to the ITE trip generation rates. The highest rates of those sets were then applied to reflect a conservative worst-case condition. Since the two schools sharing the site would have different bell schedules, the local data were also used to assess how the trips would overlap during the course of the day and to select the cumulative peak hour conditions used for the analysis.

After examining all elementary and high schools within the district, two elementary schools and two high schools were selected for data collection and observation. The representative schools were confirmed with City of Issaquah and City of Sammamish staff.[16] Idax Data Solutions conducted three days of detailed traffic counts at each school on Tuesday, October 1, Wednesday, October 2, and Thursday, October 3, 2019. The morning counts were performed for a two-hour period in which morning arrivals predominantly occur, and afternoon counts were conducted for a six-hour period that included the afternoon dismissal period and the evening peak hour on the adjacent streets (commuter PM peak period). Counts were conducted at 15-minute intervals, and compiled to determine the trips generated by each school during the morning, afternoon and commuter PM peak hour, as well as the time that each peak hour occurred.

Trip generation rates were then derived from the compiled count data based on each school's student enrollment at the time of the counts. The rates were compared to average ITE rates, and the higher rate (local or ITE) was then applied to each of the proposed new schools. Applying this approach, ITE rates were applied for the elementary school morning and afternoon peak hours, and local trip rates were applied for the high school for all peak hours, as well as the commuter PM peak hour for the elementary school. Since the peak arrival and departure times for each school would differ, the local count data were used to determine when the peak for each school would occur and to assess the cumulative trips for each 15-minute period. These were then used to select the peak analysis hours and derive peak-hour factors that were applied in the traffic operations analysis. The trip generation calculations for the proposed schools and site are described in detail in a technical memorandum provided in **Appendix F** of this report.

---

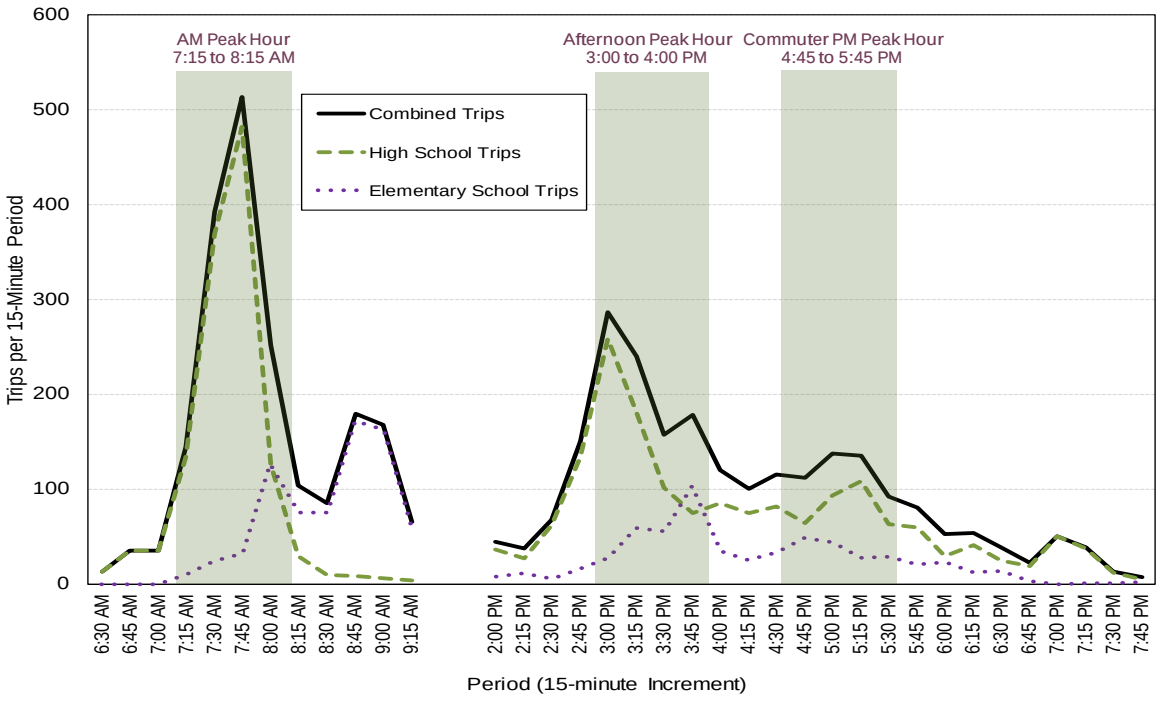
15 ITE, 10th Edition, 2017.

16 Confirmed at a meeting between ISD, City of Issaquah staff, and City of Sammamish staff, on September 26, 2019.

4.1.2. Cumulative Trips for Both Schools

The high school and the elementary school would have different peak hours due to offset bell schedules. **Figure 6** shows the cumulative trips with these schools combined on one site. Because the high school would have a much larger student population than the elementary school, the peak hours for the cumulative trips would be primarily influenced by the high school. However, some elementary trips would also occur during those peak hours.

Figure 6. Cumulative Trips for High School and Elementary School



Source: Heffron Transportation, Inc., April 2020.

Table 7 summarizes the vehicle trip estimates for the morning, afternoon, and commuter PM peak hours.

Table 7. Cumulative Trips Generation for Analysis Peak Hours

Analysis Period	High School #4 Trip Generation			Elementary #17 Trip Generation			Total Trip Generation for Both Schools		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
AM Peak Hour (7:15 to 8:15 AM)									
Trips	767	344	1,111	133	59	192	900	403	1,303
Peak Hour Factor [a]	0.58	0.56	0.58	0.42	0.31	0.38	0.63	0.63	0.63
Afternoon Peak Hour (3:00 to 4:00 PM)									
Trips	127	489	616	131	115	246	258	604	862
Peak Hour Factor	0.76	0.56	0.59	0.62	0.35	0.60	0.77	0.69	0.75
Commuter PM Peak Hour (4:45 to 5:45 PM)									
Trips	147	181	328	68	80	148	215	261	476
Peak Hour Factor	0.78	0.74	0.76	0.77	0.77	0.77	0.87	0.87	0.87

Source: Heffron Transportation, April 2020.

a. PHF = Peak Hour Factor = Peak Hour Volume / (4 X Peak 15-minute Volume)

4.1.3. Traffic Peaking Characteristics

Table 7 summarizes the calculated peak hour factor (PHF) for each school individually and cumulatively. Standard practice and methodologies for traffic operations analyses, established in the *Highway Capacity Manual*,[17] are conducted using hourly traffic flow rates. However, the methodology recognizes that traffic volumes may vary within the analysis peak hour. To account for variable flow rates within the hour, a PHF is applied to the hourly flow rates. This factor adjusts the total hourly flow rate to reflect the rate of the highest 15-minute period across the hour. The PHF is calculated as follows:

PHF = (total hourly volume) / [(peak 15-minute volume within the hour x 4)]

A PHF close to 1.0 indicates that traffic volumes are steady over the course of the hour and flows during each 15-minute period are about the same. A lower PHF indicates that volumes during one or two 15-minute periods are higher than those during the remaining 15-minute periods. For operational analyses, the hourly traffic volumes are divided by the PHF before levels of service are calculated. This results in an analysis that conservatively assumes the highest 15-minute vehicle flow rate occurs over the entire peak hour.

Traffic generation at schools tends to be more compressed within the peak hours than background traffic on surrounding roadways. This occurs because trips to and from the school occur relatively close to the school start and dismissal times as family drivers tend to arrive during the 20 to 30 minutes before each. Some school-generated trips, such as those by employees and/or visitors, also occur within the peak hour, but not within the highest 15-minute periods. For example, some staff may arrive about 45-minutes before school starts or may leave 45 minutes after dismissal. While they would be part of the overall peak hour traffic, they would not be part of the flows during the highest 15 to 30 minutes. Additionally, after the peak trips associated with school dismissal have subsided, later afternoon and evening trips may be more spread out, as after school activities begin and end at varying times.

[17] Transportation Research Board (TRB), Highway Capacity Manual, 6th Edition, 2016.

The calculated cumulative PHFs of the school-generated traffic were applied to the traffic operational analysis at intersections near the site. Farther from the site, the school-generated traffic becomes more spread out and has less influence on the overall peaking characteristics. Additionally, the overall effect of school-generated traffic throughout the study area is already reflected in the background traffic counts upon which the analysis is based. The individual school peak hour traffic was used to evaluate queuing in each school's drop-off/pick-up area.

4.2. Trip Distribution and Assignment

4.2.1. School-Generated Trips

The trip distribution patterns of school-generated trips were developed based on a combination of the overall residential density within ISD's estimated enrollment areas, and traffic patterns observed within the study area.[18] Geographic Information System (GIS) data were used to determine the proportion of residences within neighborhoods in the respective school enrollment boundaries; Google Maps predictive travel times[19] were utilized to estimate routes to and from the site based on the respective travel times. Separate project trip distribution patterns and assignments were developed for each analysis hour and also account for typical patterns of some family drivers linking school drop-off and pick-up trips with work trips.[20]

During the combined morning peak hour, which would begin more than an hour ahead of the elementary school start time, the data indicate that about half of the inbound elementary school trips would be arriving staff, and half would be early student drop-offs. Therefore, the distribution of elementary school trips assumes about 40% of inbound trips would originate from outside the enrollment area. The high school would have a larger enrollment area, and inbound trips would be generated predominantly by students being dropped off or driving and parking; 10% of inbound trips generated by the high school during the combined morning peak hour were assumed to be generated by staff from outside the enrollment area.

For the combined afternoon peak hour, which would begin about 40 minutes before the elementary school dismissal, it is expected that all elementary school trips would be generated by student pick-up activity. The high school generated trips are expected to be generally similar to the morning pattern but in reverse direction—with about 10% of outbound trips assumed to be staff departures to destinations outside the enrollment area.

For the commuter PM peak hour, most trips are associated with student pick-up activity or student drivers involved in afterschool activities or sports. A small number of trips departing the parking lots for each school are assumed to be staff departures to destinations outside the respective enrollment areas. Detailed estimates of the trip distribution for each school separately and both schools combined are provided in the technical memorandum in **Appendix F**.

---

18 Peak hour traffic counts on 228th Avenue SE were conducted by Idax Data Solutions on Tuesday, October 1, through Thursday October 3, 2019.

19 Google Maps, https://www.google.com/maps, Accessed November 2019.

20 The estimated portion of total trips expected to be new trips, and not trips linked to existing trips on the street system, was based upon a pass-by trip study conducted for the Northshore School District (Gibson Traffic Consultants, *ITE School Pass-By Report*, January 2012). The study was based upon surveys conducted of parents at four Northshore elementary and middle schools. It found that in the morning, an average of 58% of trips generated at the school were primary (new) trips, and 42% were linked to existing trips that would occur with or without the school activity. In the afternoon, an average of 62% of trips generated at the school were primary (new) trips, and 38% were linked to existing trips that would occur with or without the school activity.

4.2.2. Shifts in Trips from Other Schools

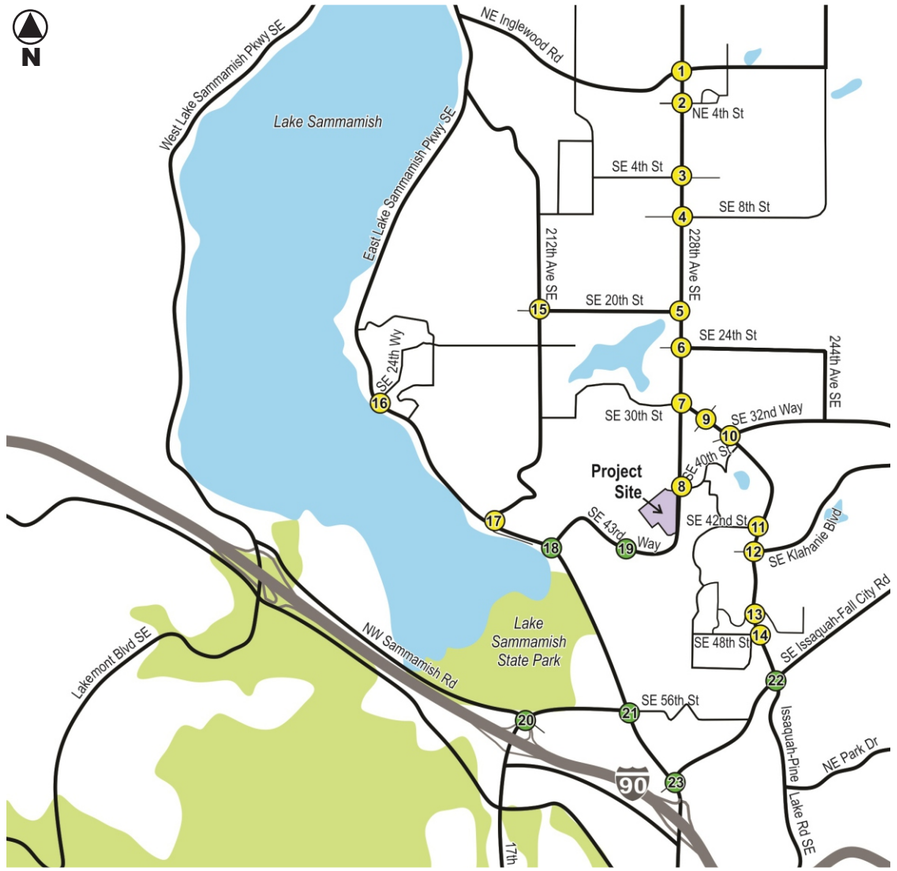
It is important to note that if the proposed schools are not constructed, the students living in the enrollment areas would still need to attend a different school, and therefore, would still generate trips to and from the schools they would otherwise attend. Additionally, morning drop-off trips and afternoon pick-up trips linked to work trips would also still occur. Therefore, while the school-generated trips would be new trips at and near the site access location, and would affect traffic volumes in the vicinity of the site, farther away from the site most would not be new trips on the street system.

Based upon the relative residential densities in the overlap areas, it is expected that the enrollment for Elementary School #17 would be comprised of about 57% that would otherwise attend Sunny Hills Elementary, 28% that would otherwise attend Clark Elementary, and 15% that would otherwise attend Creekside Elementary. The enrollment for High School #4 would be comprised of about 50% from Skyline High School and 50% from Issaquah High School.

With the new schools in place, the trips generated by these students would be shifted from the existing schools that they would otherwise attend. Future traffic forecasts and operational analysis completed for the project reflect the shifts that would occur with the project. The total project trips generated by the new schools, as well as the estimated trips that would be shifted from each of these schools, are detailed in **Appendix G**. The net new peak hour trips generated by the High School #4 / Elementary School #17 project consist of the total project trips minus the trips that would be shifted from other schools, shown on **Figure 7**.

4.2.3. Future Traffic Volumes with School Project

The net new peak hour school trips were added to the forecast 2024-without-project traffic volumes to project future conditions with the proposed school. **Figure 8** shows the forecast 2024-with-project traffic volumes for the morning, afternoon, and commuter PM peak hours.



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection
- XX Morning Peak Hour Volume
- (XX) Afternoon Peak Hour Volume
- [XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[0] (0) 0	[0] (0) 0	[0] (0) 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 (0) [0]	0 0 0	(0) (0) (0)
		[0] [0] [0]

2 228th Ave NE/NE 4th St

[0] (0) 0	[0] (0) 0	[0] (0) 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 (0) [0]	0 0 0	(0) (0) (0)
		[0] [0] [0]

3 228th Ave SE/SE 4th St

[0] (-2) -2	[0] (2) 2	[0] (0) 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) -1	[0] (0) 0	[-12] (-10) -57
-30 1 0	(-65) (0) (0)	[-22] [0] [0]

4 228th Ave SE/SE 8th St

[0] [4] [-16]	(0) (5) (-13)	0 -6 -45
-25 (-48) [-18]	0 (0) [0]	-73 (-109) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 -4 0	(0) (-17) (0)	[0] [-4] [0]

5 228th Ave SE/SE 20th St

[-14] [-38] [0]	(-32) (-113) (0)	-14 -68 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[-8] (-7) -95	[0] (0) 0	[7] (6) 52
17 -173 0	(34) (-15) (0)	[13] [-34] [0]

6 228th Ave SE/SE 24th St

[0] [-31] [0]	(0) (-107) (0)	0 -16 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 -156 0	(0) (19) (0)	[0] [-22] [0]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[-20] [-7] [-4]	(-52) (-49) (-6)	-24 31 -23
-13 (-5) [-6]	0 (0) [0]	55 (38) [27]
[-11] (-9) -83	[0] (0) 0	[11] (9) 83
24 -60 37	(52) (33) (38)	[20] [-5] [20]

8 228th Ave SE/SE 40th St

[46] [-12]	(32) (-31)	183 -14
-48 (-6) [-6]	98 (39) [24]	
49 34	(131) (85)	[42] [43]

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[0] [16] [0]	(0) (33) (0)	0 19 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 43 0	(0) (31) (0)	[0] [21] [0]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[0] [-23] [0]	(0) (-22) (0)	0 2 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 -12 0	(0) (-29) (0)	[0] [-9] [0]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[-14] [5]	(-22) (22)	-7 15
[-8] (-16) -15	[0] (0) 0	
0 18	(0) (2)	[0] [7]

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[0] [5] [0]	(0) (22) (0)	0 15 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 18 0	(0) (2) (0)	[0] [7] [0]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[1] [2] [0]	(5) (7) (0)	1 12 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[-1] (-4) -1	[0] (0) 0	[-2] (-1) -6
-3 14 0	(-6) (4) (0)	[-3] [6] [0]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[4] [-4]	(7) (-1)	4 2
[4] (6) 26	[-5] (-5) -44	
-11 -15	(-26) (-8)	[-9] [-1]

15 212th Ave SE/SE 20th St

[0] [-12] [5]	(0) (-17) (4)	0 -7 35
12 (21) [8]	0 (0) [0]	-9 (-19) [-9]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 -18 -25	(0) (-17) (-5)	[0] [-10] [-6]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[12] [0]	(10) (0)	90 0
0 (0) [0]	0 (0) [0]	
26 0	(57) (0)	[22] [0]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[0] [0] [-11]	(0) (0) (-16)	0 0 3
-16 (-11) [-8]	26 (57) [22]	0 (0) [0]
[0] (0) 0	[12] (10) 90	[0] (0) 0
0 0 0	(0) (0) (0)	[0] [0] [0]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[24] [105]	(63) (252)	28 169
376 (96) [83]	-6 (-5) [-4]	
[2] (-6) 95	[-1] (0) -2	

19 Providence Point Dr SE/ SE 43rd Way

[0] [0] [0]	(0) (0) (0)	0 0 0
0 (0) [0]	0 (190) (320) [136]	0 (0) [0]
[0] (0) 0	[102] (119) 488	[0] (0) 0
0 0 0	(0) (0) (0)	[0] [0] [0]

20 NW Sammamish Rd/ 17th Ave NW

[13] [35] [0]	(38) (97) (0)	17 72 0
0 (0) [0]	0 (0) [0]	0 (0) [0]
[8] (6) 58	[0] (0) 0	[0] (0) 0
0 159 0	(0) (32) (0)	[0] [32] [0]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[62] [6] [30]	(172) (10) (58)	106 27 22
62 (27) [16]	0 (0) [0]	-31 (-14) [-9]
[48] (45) 276	[0] (0) 0	[-8] (-7) -59
-17 32 -11	(-37) (19) (-29)	[-14] [15] [-15]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[-11] [0] [2]	(-9) (0) (3)	-58 0 16
8 (7) [7]	-8 (-7) [-7]	0 (0) [0]
[-17] (-41) -34	[-2] (-3) -16	[0] (0) 0
0 0 0	(0) (0) (0)	[0] [0] [0]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

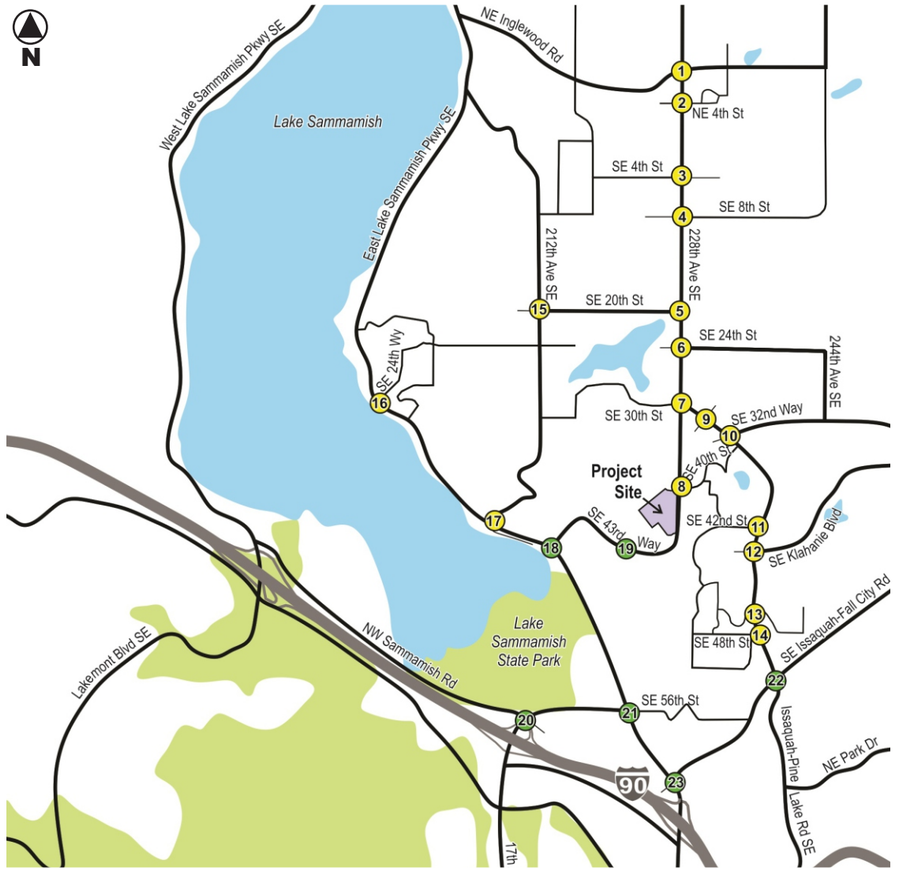
[0] [-11] [0]	(0) (-11) (0)	0 -63 0
0 (0) [0]	0 (0) [0]	-96 (-28) [-25]
[0] (0) 0	[0] (0) 0	[0] (0) 0
0 5 -61	(0) (-46) (-73)	[0] [-12] [-33]

High School #4
Elementary #17

Figure 7
Net New Trips With Project
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

08.15.20



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[52] [593] [279]
(71) (791) (374)
68 613 137

221 (124) [163]
238 (218) [207]
182 (311) [235]

[296] (225) 78
[282] (297) 162
[342] (457) 283

317 591 92
(260) (489) (130)
[342] [642] [170]

2 228th Ave NE/NE 4th St

[4] [929] [89]
(5) (1234) (119)
7 742 273

195 (314) [157]
4 (22) [11]
164 (693) [351]

[21] (16) 29
[4] (4) 6
[13] (18) 21

7 928 154
(11) (878) (66)
[14] [1150] [86]

3 228th Ave SE/SE 4th St

[176] [1091] [23]
(197) (1467) (30)
64 735 156

86 (21) [28]
23 (10) [10]
97 (47) [35]

[185] (148) 126
[2] (2) 63
[159] (200) 53

56 892 296
(97) (793) (12)
[184] [1044] [16]

4 228th Ave SE/SE 8th St

[100] [1008] [133]
(130) (1341) (182)
59 757 96

376 (170) [95]
35 (78) [39]
231 (288) [198]

[104] (79) 36
[46] (49) 22
[22] (29) 6

55 848 264
(90) (798) (229)
[118] [1065] [301]

5 228th Ave SE/SE 20th St

[88] [1140] [19]
(105) (1457) (26)
81 1198 9

23 (15) [19]
1 (1) [1]
38 (30) [23]

[91] (68) 87
[7] (7) 1
[226] (299) 160

203 891 18
(146) (1155) (29)
[160] [1501] [39]

6 228th Ave SE/SE 24th St

[19] [982] [334]
(26) (1243) (447)
9 1065 127

218 (244) [321]
1 (6) [6]
111 (116) [86]

[16] (12) 4
[5] (5) 2
[9] (11) 1

5 581 106
(17) (1179) (136)
[22] [1502] [179]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[18] [432] [503]
(4) (538) (669)
21 781 388

441 (354) [463]
103 (126) [120]
267 (233) [173]

[150] (113) 26
[103] (108) 113
[26] (28) 100

31 360 107
(65) (767) (221)
[37] [960] [258]

8 228th Ave SE/SE 40th St

[597] [21]
(770) (13)
1215 7

32 (13) [20]
137 (57) [37]

532 43
(1027) (107)
[1217] [72]

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[7] [910] [54]
(7) (944) (55)
124 468 10

44 (26) [33]
1 (1) [1]
27 (21) [21]

[12] (10) 137
[1] (1) 1
[13] (13) 71

108 693 12
(10) (645) (27)
[13] [814] [34]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[6] [623] [277]
(6) (635) (283)
2 458 94

271 (131) [190]
1 (2) [2]
235 (156) [154]

[5] (4) 9
[1] (1) 1
[1] (1) 1

4 698 82
(2) (576) (164)
[4] [771] [212]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[4] [726]
(1) (756)
10 698

[27] (8) 13
[40] (58) 82

69 618
(55) (639)
[42] [829]

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[5] [681] [79]
(5) (727) (80)
4 754 22

99 (32) [45]
4 (1) [1]
340 (114) [110]

[2] (1) 15
[1] (1) 1
[1] (1) 23

1 574 67
(13) (658) (233)
[17] [825] [299]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[11] [763] [24]
(30) (817) (25)
37 1189 17

26 (24) [34]
1 (1) [1]
125 (55) [54]

[6] (15) 44
[1] (1) 1
[7] (8) 9

1 644 26
(4) (927) (102)
[10] [1165] [133]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[61] [801]
(99) (820)
61 1285

[52] (54) 123
[106] (108) 153

43 507
(129) (981)
[192] [1262]

15 212th Ave SE/SE 20th St

[9] [157] [226]
(7) (126) (193)
1 170 86

175 (94) [93]
30 (34) [40]
128 (88) [118]

[2] (2) 12
[36] (32) 24
[36] (32) 45

46 152 130
(32) (148) (91)
[36] [184] [107]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[586] [10]
(607) (10)
610 16

13 (6) [9]
40 (43) [41]

381 15
(522) (39)
[667] [55]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[11] [2] [134]
(7) (2) (135)
9 0 378

87 (245) [342]
397 (603) [780]
0 (2) [4]

[13] (13) 9
[666] (691) 730
[0] (0) 0

0 0 0
(1) (1) (1)
[1] [1] [1]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[68] [848]
(121) (1248)
79 1341

855 (978) [1306]
467 (760) [1055]

[49] (45) 151
[764] (796) 976

19 Providence Point Dr SE/ SE 43rd Way

[38] [1] [15]
(51) (1) (20)
29 1 30

1 (4) [2]
1241 (1054) [684]
18 (19) [15]

[41] (32) 15
[1291] (1026) 966
[1] (1) 6

11 1 13
(16) (1) (11)
[12] [1] [15]

20 NW Sammamish Rd/ 17th Ave NW

[300] [1704] [16]
(291) (1566) (14)
526 1386 11

16 (23) [27]
58 (93) [106]
106 (253) [287]

[411] (361) 180
[165] (144) 32
[387] (341) 143

334 1376 186
(214) (1185) (214)
[244] [1341] [244]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[770] [526] [72]
(795) (468) (95)
1011 481 38

78 (69) [64]
186 (154) [175]
1 (66) [81]

[1193] (1054) 719
[154] (136) 64
[475] (418) 137

503 496 5
(257) (766) (8)
[320] [863] [27]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[477] [349] [57]
(489) (356) (60)
571 597 132

83 (78) [89]
776 (380) [424]
427 (303) [296]

[573] (414) 145
[537] (482) 105
[10] (10) 5

2 252 257
(14) (472) (528)
[18] [600] [686]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[21] [828] [265]
(19) (728) (234)
48 343 58

154 (126) [143]
37 (10) [11]
833 (532) [612]

[42] (37) 27
[37] (33) 16
[85] (74) 42

80 875 369
(14) (869) (838)
[16] [1027] [1002]

High School #4
Elementary #17

Figure 8
Forecast 2024 With-Project Traffic Volumes
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

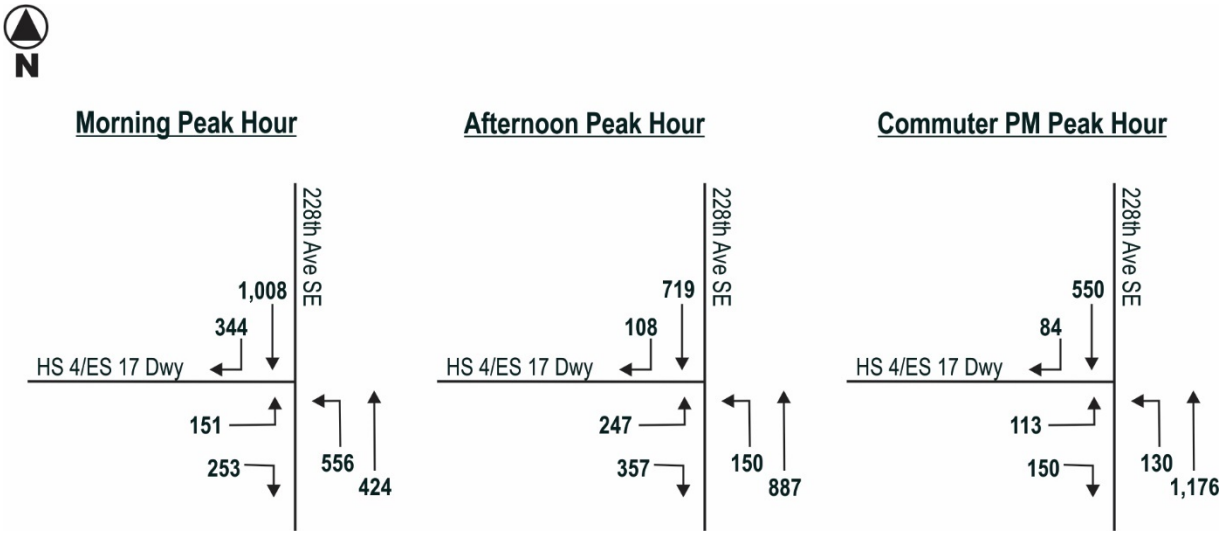
08.15.20

4.3. Traffic Operations

4.3.1. Traffic Control Needs at Site Access Driveway

Detailed traffic operations analysis was performed to support design of the site driveway on 228th Avenue SE. **Figure 9** shows the projected peak hour traffic volumes at the site access driveway intersection.

Figure 9. Peak Hour Volumes at Site Access Driveway



The following analysis was conducted first to determine whether a signal would be warranted at the driveway, and then to determine the optimal lane configuration and operation.

Signal Warrant Analysis

Due to the relatively high traffic volumes on 228th Avenue SE, it is anticipated that signalization would be required at the schools' site access intersection. Therefore, traffic signal warrant analysis was performed according to guidelines published in the *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways.*[21] Hourly traffic volumes for a full day, needed to complete the signal warrant analysis, were estimated as follows.

1. Background volumes on 228th Avenue SE were assumed to reflect an hourly profile similar to the City's 24-hour traffic count conducted to the south of SE 32nd Street in May 2019, but factored up to reflect the 2024-without-project volumes as described above.
2. Volumes generated by Elementary School #17 were assumed to reflect an hourly profile similar to that of Sunny Hills Elementary, based upon 24-hour counts conducted at the Sunny Hills Elementary driveways on Tuesday, October 1, and Thursday, October 3, 2019.
3. Volumes generated by High School #4 were assumed to reflect an hourly profile similar to that of Skyline High School, based upon 24-hour counts conducted at the Skyline High School driveways on Tuesday, October 1, and Thursday, October 3, 2019.

[21] US Department of Transportation, Federal Highway Administration, 2009.

4. The combined school-generated trips were added to the 2024 without-project background traffic volumes to estimate total future volumes with the project.

The MUTCD states, "*A traffic control signal should not be installed unless one or more of the factors described in this section are met*." The nine warrants for traffic signal installation are listed as follows:

- Warrant 1 – Eight-Hour Vehicular Volume (minimum volumes over eight hours)
- Warrant 2 – Four-Hour Vehicular Volume (minimum volumes over four hours)
- Warrant 3 – Peak Hour (minimum volume over a one-hour period)
- Warrant 4 – Pedestrian Volume
- Warrant 5 – School Crossing (adequacy of gaps near school crossing location)
- Warrant 6 – Coordinated Signal System (platooning for one-way or two-way streets)
- Warrant 7 – Crash Experience (number and type of accidents)
- Warrant 8 – Roadway Network (for organized traffic flow networks)
- Warrant 9 – Intersection Near a Grade Crossing

If the posted speed limit or the 85th-percentile speed on the major street exceeds 40 mph, the MUTCD allows a "70% factor" to be applied to Warrants 1 through 3, which reduces the warrant thresholds to 70% of the volumes that are otherwise applied to an intersection. The posted speed limit on 228th Avenue SE is 40 mph, which is at but does not exceed this threshold. Determination of the 85th percentile speed can be made through speed measurements; but were not provided by the City. To provide a conservative analysis of the above warrants, the unadjusted thresholds were applied.

The volumes used to assess the three warrants for 2024 with-project conditions are summarized in **Table 8**. As shown, Warrants 1B, 2, and 3 are expected to be met for conditions with the project. Additionally, it is likely that with the high peak hour volumes through the intersection, the requirements for Warrant 5 (school crossing) could also be met. These results indicate that expected traffic conditions with the project would meet the MUTCD warrants for installation of a traffic signal. If a speed study determined that application of the 70% threshold were appropriate, a greater number of hours would meet the warrant conditions, but would not change the overall conclusion since warrants are expected to be met at the unadjusted thresholds.

Based upon the results of the signal warrant analysis, installation of a traffic signal at the 228th Avenue SE / School Driveway is recommended and has been incorporated into the proposal. The operational effects of the project with this recommended access configuration are described in the following section.

Table 8. Signal Warrant Analysis Summary – 2024 Conditions With Project

Hour Beginning	Major Street Volume (both directions) [a]	Minor Street Volume [a]	Vehicle Volume Warrant Requirements Met?			
	228th Avenue SE	HS 4 / ES 17 Driveway	1A	1B	2	3
12:00 A.M.	58	1	N	N	N	N
1:00 A.M.	29	0	N	N	N	N
2:00 A.M.	16	0	N	N	N	N
3:00 A.M.	39	1	N	N	N	N
4:00 A.M.	119	1	N	N	N	N
5:00 A.M.	323	2	N	N	N	N
6:00 A.M.	982	12	N	N	N	N
7:00 A.M.	2,381	268	Y	Y	Y	Y
8:00 A.M.	1,963	292	Y	Y	Y	Y
9:00 A.M.	1,686	156	N	Y	Y	N
10:00 A.M.	1,136	78	N	N	N	N
11:00 A.M.	1,180	92	N	N	N	N
12:00 P.M.	1,237	70	N	N	N	N
1:00 P.M.	1,274	74	N	N	N	N
2:00 P.M.	1,430	139	N	Y	Y	N
3:00 P.M.	1,921	604	Y	Y	Y	Y
4:00 P.M.	1,924	272	Y	Y	Y	Y
5:00 P.M.	1,965	247	Y	Y	Y	Y
6:00 P.M.	1,753	111	N	Y	N	N
7:00 P.M.	1,152	65	N	N	N	N
8:00 P.M.	816	128	N	N	N	N
9:00 P.M.	600	147	N	N	N	N
10:00 P.M.	284	10	N	N	N	N
11:00 P.M.	164	5	N	N	N	N
		Hours Met?	5	8	7	5
		Hours Required	8	8	4	1
		Warrant Met?	No	Yes	Yes	Yes

Source: Heffron Transportation, Inc., June 2020, using warrants and thresholds from the MUTCD, US Department of Transportation, Federal Highway Administration, 2009.

Intersection Configuration and Operating Parameters

Based upon the operational analysis completed for the 228th Avenue SE / School Driveway intersection, the recommended channelization and signalization includes the following elements. The following two configuration options were evaluated for the south leg (northbound approach).

- **Option 1: Add left-turn lane and changeable left-through lane** – With this option, 228th Avenue SE approaching the site driveway would have an exclusive left-turn lane, a center lane with change-

able signal configuration that allows shared through-left movements during the morning peak hour and through-only movements during other times of day, and an exclusive through-lane; there is a similar configuration at NE 124th Street/100th Avenue NE in Kirkland (see **Figure 10**). Because the additional northbound left-turn capacity would only be needed during the peak morning school arrival period, which corresponds with the time of day that northbound through volumes are lower, this would reduce the 228th Avenue SE cross section by one lane, as compared to Option 2, while still maintaining adequate operation during all times of day.

- **Option 2: Add double left-turn lane and additional through-lane** – With this option, 228th Avenue SE approaching the site driveway would have a double left-turn lane and two exclusive through-lanes.

Figure 10. Example Shared Left-Thru Lane – NE 124th Street / 100th Avenue NE, Kirkland

Source: Google Maps, Image Date, August 2019.

Both options would have the following same configurations on the other approaches.

- **School Access Driveway: East Leg** – In the eastbound direction (the exit from the school site), the school driveway would have double-left turn lanes and a single right-turn lane approaching 228th Avenue SE. It would have two westbound (entry) lanes.
- **228th Avenue SE: North Leg** – In the southbound direction, 228th Avenue SE would have two through lanes, and a right-turn lane into the school site. Northbound, 228th Avenue SE would have two through lanes; the right lane would become a right-turn lane at NE 40th Street.

- **Right-Turn Overlap Phases** – The signal would have overlap phases that would allow eastbound right turns out of the site and southbound right turns into the site to occur concurrently with the northbound and eastbound left-turn movements, respectively.
- **Pedestrian Crosswalks and Phases** – Crosswalks with pedestrian signals would be provided across the east and south intersection legs. North-south pedestrian crossing of the east leg would occur with the southbound through phase (with southbound right turns for vehicle permitted) and east-west pedestrian crossing of the south leg would occur with the eastbound phase (with eastbound right-turns permitted).

ISD would work with the City of Sammamish to determine the optimal configuration. The following operational and queueing analysis is presented to help inform that effort.

Driveway Operations with Configuration Options

Levels of service for the site access intersection were determined using methodologies described for the existing conditions analysis. With the proposed configuration that would provide three or more lanes on each approach, the City of Sammamish operational standard is LOS E.

Table 9 summarizes forecast 2024 levels of service for the three peak hour conditions with the proposed project, with each configuration option. The level-of-service reports are provided in **Appendix H**. With the Option 1 changeable left-through lane (providing a six-lane cross section on 228th Avenue SE at the site driveway), the intersection is projected to operate at LOS D overall during the morning peak hour, LOS B during the afternoon peak hour, and LOS A during the commuter PM peak hour. These results show that with both schools operating at capacity, the intersection would operate within the City's adopted level-of-service standards during all times of day.

Table 9. Level of Service at 228th Ave SE / Site Access Driveway – 2024 With-Project

	Morning Peak Hour (7:15 – 8:15 A.M.)		Afternoon Peak Hour (3:00 – 4:00 P.M.)		Commuter PM Peak Hour (4:45 – 5:45 P.M.)	
	LOS [a]	Delay [b]	LOS	Delay	LOS	Delay
With Option 1 – Northbound Left-Turn Lane, Changeable Left-Through Lane, and Exclusive Through-Lane						
Overall Intersection	D	41.2	B	18.4	A	9.6
Worst Movement	E [c]	59.7	C	25.2	E [d]	63.0
With Option 2 – Northbound Double Left-Turn Lanes and Double Through-Lanes						
Overall Intersection	C	24.8	B	18.6	A	9.7
Worst Movement	D [c]	43.4	C	26.6	E [d]	60.8

Source: Heffron Transportation, Inc., August 2020.

a. LOS = Level of service.

b. Delay = Average seconds of delay per vehicle.

c. With both options, worst movement is northbound left-turn; all other movements projected to operate at LOS D or better.

d. With both options, worst movement is eastbound left-turn; all other movements projected to operate at LOS A.

With the Option 2 double-left and double-through lanes (providing a seven-lane cross section on 228th Avenue SE at the site driveway), the additional capacity is projected to result in some delay reduction during the morning peak hour, with LOS C projected. During the other times of day—including the afternoon and commuter PM peak hours—the additional capacity is expected to have little to no effect on in-

tersection operation. This is because the additional capacity provided with the second northbound left-turn lane would only be needed during the peak morning condition when school is in session.

It is important to note that the operations summarized in Table 9 reflect conditions for the most congested portion of the peak hour. For the morning and afternoon peak hours, since they coincide primarily with the high school arrival and dismissal periods, the most congested conditions typically occur over a 20- to 30-minute period within the peak hour. During the remainder of the morning and afternoon peak hours, and during the other non-peak hours of the day and on weekends, traffic operation would be better than the worst-case conditions summarized in the table.

Peak Queuing Conditions with Configuration Options

Vehicle queuing at the approaches of the 228th Avenue SE / school driveway intersection was evaluated using the *SimTraffic* microsimulation software. Conditions were modeled applying the forecast with-project traffic volumes for the three peak hour conditions. **Table 10** summarizes the forecast peak queuing conditions with each configuration option. Peak hour queuing summary reports, based upon the average of six model runs for each analysis period, are provided in **Appendix H**.

As shown, with Option 1 (northbound changeable lane), the queuing analysis determined that storage lengths needed to accommodate the 95th-percentile queue (meaning that the queue would be at that length or shorter 95% of the time) would be about 360 feet for the northbound left-turn movement, 250 feet for the southbound right-turn movement, and 200 feet for the eastbound right-turn movement. With Option 2, similar storage lengths would be needed for the northbound left-turn and eastbound right-turn movements; the southbound right-turn would be about 30 feet shorter.

Table 10. Peak Queuing Conditions Site Access Driveway – 2024 With-Project

	Option 1 – Northbound Changeable Lane		Option 2 – Northbound Double Left	
Storage Lane	Average Queue	95th Percentile Queue	Average Queue	95th Percentile Queue
Northbound Left-turn [a]	200 feet	360 feet	200 feet	360 feet
Southbound Right-Turn [a]	120 feet	250 feet	90 feet	220 feet
Eastbound Right-Turn [b]	110 feet	200 feet	105 feet	190 feet

Source: Heffron Transportation, Inc., August 2020.

a. Based on peak queuing condition, which occurs during the morning peak hour

b. Based on peak queuing condition, which occurs during the afternoon peak hour.

4.3.2. Off-Site Traffic Operations

Table 11 summarizes 2024 "with-project" levels of service for the study area intersections. The without-project results are shown for comparison; the level-of-service reports are provided in **Appendix D.**

As shown, the project would improve operation on 228th Avenue SE north of Issaquah-Pine Lake Road, and on Issaquah-Pine Lake Road, due to changes in travel patterns associated with shifted trips from Skyline High School, Creekside Elementary School, and Sunny Hills Elementary School.

Project-generated traffic would increase delay at (8) SE 40th Street / 228th Avenue SE, which is projected to operate at LOS F under 2024 conditions without the project, requiring mitigation at this location. The City of Sammamish has identified this intersection for future capacity improvement.[22] Analysis deter-

[22] City of Sammamish, Comprehensive Plan, 2018.

mined that installing a traffic signal would improve operations to LOS D or better for all peak hours. ISD will work with the City of Sammamish to determine the optimal improvement for this location.

Project-generated traffic is also expected to add delay to the (20) NW Sammamish Road / 17th Avenue W and (21) SE 56th Street / East Lake Sammamish Parkway intersections in Issaquah, which are projected to operate at LOS E or F in 2024 without the project. This is due to additional traffic that would be shifted from Issaquah High School and Clark Elementary School to the new schools (it is noted that this shift would reduce traffic on Newport Way and other streets to the south in Issaquah, but these streets are outside of the study area). In its *Comprehensive Plan*,[23] the City of Issaquah has identified the following future capacity improvements that would improve traffic operation at both of these locations.

- (Project #4) NW Sammamish Road / 17th Avenue NW (SR 900) / 12th Avenue NW – Widen 12th Avenue NW at SR 900 / NW Sammamish Road to provide for an additional westbound approach lane to provide exclusive dual left-turn lanes. In addition, widen the northbound 17th Avenue NW approach to provide for an exclusive right turn lane for traffic turning from 17th Avenue NW to 12th Avenue NW.

- (Project #6) SR 900 / NW Sammamish Road – Construct an additional westbound general-purpose lane approaching the I-90 Ramps from 11th Ave NW to the metered location on the westbound I-90 on-ramp.

- (Project #19) NW Sammamish Road / SE 56th Street – Widen NW Sammamish Road / SE 56th Street to three lanes in each direction between the I-90 westbound ramps and East Lake Sammamish Parkway. Provide additional turn lane capacity at various intersections along the corridor.

In its payment of traffic impact fees to the City of Issaquah, in accordance with Issaquah Municipal Code (IMC) §3.71, the project would mitigate its share of traffic impacts at these intersections.

During the morning peak hour, the (18) SE 43rd Way / East Lake Sammamish Parkway roundabout is projected to operate at LOS E with the project. However, because (1) the projected average delay is less than a half second above the LOS D threshold, (2) the cumulative conditions reflect a 4% annual background traffic growth that is substantially higher than the 1.1% average rate reflected in the City of Issaquah's models (as described in *Section 3.3.2*), and (3) the City has chosen to implement a capacity reduction at this location (as described in *Section 3.2*), no mitigation is recommended.

Additionally, ISD would develop a Transportation Management Plan (TMP) to encourage travel by modes other than single-occupant-vehicles, which would seek to reduce project-generated trips compared to what is reflected in the analysis. This is described in more detail in *Section 5. Mitigation and Recommendations.*

[23] City of Issaquah, Comprehensive Plan, 2019.

Table 11. Level of Service Summary – 2024 Conditions Without- and With-Project

Intersection / Control Type	LOS Std [a]	Morning Peak Hour				Afternoon Peak Hour				Commuter PM Peak Hour			
		2024 w/o Project		2024 w/ Project		2024 w/o Project		2024 w/ Project		2024 w/o Project		2024 w/ Project	
		LOS [b]	Delay [c]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized													
(1) NE Inglewood Dr / 228th Ave NE	E	D	39.8	D	39.8	F	90.2	F	90.2	E	63.1	E	63.1
(2) NE 4th St / 228th Ave NE	D	D	35.8	D	35.8	F	90.5	F	90.5	C	27.5	C	27.5
(3) SE 4th St / 228th Ave SE	D	C	22.6	C	22.5	D	49.4	D	35.3	C	22.3	C	21.4
(4) SE 8th St / 228th Ave SE	D	D	42.8	C	34.4	F	129.4	F	120.0	E	65.4	E	62.6
(5) SE 20th St / 228th Ave SE	D	C	29.6	C	29.2	F	100.3	F	87.1	C	25.5	C	25.6
(6) SE 24th St / 228th Ave SE	D	B	16.0	B	15.7	D	42.3	D	44.7	C	28.7	C	28.5
(7) 228th Ave SE / Issaquah-Pine Lake Rd SE	E	D	36.1	E	58.6	D	47.3	E	55.3	D	40.4	D	41.0
(9) SE 230th Ln / Issaquah-Pine Lake Rd SE	D	B	18.2	B	18.3	A	9.5	A	9.6	A	9.7	A	9.7
(11) SE 42nd St / Issaquah-Pine Lake Rd SE	D	A	8.5	A	8.2	B	11.2	B	10.8	B	11.0	A	9.7
(12) SE Klahanie Blvd / Issaquah-Pine Lake Rd SE	D	C	28.9	C	29.6	B	15.1	B	15.3	B	14.8	B	14.9
(13) 238th Way SE / Issaquah-Pine Lake Rd SE	D	D	36.6	C	34.4	B	14.6	B	14.6	B	17.9	B	17.9
(14) SE 48th St / Issaquah-Pine Lake Rd SE	D	E	74.0	E	70.9	B	16.4	B	15.9	B	15.6	B	15.8
(17) 212th Way SE / East Lake Sammamish Pkwy	D	B	15.5	B	18.0	B	10.6	B	10.5	B	10.1	A	9.9
(19) SE 43rd Way / Providence Point Dr SE	D	A	5.8	A	7.8	B	12.0	B	13.6	B	11.3	B	12.6
(20) NW Sammamish Rd / 17th Ave NW (SR 900)	E	F	84.9	F	91.2	F	94.0	F	106.7	F	95.9	F	100.7
(21) SE 56th St / East Lake Sammamish Pkwy	D	E	72.2	F	113.4	E	67.5	F	88.8	E	68.6	F	80.2
(22) SE Issaquah-Fall City Rd / Issaquah-Pine Lake Rd SE	D	D	39.6	D	37.5	D	40.4	D	39.2	D	43.9	D	43.4
(23) SE Issaquah-Fall City Rd / East Lake Sammamish Pkwy	D	D	38.6	D	37.6	D	37.2	C	34.5	D	37.6	D	36.7

Table 11. Level of Service Summary – 2024 Conditions With- and Without-Project (continued)

	LOS Std[a]	Morning Peak Hour				Afternoon Peak Hour				Commuter PM Peak Hour			
		2024 w/o Project		2024 w/ Project		2024 w/o Project		2024 w/ Project		2024 w/o Project		2024 w/ Project	
		LOS[b]	Delay[c]	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
One-Way Stop Controlled[d]													
(8) SE 40th St / 228th Avenue SE *(overall)*	D	*B*	*10.5*	*F*	*159.1*	*A*	*3.7*	*E*	*37.8*	*A*	*1.9*	*A*	*8.8*
Westbound movement		F	100.1	F	>300	F	134.3	F	>300	F	65.3	E	289.8
Southbound left-turn		A	8.6	A	8.8	B	11.4	B	12.6	B	12.4	B	12.8
(16) SE 24th Wy / E Lake Sammamish Pkwy *(overall)*	D	*A*	*1.0*	*A*	*1.0*	*A*	*1.7*	*A*	*1.7*	*A*	*1.4*	*A*	*1.4*
Westbound movement		C	15.4	C	16.7	C	24.0	D	25.9	C	22.8	C	23.6
Southbound left-turn		A	8.4	A	8.5	A	9.0	A	9.3	A	9.6	A	9.7
All-Way Stop Controlled													
(15) SE 20th St / 212th Ave SE	D	C	18.9	C	16.4	B	14.7	B	13.8	C	16.0	B	14.9
Roundabout-Controlled													
(10) SE 32nd Way / Issaquah-Pine Lake Rd SE	D	C	26.4	C	24.2	D	42.7	D	36.9	D	49.9	D	44.8
(18) SE 43rd Way / East Lake Sammamish Pkwy	D	B	17.0	E	55.2	B	10.9	B	18.0	B	15.4	C	23.2

Source: Heffron Transportation, July 2020

a. Sources: Sammamish Comprehensive Plan (2018) for Intersections 1 through 17; Issaquah Comprehensive Plan (2019) for Intersections 18 through 23.

b. LOS = Level of Service

c. Delay = average delay in seconds per vehicle

d. For the one-way stop-controlled intersections, minor leg LOS reported for the worst stop-controlled approach.

Grey-shaded cells indicate LOS standard is exceeded under future conditions without the project.
Green-shaded cells indicate LOS standard is exceeded under future conditions with the project, but unchanged or improved compared to without-project conditions.
Red-shaded cells indicate project would cause LOS to exceed standard, or add delay where LOS standard is exceeded without the project.

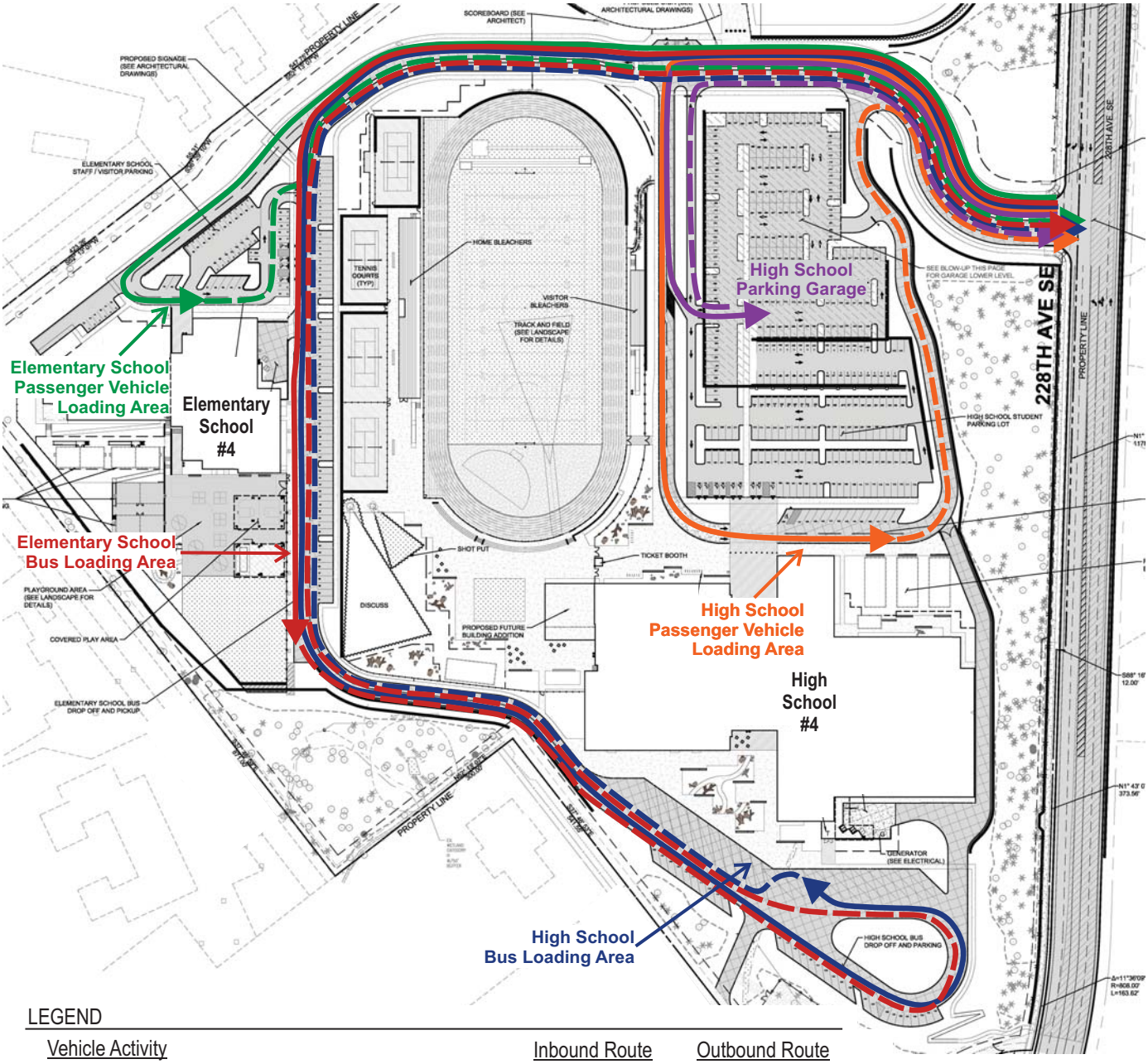
4.4. On-Site Circulation and Queuing

The proposed site layout was evaluated to determine each school's capacity to accommodate student loading and queuing. School hours for the elementary and high school would be offset. Based upon typical schedules for ISD elementary and high schools, the morning start time for Elementary School #17 (9:15 A.M.) would occur 75 minutes after the start time for High School #4 (8:00 A.M.). The afternoon dismissal for Elementary School #17 (3:40 P.M.) would occur 45 minutes after the dismissal time for High School #4 (2:55 P.M.). On Wednesdays when both schools would have reduced schedules, comparable separation would occur with the school day occurring from 9:15 A.M. to 1:30 P.M. for Elementary School #17, and 10:10 A.M. to 3:45 P.M. for High School #4.

Figure 11 shows the proposed parking and loading areas at the project site, as well as vehicle routes to and from those areas. The internal circulation road would have two through lanes in each direction between 228th Avenue SE and the high school parking garage/ passenger loading area access road. To the west of that intersection, the main access road would have two westbound lanes inbound to the elementary school, and one lane outbound. There would also be a two-lane access road to and from the bus loading area and some on-site parking along the east side of the elementary school and south side of the high school. Although the bus staging would occur in separate areas for each school, all school buses would use the loop located to the south of the high school to turn around prior to exiting the site.

The proposed internal lane configuration, combined with separation of loading and major parking activity, would minimize the potential for internal vehicle conflicts on site. The primary location where conflicts could occur is the intersection of the main access road with the high school parking garage/ passenger loading area access road. However, when westbound left-turns (toward the high school and parking garage) would be highest, there would be a low volume of opposing traffic (from the elementary school, bus loop, and parking west of the athletic facilities). The proposed site design would separate circulation of buses and vehicles generated by each school, so that maximum queuing conditions at one school would not impede vehicles or buses traveling to or from the other school.

Due to the separation of the school schedules, combined with physical separation of their respective loading areas on the project site, queueing characteristics during the morning arrival period and afternoon dismissal period were considered separately. Queuing characteristics for the two schools are discussed in more detail in the following sections.



LEGEND

Vehicle Activity	Inbound Route	Outbound Route
Elementary School Passenger Vehicle Drop-off / Pick-up	←	→
Elementary School Bus Drop-off / Pick-up	←	→
High School Parking	←	→
High School Passenger Vehicle Drop-off / Pick-up	←	→
High School Bus Drop-off / Pick-up	←	→

High School #4
Elementary #17

Figure 11

On-Site Circulation

heffron transportation inc

09.01.20

4.4.1. Elementary School Queuing

The passenger vehicle loading area for Elementary School #17 would be located along the north side of the school building. Approximately 200 feet in length, it would have capacity for simultaneous loading of 10 to 13 vehicles. The access street between the elementary school loading area and 228th Avenue SE would be about 1,500 feet in length, and could accommodate about 75 to 100 queued vehicles (assuming vehicles would be waiting in one lane).

Morning Arrival

The morning arrival queue can be modeled directly using Poisson arrival methodologies for a multi-channel service system (i.e., the number of drop-off spaces that can be used simultaneously). Observations conducted by Heffron staff at other schools have found that it takes an average of about 15 to 30 seconds for students to exit a vehicle while at the drop-off space (most recently, observations conducted in Fall 2019 at Pacific Cascade Middle School found an average unload time of 26 seconds). Assuming that elementary school students would be at the higher end of this range, this equates to a service rate for each drop-off space of 2 vehicles per minute (or a rate of 120 vehicles per hour). Field observation at existing schools indicates that most student drop-offs occur over about a 30-minute timespan. Based upon the arrival rates observed at Sunny Hills and Discovery Elementary Schools, it is estimated that of the 223 vehicles forecast to drop off students during the morning peak hour, 156 vehicles would arrive during the peak 30 minutes within the hour. This equates to an estimated arrival rate of 312 vehicles per hour. The proposed student loading area would have sufficient length for at least 10 vehicles to unload at a time. This information was entered into a queueing model (results provided in **Appendix I**), which projected an average queue of 3 vehicles and 95th-percentile queue of 5 vehicles. Therefore, the estimated 10 to 13-vehicle queuing capacity is expected to be sufficient to accommodate morning drop-off activities with little to no backup beyond the passenger vehicle loading area.

Afternoon Dismissal

Although the queue estimation model is reasonable for application to morning arrival queues, the afternoon queueing conditions are different. Parents arrive prior to school dismissal during a time when no vehicles are being loaded (or serviced). This causes vehicle queues to develop prior to the student dismissal. Field observation conducted by Heffron Transportation staff at other schools has found that the maximum afternoon queues occur just prior to dismissal, and typically dissipate in within 10 to 15 minutes after dismissal as students load into their vehicles.

Planning research and guidance from several sources suggest providing on-site queue stacking for elementary schools between 1.2 and 2.0 feet per student[24]. For the proposed elementary school with 744 student capacity, this would equate to storage space of about 890 to 1,490 feet. The 1,700 feet that would be available for elementary school queuing would exceed this guideline, and would accommodate 85 to 110 vehicles. Based upon afternoon traffic counts conducted at Sunny Hills and Discovery Elementary Schools, adjusted for the proposed 744 student capacity, it is estimated that 60 to 70 vehicles would arrive prior to afternoon dismissal, to wait to pick up students. The proposed site configuration would be adequate to accommodate a queue of this size without affecting other on-site circulation functions.

4.4.2. High School Queuing

The passenger vehicle loading area for High School #4 would be located along the north side of the school building. Approximately 300 feet in length, it would have capacity for simultaneous loading of 15

[24] Keith B. Higgins, PE, TE – Hatch Mott MacDonald, *Retooling School Drop-off/Pick-up Zones to Meet Demand*, WesternITE Meeting Paper 9C, 2010.

to 20 vehicles. The access streets between the high school loading area and 228th Avenue SE would be about 1,310 feet in length, and could accommodate about 65 to 85 queued vehicles (assuming vehicles would be waiting in one lane). In the afternoon, vehicles could also pull into the parking garage to wait in available spaces.

Morning Arrival

Based upon the arrival rates observed at Skyline and Liberty Schools, it is estimated that of the 345 vehicles forecast to drop off students during the morning peak hour, 255 vehicles would arrive during the peak 30 minutes within the hour. This equates to an estimated arrival rate of 510 vehicles per hour. The proposed student loading area would have sufficient length for at least 15 vehicles to unload at a time. An average student unloading rate of 30 seconds per vehicle (equating to a service rate of 120 vehicles per hour) was assumed; which likely is conservatively high for high school students. This information was entered into a queueing model (results provided in **Appendix I**), which projected an average queue of 5 vehicles and 95th-percentile queue of 8 vehicles. Therefore, the estimated 15- to 20-vehicle queuing capacity is expected to be sufficient to accommodate morning drop-off activities with little to no backup beyond the passenger vehicle loading area.

Afternoon Dismissal

Planning research and guidance for high schools from several sources suggest providing on-site queue stacking of between 800 and 1,500 feet for schools with enrollment up to 2,500 students.[25] This is consistent with the 1,510 feet that would be provided. Based upon afternoon traffic counts conducted at Skyline High School, adjusted for the proposed 1,823 student capacity, it is estimated that 100 to 110 vehicles could arrive prior to afternoon dismissal, to wait to pick up students. The proposed site configuration with about 1,510 feet of available queuing space would be adequate to accommodate a queue of 75 to 110 vehicles (assuming vehicles would be waiting in one lane). The ITE *Parking Generation Manual* indicates that high school-generated parking demand at 3:00 P.M. is about 97% of the peak parking demand (which typically occurs during late morning),[26] resulting in an estimated high school parking demand of 531 vehicles as dismissal occurs. If all high school-generated vehicles were parked in either the garage or surface lot next to the high school, this would leave about 30 spaces that could also be used by waiting vehicles near the high school building. (Note, project-generated parking is discussed in detail in *Section 4.7* of this report). With the queuing lane capacity and available parking spaces, the proposed site configuration would be adequate to accommodate a queue of the expected size without affecting other on-site circulation functions.

4.5. Safety Analysis

Historical collision data presented previously in *Section 3.5* indicated no unusual safety patterns in the transportation study area. Transportation improvements constructed by the project would be built to meet design standards established by the City of Sammamish and would not result in adverse safety impacts.

A traffic signal at the 228th Avenue SE/Site Driveway intersection has been incorporated into the proposal to address traffic operational and queuing needs. Signals typically reduce the likelihood of angle collisions, which can be more severe in terms of injury and property damage, but can result in increased numbers of less-severe rear-end collections.

[25] Ibid.
[26] ITE, January 2019.

It is recommended that with the school project, ISD work with the City of Sammamish to implement a school zone speed limit on 228th Avenue SE adjacent to and approaching the site, as provided along 228th Avenue SE near other elementary schools. This would improve safety conditions for both vehicles and pedestrians in the vicinity of the school site.

4.6. Evaluation of Transit, Bicycle and Pedestrian Facilities

As described previously, the site is not directly served by public transit. The nearest transit stop is located approximately ¾-mile to the north on Issaquah-Pine Lake Road. However, the schools would be served by an estimated 30 yellow school buses.

228th Avenue SE currently has no pedestrian or bicycle facilities in the vicinity of the site. The project would provide substantial improvements that would enhance the pedestrian environment along the site frontage, which would be about 1,700 feet in length. Improvements would include construction of a new 6-foot wide sidewalk and landscaping, and provision of signalized pedestrian crosswalks in the north-south and east-west directions at the site access driveway intersection. The project would also provide bike racks to accommodate 68 bicycles on the site. The project is not expected to result in adverse impacts to transit, bicycle or pedestrian facilities.

4.7. Parking Analysis

The following sections summarize parking analysis completed for the project, including estimates of parking demand on a typical school day and during special events, and assessment of potential parking impacts during each of these periods.

4.7.1. Parking Supply

About 667 vehicle parking spaces and 30 bus parking spaces are currently planned, although the parking supply could be adjusted as site design progresses. This would include 373 spaces in the parking garage next to the high school, 40 surface spaces in the vicinity of elementary school building, 63 surface spaces along the west side of the athletic facilities, and 191 surface spaces in the vicinity of the high school. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 758 vehicles to be parked on site during special events.[27]

4.7.2. Parking Demand on Typical School Day

Future parking demand estimates were developed based on studies at similar elementary and high schools in the area and rates published by the Institute of Transportation Engineers (ITE) in the *Parking Generation Manual*.[28] School day parking counts were conducted on Tuesday, October 1, and Thursday, October 3, 2019, at two existing elementary schools (Discovery and Sunny Hills) and two existing high schools (Skyline and Liberty) in the Issaquah School District. The counts were conducted on days when school was in session between 10:00 A.M. and 2:00 P.M., the period in which peak daytime parking typically occurs for schools.[29] The counts include parking demand generated by employees, students, and visitors to the schools.

The results for the elementary schools are summarized in **Table 12**. As shown, the observed school day parking rates for both schools are in the range observed by ITE, but slightly lower than the average ITE rate.

---

27 Parking supply estimates provided by AHBL, March 26, 2020.
28 ITE, 5th Edition, January 2019.
29 Ibid.

Table 12. School Day Parking Demand – ISD Elementary Schools

	Observed Parking Counts and Rates		ITE Rate for Elementary Schools (LU 520) [b]
	Discovery Elementary	Sunny Hills Elementary	
Parking Count, Tuesday, October 1, 2019	67	77	
Parking Count, Thursday, October 3, 2019	64	70	
Average Count	66	74	
Student Enrollment	666	795	
Parking Demand Rate (parked vehicles per student) [a]			
Average Rate	0.10	0.09	0.13
Observed Range of Rates	0.10 – 0.10	0.09 – 0.10	0.06 – 0.24

Source: Heffron Transportation, Inc., March 2020.

a. Rates were derived by dividing the observed parking counts by the student enrollment at the time of the counts.

b. ITE, Parking Generation, 5th Edition, January 2019.

The results for the high schools are summarized in **Table 13**. The counts include vehicles parked at the school sites, as well as those parked on street (at Liberty) or in off-site lots leased by ISD (at Skyline). As shown, the observed school day parking rates for both schools are within the range observed by ITE; the average rate for Liberty is the same as the average ITE rate and the average rate for Skyline is slightly higher.

Table 13. School Day Parking Demand – ISD High Schools

	Observed Parking Counts and Rates		ITE Rate for High Schools (LU 530) [b]
	Skyline High School	Liberty High School	
Parking Count, Tuesday, October 1, 2019	598	329	
Parking Count, Thursday, October 3, 2019	575	361	
Average Count	587	345	
Student Enrollment	2,003	1,316	
Parking Demand Rate (parked vehicles per student) [a]			
Average Rate	0.29	0.26	0.26
Observed Range of Rates	0.29 – 0.30	0.25 – 0.27	0.16 – 0.34

Source: Heffron Transportation, Inc., March 2020.

a. Rates were derived by dividing the observed parking counts by the student enrollment at the time of the counts.

b. ITE, Parking Generation, 5th Edition, January 2019.

The combined peak school day parking demand for the project was estimated by applying the highest rate between the observed data and average ITE rate, as presented in the tables above. For Elementary School #17, the average ITE rate of 0.13 parked vehicles per student was applied; this is higher than the observed parking rates at the ISD elementary schools. For High School #4, a rate of 0.30 vehicle was applied; this is the highest observed rate at the ISD high schools, and higher than the ITE average rate. The estimated parking demand for the HS #4 / ES #17 project is summarized in **Table 14**. As shown, the resulting com-

bined estimated peak parking demand for both schools is 644 vehicles, which could be accommodated with the planned supply of 667 spaces. Any measures implemented by ISD to further encourage school-bus usage or carpooling would be expected to result in peak parking demand that is lower than this projected level.

Table 14. School Day Parking Demand for HS #4 / ES #17

School	Student Enrollment	Peak Parking Rate (parked vehicles / student)	Parking demand (parked vehicles)
Elementary #17	744	0.13 [a]	97
High School #4	1,823	0.30 [b]	547
Total Parking Demand			644

Source: Heffron Transportation, Inc., March 2020.

a. Source: ITE, Parking Generation Manual, 5th Edition, 2019.

b. Source: Based upon counts conducted at Skyline High School in October 2019.

4.7.3. Event Parking Demand

The highest parking demand for schools typically occurs during special events. Special events most often occur in the early evenings; however, some may occur on school days or on weekends.

The expected types, sizes, and frequencies of events for each school were compiled by ISD, based upon typical events that occur at existing elementary and high schools in the district. Parking demand was then estimated based on Heffron Transportation's observations at numerous other schools. Those observations have found that parent-only meetings (such as a PTSA meeting) typically have 1 to 2 attendees per vehicle. Larger evening events, such as athletic events and arts performances, typically have between 3 and 3.5 attendees per parked vehicle, while low-attendance events may average closer to 2 attendees per parked vehicle.[30] These rates account for multiple attendees who arrive in one vehicle (e.g. students with families) and participants who may be dropped off at an event without generating parking demand.

Additionally, for the two high school event types that typically generate the highest parking demand—varsity football games and Curriculum Night—parking estimates were based upon counts that were conducted at those events at comparable ISD high schools in Fall 2019. Parking counts were conducted during home football games held at both Liberty School and Skyline High School on Friday, September 27, and Friday, October 4, 2019. At Liberty, total parking demand of 430 to 450 vehicles was observed during each of the two football games. At Skyline, total parking demand of 450 to 600 vehicles was observed during each of the two football games[31]. Parking counts were also conducted at Skyline High School during its Curriculum Night event on September 19, 2019. The counts indicated a peak parking demand that exceeded 1,000 vehicles.

30 These rates were most recently corroborated with parking counts conducted by Heffron Transportation at the Northshore Performing Arts Center (NPAC), located at the Bothell High School campus, which hosts music and performance events for all Northshore District schools; the counts found average parking rates of 1.9 to 3.2 parked vehicles per attendee at two music events in May 2018.

31 Parking demand for the Skyline HS football games included vehicles parked in three off-site parking lots (Mary Queen of Peace Church lot, Sammamish Hills Lutheran Church lot, and City Hall/Library/YMCA lot) that were observed to be utilized during high-demand school events, but also accommodate parking unrelated to the school. Since the destinations for all parked cars in these lots could not be differentiated, all were included in the counts.

The potential parking demand for each elementary school and high school event is also presented in **Table 15** and **Table 16**, respectively.

The proposed site plan would provide 667 permanent vehicle parking spaces at the High School #4 / Elementary School #17 site. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 758 vehicles to be parked on site during special events. Most events held by both schools would occur in the evening or on weekends; during these periods all of these parking spaces would be available. During school days, the demand estimates summarized in Table 14 indicate that about 23 spaces would be available to accommodate daytime events, unless the loading zone spaces were also made available.

The tables show that the proposed parking supply would be adequate to accommodate all single evening/weekend events held by either school except the high school's Curriculum Night. Additionally, without management, some higher attendance elementary school events during the day have the potential to generate a higher level of parking demand cumulatively with typical school day demand than available supply. Recommended measures presented in *Section 5. Mitigation and Recommendations* include development and implementation of an Event Management Plan to ensure that on-site parking is adequate for all combinations of events.

Table 15. Expected Special Events and Parking Demand – Elementary School #17

Elementary School Event	Approximate Attendance (per occurrence)	Total # of Occurrences (time of year)	Estimated Parking Demand
Daytime Events			
Meet the Teacher	450	2 (prior to start of school)	150 – 225
WaKIDS Family Meetings	30, every half hour	First 3 days of school	20 – 30
Special Classroom Events	100	12 (October through June)	30 – 50
Conferences	200	Throughout 3 days (December)	20 – 30
Talent Show Rehearsals	80	4 (April)	25 – 40
5th Grade Promotion Ceremony	200	1 (June)	55 – 70
Late Afternoon/Evening/Weekend Events			
Kindergarten Parent Night	100	1 (Prior to start of school)	35 – 50
PTSA General Meetings	< 50	5 (Every 1 to 2 months)	25 – 50
PTSA Family Night Events	400	8 (Every 1 to 2 months)	115 – 135
Music Club Concerts	120	4 (December and June)	40 – 60

Table 15. Expected Special Events and Parking Demand – Elementary School #17

Elementary School Event	Approximate Attendance (per occurrence)	Total # of Occurrences (time of year)	Estimated Parking Demand
Music grade level concerts	450	6 (March through June)	130 – 150
Curriculum Night	600	1 or 2 (September or October)	170 – 200
PTSA Family Night Events	400	8 (Every 1 to 2 months)	285 – 330
Walk-a-thon or similar	50 during school day to 1,000 in the evening	1 (varies)	15 – 25 (day) 285 – 330 (eve)
Academic events	350 – 400	2 (October and March)	100 - 135
Special Classroom Events	100	12 (October through June)	30 – 50
Veteran's Day	100	1 (November)	30 – 50
Art Event	100	1 (November)	30 – 50
5th Grade Camp Parent nights	40 – 100	2 (April)	20 – 35
Science Fair	400	1 (May)	115 – 135
5th grade Promotion Ceremony	200	1 (June)	60 – 100

Source: Heffron Transportation, Inc., compiled from information provided by the Issaquah School District, June 2020.

a. Estimated parking demand reflects 1 meeting participant or approximately 2 to 3.5 event attendees per parked vehicle.

Table 16. Expected Special Events and Parking Demand – High School #4

High School Event	Approximate Attendance (per occurrence)	Total # of Occurrences (time of year)	Estimated Parking Demand
Daytime Events			
Freshman Orientation	250 – 300	1 (August or September)	70 – 100
New Hire Academy	<100	4 full days (prior to start of school)	< 100
Conference Day	600	2 full day (prior to start of school)	
Late Afternoon/Evening/Weekend Events			
Curriculum Night	2,800 – 4,000	1 (September or October)	>1,000
Dances	1,000	2 – 3 (Fall and Winter)	
Student Talent Show	300 – 400	1 (Winter)	85 – 135
STEMposium	75	1 Winter	25 – 35
Art Show	75	Winter / Evening	24 – 35
ParentWiser/PTSA Education	200	6 - 8 (throughout school year)	65 – 100
PTSA Meetings	50	5 Varies / Evenings	25 – 50
PTSA SAT/ACT Prep/Exams	50	4 – 8 per month Fall and Spring	15 – 25
Booster Club Meetings	25	0 to 1 per month (throughout year)	15 – 25
Club End of Year Celebrations	30 – 200	12 (May – June)	15 – 70
Senior Parent Nights	300	2 Spring	85 – 100
Drama Performances	450	6 (2 per fall, spring, winter)	125 – 150
Band/Jazz Band Concerts	450	8 (throughout year)	125 – 150
Incoming Freshman Night	1,000	1 (Spring)	290 – 340

Table 16. Expected Special Events and Parking Demand – High School #4

High School Event	Approximate Attendance (per occurrence)	Total # of Occurrences (time of year)	Estimated Parking Demand
Powder Puff Game	300	1 (Fall or Spring)	85 – 100
Varsity Football Games	2,000 – 4,000	4 (August – November)	450 – 600 [b]
JV/JVC Football Games	200	6 (August – November)	55 – 70
Girls JVC/JV/V Soccer Games	75 – 150	8 (September – November)	35 – 50
Volleyball JV/Varsity Games	75 – 150	8 (September – November)	35 – 50
Boys Basketball JV/Varsity Games	125 – 500	12 (November – February)	40 – 170
Girls Basketball JV/Varsity Games	50 – 100	10 (November – February)	15 – 40
Gymnastics Meets	125	5 (November – February)	35 – 50
Wrestling Meets	175	7 (November – February)	50 – 65
Baseball JV/Varsity Games	75 – 100	10 (March – May)	30 – 40
Boys Soccer JVC/JV/V Games	75 – 150	5 (March – May)	30 – 40
Track Meets	600 – 750	2 (March – May)	170 – 250
Fastpitch Softball Games	75	9 (March – May)	25 – 40
Sports Parent Nights	Fall–750, Winter–300, S–500	3 (1 per term)	85 – 250
Sports End of Season Banquets	30 – 300	6 (at end of each season)	15 – 100

Source: Heffron Transportation, Inc., compiled from information provided by the Issaquah School District, June 2020.

a. Estimated parking demand reflects 1 meeting participant or approximately 2 to 3.5 event attendees per parked vehicle, unless otherwise noted.

b. Varsity football game parking estimates based upon counts conducted at two football games each at Skyline and Liberty High Schools on September 27 and October 4, 2019.

4.8. Short-Term Impacts from Construction

Construction of the new building is planned to begin in 2021. The new schools are planned to be complete for occupancy by Fall 2023.

Assuming some on-site material may not be suitable for use, it is estimated that approximately 15,000 cubic yards (cy) of material would be removed from the site and approximately 10,000 cy would be delivered. Assuming an average of 20-cubic yards per truck (truck/trailer combination), the excavation and fill would generate about 2,500 truckloads (1,250 trucks in and 1,250 trucks out). This activity is expected to occur over about 6 months (approximately 130 work days). This would correspond to about 19 truck trips per day and an average of 2 to 3 trips per hour during a typical eight-hour construction work day.

It is expected that most construction activity would occur before the site access driveway is signalized and improved to its recommended configuration. Therefore, flagger control and temporary access coning may be required during most construction phases. It is recommended that the contractor be required to prepare a Construction Management Plan to show how trucks and construction workers would access the site, including the plan for flagging and signage on 228th Avenue SE. All plans should conform to MUTCD[32] and other standards.

The construction of the project would also generate employee and equipment trips to and from the site. It is anticipated that construction workers would arrive at the construction site before the morning peak traffic period on local area streets and depart the site prior to the commuter PM peak hour; construction work shifts for schools are usually from 7:00 A.M. to 3:30 P.M., with workers arriving between 6:30 and 6:45 A.M. The number of workers at the project site at any one time would vary depending upon the construction element being implemented. Parking for construction personnel would be provided within the site.

[32] FHWA, 2009.

5. MITIGATION AND RECOMMENDATIONS

The project would incorporate the following transportation improvements into the site and access design. This includes:

A. **Widen and improve SE 228th Avenue SE –** The project would construct extensive improvements of 228th Avenue SE along the site frontage, with a length of approximately 2,000 feet. Improvements would include widening the current two-lane section (one travel lane in each direction) to a five-lane section (two travel lanes in each direction plus a center left-turn lane), consistent with the City of Sammamish's ultimate plans for the street. Additional turn lanes would be constructed at the site driveway intersection as needed to ensure that it would meet the City's traffic operational standards during all times of day.

B. **Construct pedestrian improvements along 228th Avenue SE –** The project would construct new 6-foot wide sidewalk and landscaping along the site frontage, with a length of approximately 1,700 feet.

C. **Signalize site driveway intersection at 228th Avenue SE** – The project would install a new traffic signal and provide channelization improvements at the site access driveway intersection with 228th Avenue SE.

- **228th Avenue SE: South Leg** – Two options have been identified in the northbound direction. (1) Provision of an exclusive left-turn lane, a center lane with changeable signal configuration that allows shared through-left movements during the morning peak hour and through-only movements during other times of day, and an exclusive thru-lane; or (2) Provision of double left- and double through-lanes. Southbound, 228th Avenue SE would have two through lanes with both options. ISD would work with the City of Sammamish to determine the optimal configuration.
- **228th Avenue SE: North Leg** – In the southbound direction, two through lanes, and a right-turn lane into the school site. Northbound, 228th Avenue SE would have two through lanes.
- **Right-Turn Overlap Phases** – The signal would have overlap phases that would allow eastbound right turns out of the site and southbound right turns into the site to occur concurrently with the northbound and eastbound left-turn movements, respectively.
- **Pedestrian Crosswalks and Phases** – Crosswalks with pedestrian signals would be provided across the east and south intersection legs. North-south pedestrian crossing of the east leg would occur with the southbound through phase (with southbound right turns for vehicle permitted (and east-west pedestrian crossing of the south leg would occur with the eastbound phase (with eastbound right-turns permitted).

The following additional mitigation has been identified for the project:

D. **Capacity Improvement at SE 40th Street / 228th Avenue SE** – ISD would work with the City of Sammamish to identify and implement capacity improvement at this intersection. Analysis found that with installation of a new traffic signal (coordinated with the site access driveway signal) the intersection would operate at LOS D or better during all times of day.

E. **School-Zone Speed Limit** – It is recommended that ISD work with the City of Sammamish to establish a school-zone speed limit on 228th Avenue SE in the vicinity of the project site, as provided along 228th Avenue SE near other elementary schools.

F. **Construction Management Transportation Plan (CMTP)** – The school would require the selected contractor to develop a construction management plan (CMP) that addresses traffic and pedestrian control during school construction. The CMTP should define truck routes, lane closures, and temporary traffic control at the site access on 228th Avenue SE. The CTMP may also include measures to keep adjacent streets clean on a daily basis at the truck exit points (such as street sweeping or on-site truck wheel cleaning) to reduce tracking dirt offsite. The CTMP should identify parking locations for the construction staff; construction employee parking should be contained on-site or at an off-site location with worker shuttles.

G. **Transportation Management Plans (TMPs)** – Prior to the school opening, the District and school principals would develop and implement Transportation Management Plans (TMPs) for each school to educate families about transportation options as well as the access and load/unload procedures for the site layout. A component of the TMPs should identify the walk area for the schools and show the safe walk routes within that area. They should educate families on the ways to reduce congestion at and around the schools including reduced automobile demand and encourage school bus ridership and carpooling.

   The TMPs would be provided via all typical school communication methods and provide consistent information across each. These may consist of a school website, PTA social media outlets, student mail, parent e-mail lists, and paper reminders as appropriate.

   The TMPs would be provided to the City for review prior to issuance of either the building permit or certificate of occupancy. The actual timeline of delivery would be determined by the City.

H. **School-Event Management Plans** – Parking management would be needed for evening events with more than 1,000 expected attendees (for a single event or more than one event combined). It is recommended that the District and both schools develop and implement parking management plans to mitigate parking impacts associated with large events. The following measures could be considered.

   - Coordinate between the two schools to schedule large events.
   - Consider splitting Curriculum night into two nights. If splitting is not possible, then implement the following:
     - Identify an off-site parking location for large events (with expected attendance greater than 1,000 people, either for a single event, or combination of two or more events). The District could potentially coordinate large events such as Curriculum Night between High School #4 and Skyline High School (located about 2 miles to the north) so that each school's parking lot could be used for satellite parking
     - Provide a shuttle between the off-site parking and the school during large events. This would likely be provided using District-operated yellow school buses.
     - Develop a parking permit system for each large event that would identify who would be allowed to park on site and who would be required to park off site.
     - Provide staff enforcement of permit restrictions and access controls at on-site parking entry points. (Vehicles entering to drop students off without parking would be allowed, regardless of their permit group).

I. **Issaquah Transportation Impact Fees** – The project would pay transportation impact fees to the City of Issaquah, in accordance with IMC §3.71.

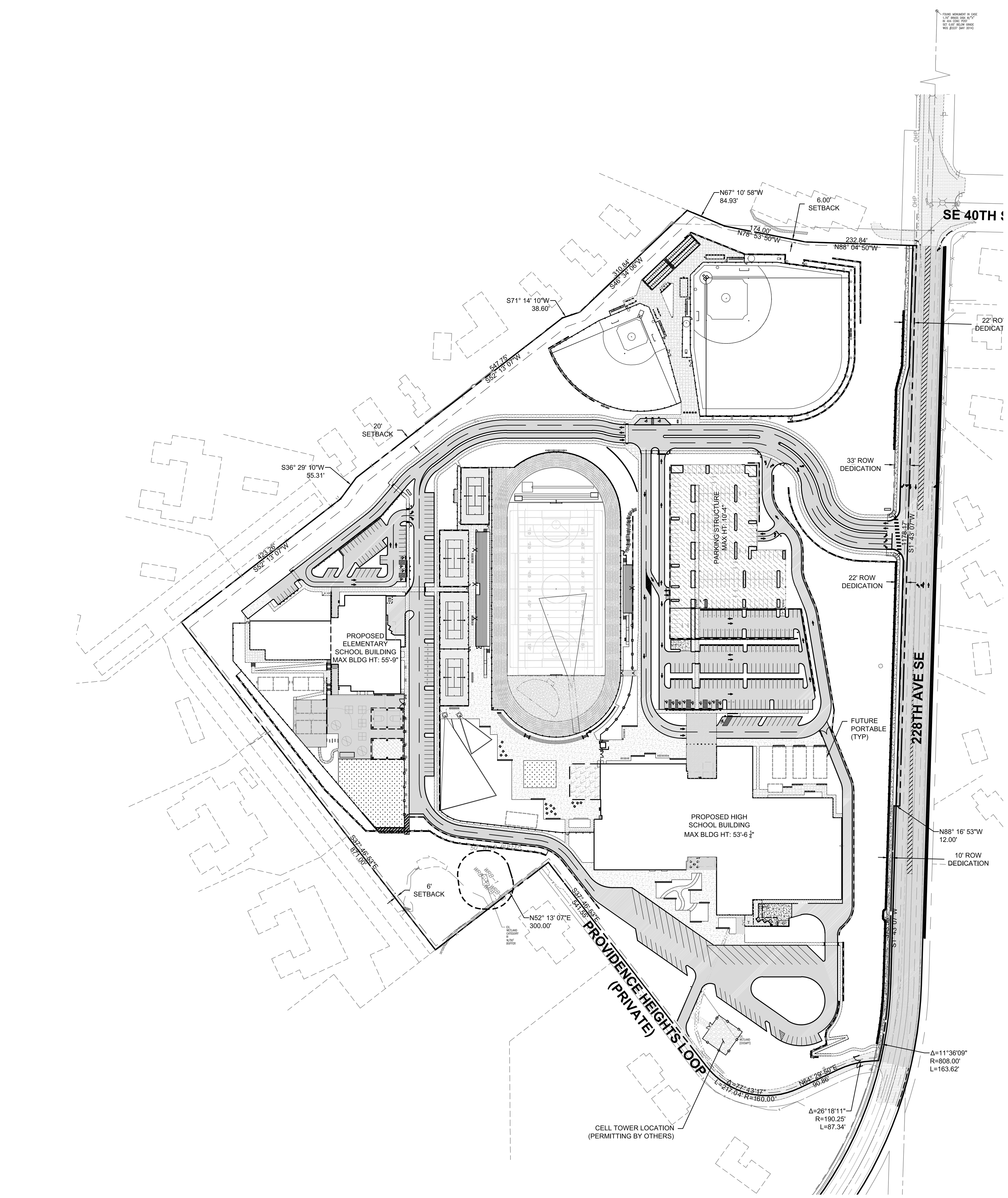
PRJ19-00008 Attachment 060

APPENDIX A

SITE PLAN

September 1, 2020

PRJ19-00008 Attachment 060



GRAPHIC SCALE

0 50 100 200

1" = 100 FEET

OWNER:

ISSAQUAH SCHOOL DISTRICT No. 411
565 NW HOLLY STREET
ISSAQUAH, WA 98027
PH: 425.837.7037
CONTACT: ROYCE NOURIGAT/TOM MULLINS
EMAIL: nourigatr@issaquah.wednet.edu,
mullinst@issaquah.wednet.edu

CIVIL ENGINEER:

AHBL, INC.
2215 NORTH 30TH STREET - SUITE 300
TACOMA, WA 98403
PH: 253.383.2422
CONTACT: TODD SAWIN, P.E.
EMAIL: tsawin@ahbl.com

SURVEYOR:

AHBL, INC.
2215 NORTH 30TH STREET - SUITE 300
TACOMA, WA 98403
PH: 253.383.2422
CONTACT: DAVID FOLLANSBEE, PLS
EMAIL: dfollansbee@ahbl.com

LANDSCAPE ARCHITECT:

AHBL, INC.
1200 6th AVE. - SUITE 1620
TACOMA, WA 98403
PH: 206.267.2425
CONTACT: CRAIG SKIPTON
EMAIL: cskipton@ahbl.com

ARCHITECT:

BASSETTI ARCHITECTS
71 COLUMBIA STREET, SUITE 500
SEATTLE, WA 98104
PH: 206.340.9500
HS CONTACT: JAMES HOWETH, AIA
EMAIL: jhoweth@BassettiArch.com
ES CONTACT: AUDREY GOMEZ
EMAIL:AGomez@bassettiarch.com

STRUCTURAL ENGINEER:

PCS
1011 WESTERN AVE. SUITE 810
SEATTLE, WA 98104
PH: 206.292.5076
CONTACT: CRAIG STAUFFER
EMAIL: cstauffer@pcs-structural.com

GEOTECHNICAL ENGINEER:

AESI, INC
911 5TH AVE
KIRKLAND, WA 98033
PH: 425.827.7701
CONTACT: STEVE SIEBERT
EMAIL: ssiebert@aesgeo.com

WETLAND BIOLOGIST:

WETLAND RESOURCES, INC
9505 19TH AVE SE
EVERETT, WA 98208
PH: 425.337.3174
CONTACT: MERYL KAMOWSKI
EMAIL: meryl@wetlandresources.com

ARBORIST:

FARMER FROG
23210 PARADISE LAKE RD
WOODINVILLE, WA 98077
PH: 425.210.5541
CONTACT: ZSOFIA PASZTOR CPH, EPC
EMAIL: zs.pasztor2011@gmail.com

CONTRACTOR:

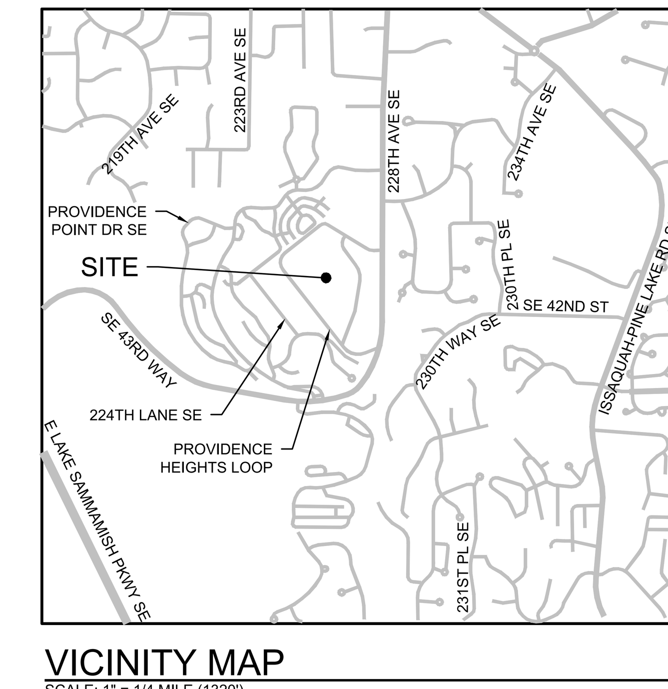
SKANSKA
221 YALE AVE N, SUITE 400
SEATTLE, WA 98109
PH: 206.494
CONTACT: CHRISTINA STEVENSON
EMAIL: inga.stevenson@skanska.com

Sheet List Table

Sheet Number	Sheet Title
C0.1 LU	COVER SHEET
C0.2 LU	SURVEY COVER
C0.3 LU	TOPOGRAPHIC SURVEY
C0.4 LU	TOPOGRAPHIC SURVEY
C0.5 LU	TOPOGRAPHIC SURVEY
C1.0 LU	SITE PLAN
C2.0 LU	CIRCULATION PLAN
C3.0 LU	FIRE AND RESCUE PLAN
C4.0 LU	STORMWATER PLAN
C5.0 LU	WATER, SEWER AND UTILITIES

SITE INFORMATION

SITE ADDRESS: 4221 228TH AVE SE
PARCEL NO: 1624069029, 1624069001, 1624069031
SECTION 16, TOWNSHIP 24N, RANGE 6E, W.M.
ZONING: CF-F



VICINITY MAP

SCALE: 1" = 1/4 MILE (1320')

LEGAL DESCRIPTION

PER CHICAGO TITLE INSURANCE COMPANY
ORDER NO. 192692-TC DATED AUGUST 8, 2019

THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHEAST CORNER OF SAID SUBDIVISION;
THENCE SOUTH 01°43'57" WEST ALONG THE EAST LINE THEREOF 534.69 FEET; THENCE NORTH 88°16'03" WEST 30.00 FEET TO THE WESTERLY MARGIN OF 228TH AVENUE S.E. AND THE POINT OF BEGINNING; THENCE CONTINUING NORTH 88°16'03" WEST 32.00 FEET TO A POINT OF CURVE; THENCE WESTERLY ALONG SAID CURVE TO THE RIGHT HAVING A RADIUS OF 328.00 FEET THROUGH A CENTRAL ANGLE OF 30°00'00" AN ARC DISTANCE OF 171.74 FEET TO A POINT OF TANGENCY; THENCE NORTH 58°16'03" WEST 543.65 FEET TO A POINT OF CURVE; THENCE WESTERLY ALONG SAID CURVE TO THE LEFT HAVING A RADIUS OF 62.00 FEET THROUGH A CENTRAL ANGLE OF 69°30'00" AN ARC DISTANCE OF 75.21 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 52°13'57" WEST 512.30 FEET TO THE POINT OF CURVE;
THENCE SOUTHERLY ALONG SAID CURVE TO THE LEFT HAVING A RADIUS OF 202.00 FEET THROUGH A CENTRAL ANGLE OF 90°00'00" AN ARC DISTANCE OF 317.30 FEET TO A POINT OF TANGENCY; THENCE SOUTH 37°46'03" EAST 1,210.55 FEET TO A POINT OF CURVE; THENCE EASTERLY ALONG SAID CURVE TO THE LEFT HAVING A RADIUS OF 160.00 FEET THROUGH A CENTRAL ANGLE OF 77°43'17" AN ARC DISTANCE OF 217.04 FEET TO A POINT OF TANGENCY; THENCE NORTH 64°30'40" EAST 90.86 FEET TO A POINT OF CURVE; THENCE EASTERLY ALONG SAID CURVE TO THE RIGHT HAVING A RADIUS OF 190.25 FEET THROUGH A CENTRAL ANGLE OF 26°18'10" AN ARC DISTANCE OF 87.34 FEET TO A POINT ON A CURVE ON THE WESTERLY MARGIN OF 228TH AVENUE S.E., AS CONVEYED TO KING COUNTY BY DEED RECORDED UNDER KING COUNTY RECORDING NUMBER 7110210313, THE CENTER OF SAID CURVE BEARS NORTH 76°39'54" WEST
808.00 FEET; THENCE NORTHERLY ALONG SAID MARGIN AND SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 11°36'09" AN ARC DISTANCE OF 163.62 FEET TO A POINT OF TANGENCY; THENCE CONTINUING ALONG SAID MARGIN NORTH 01°43'57" EAST 373.56 FEET TO AN ANGLE POINT IN SAID WESTERLY MARGIN; THENCE SOUTH 88°16'03" EAST 12.00 FEET TO THE WEST LINE OF THE EAST 30 FEET OF SAID SUBDIVISION, SAID LINE ALSO BEING THE WEST MARGIN OF SAID 228TH AVENUE S.E.; THENCE NORTH 01°43'57" EAST ALONG SAID WEST MARGIN 676.23 FEET TO THE POINT OF BEGINNING; AND THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID SUBDIVISION; THENCE SOUTH 01°43'57" WEST ALONG THE EAST LINE OF SAID SUBDIVISION 534.69 FEET; THENCE NORTH 88°16'03" WEST 62.00 FEET TO A POINT OF CURVE; THENCE ON A CURVE TO THE RIGHT HAVING A RADIUS OF 328.00 FEET THROUGH A CENTRAL ANGLE OF 30°00'00" AN ARC DISTANCE OF 171.74 FEET TO A POINT OF TANGENCY; THENCE 58°16'03" WEST 543.65 FEET TO A POINT OF CURVE;
THENCE ON A CURVE TO A LEFT HAVING A RADIUS OF 62.00 FEET THROUGH A CENTRAL ANGLE OF 69°30'00 AN ARC DISTANCE OF 75.21 FEET TO A POINT OF TANGENCY; THENCE SOUTH 52°13'57" WEST 512.30 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 52°13'57" WEST 202.00 FEET;
THENCE SOUTH 37°46'03" EAST 202.00 FEET TO A POINT ON A CURVE, THE CENTER OF WHICH BEARS NORTH 52°13'57" EAST 202 FEET DISTANT;
THENCE NORTHERLY ON A CURVE CONCAVE TO THE EAST THROUGH A CENTRAL ANGLE OF 90°00'00" AN ARC LENGTH OF 317.30 FEET TO THE POINT OF BEGINNING; AND THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 16;
THENCE NORTH 88°28'02" WEST 542.49 FEET ALONG THE NORTH LINE THEREOF; THENCE SOUTH 46°34'56" WEST 270.08 FEET TO THE TRUE POINT OF BEGINNING; THENCE FROM SAID TRUE POINT OF BEGINNING SOUTH 71°15'00" WEST 38.60 FEET; THENCE SOUTH 52°13'57" WEST 547.75 FEET;
THENCE SOUTH 36°30'00" WEST 55.32 FEET; THENCE NORTH 52°13'57" EAST 591.05 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS OF 62.00 FEET; THENCE NORTHEASTERLY 11.43 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 10°33'42" TO A RADIAL LINE OF SAID CURVE WHICH BEARS NORTH 37°46'04" WEST; THENCE ALONG A NON-TANGENT LINE NORTH 46°34'56" EAST 35.25 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL B:
THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHEAST CORNER OF SAID SUBDIVISION;
THENCE SOUTH 01°44'28" WEST ALONG THE EAST LINE THEREOF 534.69 FEET; THENCE NORTH 88°16'03" WEST 62.00 FEET TO A POINT OF CURVE;
THENCE ON A CURVE TO THE RIGHT HAVING A RADIUS OF 328.00 FEET THROUGH A CENTRAL ANGLE OF 30°00'00" AN ARC DISTANCE OF 171.74 FEET TO A POINT OF TANGENCY; THENCE NORTH 58°16'03" WEST 543.65 FEET TO A POINT OF CURVE; THENCE ON A CURVE TO THE LEFT HAVING A RADIUS OF 62.00 FEET THROUGH A CENTRAL ANGLE OF 69°30'00" AN ARC DISTANCE OF 75.21 FEET TO A POINT OF TANGENCY;
THENCE SOUTH 52°13'57" WEST 714.30 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 52°13'57" WEST 300 FEET; THENCE SOUTH 37°46'03" EAST 871.00 FEET; THENCE NORTH 52°13'57" EAST 300 FEET;
THENCE NORTH 37°46'03" WEST 871.00 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL C:
THAT PORTION OF THE NORTHEAST QUARTER OF SECTION 16, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE NORTHEAST CORNER OF SAID SUBDIVISION;
THENCE SOUTH 01°44'28" WEST ALONG THE EAST LINE THEREOF 534.69 FEET; THENCE NORTH 88°16'03" WEST 30.00 FEET TO THE WESTERLY MARGIN OF 228TH AVENUE SOUTHEAST AND THE TRUE POINT OF BEGINNING;
THENCE CONTINUING NORTH 88°16'03" WEST 32.00 FEET TO A POINT OF CURVE; THENCE ON A CURVE TO THE RIGHT HAVING A RADIUS OF 328.00 FEET THROUGH A CENTRAL ANGLE OF 30°00'00" AN ARC DISTANCE OF 171.74 FEET TO A POINT OF TANGENCY; THENCE NORTH 58°16'03" WEST 543.65 FEET TO A POINT OF CURVE; THENCE ON A CURVE TO THE LEFT HAVING A RADIUS OF 62.00 FEET THROUGH A CENTRAL ANGLE OF 58°56'18" AN ARC DISTANCE OF 63.78 FEET; THENCE NORTH 46°34'56" EAST 305.33 FEET TO THE NORTH LINE OF SAID SUBDIVISION; THENCE SOUTH 88°28'02" EAST 512.49 FEET TO SAID WESTERLY MARGIN OF 228TH AVENUE S.E.;
THENCE SOUTH 01°44'28" WEST 501.93 FEET ALONG SAID WESTERLY MARGIN TO THE TRUE POINT OF BEGINNING; EXCEPT THAT PORTION CONVEYED TO SWANSON-DEAN CORPORATION UNDER KING COUNTY RECORDING NUMBER 8605301830, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SAID SECTION 16; THENCE ALONG THE NORTH LINE THEREOF NORTH 89°29'02" WEST 30.00 FEET TO THE WEST MARGIN OF 228TH AVENUE S.E. AND THE TRUE POINT OF BEGINNING; THENCE ALONG SAID WEST MARGIN AND THE WEST LINE OF THE EAST 30.00 FEET OF SAID SECTION 16, SOUTH 01°44'28" WEST 32.86 FEET; THENCE ALONG NORTH 88°04'00" WEST 232.84 FEET; THENCE NORTH 78°53'00" WEST 174.00 FEET;
THENCE NORTH 67°10'08" WEST 5.66 FEET TO SAID NORTH LINE OF SECTION 16; THENCE SOUTH 88°28'02" EAST 409.80 FEET ALONG SAID NORTH LINE TO THE TRUE POINT OF BEGINNING AND CONCLUSION OF SAID EXCEPTION;
TOGETHER WITH THAT PORTION OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 24 NORTH, RANGE 6 EAST, WILLAMETTE MERIDIAN, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 9; THENCE NORTH 88°28'02" WEST 542.49 FEET TO THE TRUE POINT OF BEGINNING; THENCE NORTH 46°34'56" EAST 40.75 FEET; THENCE SOUTH 67°10'08" EAST 79.27 FEET TO THE SOUTH LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 88°28'02" WEST FOR 102.69 FEET TO THE POINT OF BEGINNING.

LEGEND

EXISTING / PROPOSED

- FOUND MONUMENT AS NOTED
- SET NAIL AND WASHER
- SET REBAR AND CAP
- FOUND PROPERTY CORNER
- BOLLARD
- MAIL BOX
- SIGN AS NOTED
- TEST PIT
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- STORM CATCH BASIN
- STORM MANHOLE
- YARD DRAIN
- GAS METER
- GAS VALVE
- POWER TRANSFORMER
- GUY ANCHOR
- UTILITY POWER POLE
- JUNCTION BOX
- POWER METER
- POWER VAULT
- LUMINAIRE
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- WATER METER
- WATER VALVE
- WATER VAULT
- C-CEDAR, P-PINE
- CW-COTTONWOOD, M-MAPLE
- P-PLUM, U-UNKNOWN
- D — STORM LINE
- S — SEWER LINE
- D — STORM LINE PER RECORDS
- S — SEWER LINE PER RECORDS
- W — WATER LINE
- G — GAS LINE
- P — ELECTRICAL LINE
- T — COMMUNICATION LINE
- OHP — OVERHEAD UTILITIES
- RD — ROOFDRAIN LINE
- FD — FOOTING DRAIN
- X — FENCE
- ASPHALT
- CONCRETE
- GRASSPAVERS

REQUIRED PARKING STALL COUNTS

LOCATION	NUMBER OF STALLS
ELEMENTARY SCHOOL (ES) TOTAL PARKING	**84**
ES STANDARD ADA STALLS	3
ES VAN ADA STALLS	1
ES EV STALLS	
HIGH SCHOOL (HS) TOTAL PARKING	**505**
HS STANDARD ADA STALLS	9
HS VAN ADA STALLS	2
HS EV STALLS	
STADIUM/OVERALL SITE TOTAL PARKING	667
SITE STANDARD ADA STALLS	12
SITE VAN ADA STALLS	3
SITE EV STALLS	
STRUCTURED PARKING (50% OF TOTAL REQUIRED)	334

PROVIDED PARKING STALL COUNTS

LOCATION	NUMBER OF STALLS
ELEMENTARY SCHOOL (ES) TOTAL PARKING	103
ES STANDARD ADA STALLS (COMPACT)	2
ES VAN ADA STALLS (COMPACT)	2
ES STANDARD STALLS (NON ADA)	66
ES COMPACT STALLS (NON ADA)	33
ES % COMPACT STALLS	32%
BICYCLE PARKING	8
ES EV STALLS	10
HIGH SCHOOL (HS) TOTAL PARKING	564
HS STANDARD ADA STALLS	5
HS VAN ADA STALLS	7
HS STANDARD STALLS (NON-ADA/NON-STRUCTURED)	119
HS STRUCTURED PARKING	373
HS COMPACT STALLS	60
HS % COMPACT STALLS	11%
BICYCLE PARKING	60
HS EV STALLS	15
STADIUM/OVERALL SITE TOTAL PARKING	667
SITE STANDARD ADA STALLS	7
SITE VAN ADA STALLS	9
SITE EV STALLS	25
STRUCTURED PARKING	373
BICYCLE PARKING	68
BUS PARKING- HIGH SCHOOL	23
BUS PARKING- ELEMENTARY SCHOOL	7
BUS PARKING - TOTAL	**30**

UTILITY NOTE

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES AT CROSSINGS AND CONNECTION POINTS BEFORE ORDERING MATERIALS AND COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF EXISTING CONDITIONS CONFLICT WITH INFORMATION SHOWN ON THESE DRAWINGS. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT INCUR DUE TO THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. AHBL ASSUMES NO LIABILITY FOR THE LOCATION OF UNDERGROUND UTILITIES.

TOPOGRAPHIC NOTE

THE EXISTING CULTURAL AND TOPOGRAPHIC DATA SHOWN ON THESE DRAWINGS HAS BEEN PREPARED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, AHBL CANNOT ENSURE ACCURACY AND THUS IS NOT RESPONSIBLE FOR THE ACCURACY OF THAT INFORMATION OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

BOUNDARY LINES AND ON-SITE TOPOGRAPHY ARE AS SHOWN ON ALTA/ACSM TITLE SURVEY BY BARGHAUSEN CONSULTING ENGINEERS, DATED 5/13/2014. TRIAD LOCATED WETLANDS IN THE SOUTH WEST PORTION OF THE SITE AND OFFSITE STORM DRAIN STRUCTURES SOUTHWESTERLY OF THE SITE. DATE OF TRIAD FIELD WORK WAS JULY 2015. WETLANDS WERE DELINEATED BY WETLAND RESOURCES, INC.

PRIMARY CONTROL POINTS AND ACCESSIBLE MONUMENT POSITIONS WERE FIELD MEASURED UTILIZING GLOBAL POSITIONING SYSTEM (GPS) SURVEY TECHNIQUES USING TRIMBLE R10 GNSS EQUIPMENT. MONUMENT POSITIONS THAT WERE NOT DIRECTLY OBSERVED USING GPS SURVEY TECHNIQUES WERE TIED INTO THE CONTROL POINTS UTILIZING A LEICA ELECTRONIC TOTAL STATION FOR THE MEASUREMENT OF BOTH ANGLES AND DISTANCES. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS SET BY WAC 332-130-090.

OTHER PERMITS REQUIRED OUTSIDE OF C.O.I.

- NPDES FROM WASHINGTON STATE DEPARTMENT OF ECOLOGY
- SEWER AND WATER FROM SAMMAMISH PLATEAU WATER
- FRONTAGE FROM CITY OF SAMMAMISH
- FOREST PRACTICE PERMIT FROM WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
- JARPA FROM CORPS OF ENGINEERS

ARCHITECT ELEVATION KEY

ARCHITECTURAL FINISHED FLOOR ELEVATION 100'-0" = CIVIL FINISHED FLOOR ELEVATION 510.00

FILL SPECIFICATION

FILL MATERIAL SHALL NOT CONTAIN PETROLEUM PRODUCTS, OR SUBSTANCES WHICH ARE HAZARDOUS, DANGEROUS, TOXIC, OR WHICH OTHERWISE VIOLATE ANY STATE, FEDERAL, OR LOCAL LAW, ORDINANCE, CODE, REGULATION, RULE, ORDER, OR STANDARD.

TRENCH NOTE

IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT SECTION 2-09.3(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR WORKER SAFETY AND AHBL ASSUMES NO RESPONSIBILITY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.

AUTOCAD FILE

SITE PLAN IS AVAILABLE TO ASSIST WITH IDENTIFYING FUTURE BUILDING AND PAVING LIMITS.

SETBACKS	REQUIRED	PROVIDED
FRONT:	10'	>10'
SIDE	6'	>6'
REAR	20'	>20'

IBC CONSTRUCTION TYPE AND USE

- HIGH SCHOOL BUILDING
  - GYMNASIUM BUILDING: TYPE II-A
  - COMMONS BUILDING: TYPE II-B
  - PAC BUILDING: TYPE II-B
    - USE AND OCCUPANCY: A-1, A-2, A-3, A-4, B, E, S-1, U
- ELEMENTARY SCHOOL BUILDING: TYPE II-B
  - USE AND OCCUPANCY: A-2, A-3, B, E, S-1
- GARAGE STRUCTURE: TYPE I-B
  - USE AND OCCUPANCY: S-2

VERTICAL DATUM

VERTICAL DATUM FOR THIS SURVEY IS NAVD88. ORIGINATING BENCH MARK IS KING COUNTY POINT NO.2247 (SEE HORIZONTAL DATUM BELOW), ELEVATION = 412.91 FEET.

UTILITIES

WATER:	SAMMAMISH SEWER AND WATER PLATEAU
SEWER:	SAMMAMISH SEWER AND WATER PLATEAU
POWER:	PUGET SOUND ENERGY
GAS:	PUGET SOUND ENERGY

HORIZONTAL DATUM

HORIZONTAL DATUM FOR THIS SURVEY IS NAD 83/91, WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE. BASIS OF BEARINGS IS NORTH 01°27'15" EAST ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 24 NORTH, RANGE 6 EAST, W.M., PER KING COUNTY POINTS 2247 (SOUTHEAST CORNER SECTION 9) AND 2237 (EAST QUARTER CORNER SECTION 9).

SITE AREAS:

GROSS SITE AREA:	40.79 ACRES = 1,776,913SF
DEVELOPABLE SITE AREA:	XX.XX ACRES = XXXXSF
BASE SITE AREA:	XX.XX ACRSS = XXXXSF
PERVIOUS SURFACE:	25.42 ACRES = 1,107,295 SF = 62.32%
IMPERVIOUS SURFACE:	15.37 ACERS = 669,621 SF = 37.68%

GROSS BUILDING AREA OF ALL BUILDINGS:

FLOOR AREA RATIO (FAR)= GROSS BUILDING AREA OF BUILDING(S)/DEVELOPABLE SITE AREA =

bassetti architects
71 Columbia Street, Suite 500
Seattle, Washington 98104
T (206) 340 9500 F (206) 340 9519

CIVIL ENGINEER
AHBL
1200 6th Avenue, Suite 1620
Seattle, WA 98101
T (206) 267 2425

LANDSCAPE ARCHITECT
AHBL
1200 6th Avenue, Suite 1620
Seattle, WA 98101
T (206) 267 2425

STRUCTURAL ENGINEER
PCS
1011 Western Avenue, Suite 810
Seattle, WA 98104
T (206) 292 5076

MECHANICAL ENGINEER
Hargis
1201 Third Avenue, Suite 600
Seattle, WA 98101
T (206) 448 3376

ELECTRICAL ENGINEER
Travis Fitzmaurice & Associates
1200 Westlake Ave N, Suite 509
Seattle, WA 98109
T (206) 285 7228

THEATER
PLA Designs
5285 NE Elam Young Pkwy, Ste B500
Hillsboro, OR 97124
T (503) 642 2168

GENERAL CONTRACTOR
Skanska
221 Yale Ave N, Suite 400
Seattle, WA 98109
T (206) 726-8000

ONE INCH
AT FULL SIZE

Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Natural Resource Ecologists
Land Surveyors
Neighbors
AHBL
TACOMA · SEATTLE
SPOKANE · TRI-CITIES
2215 North 30th Street, Suite 300 Tacoma, WA 98403
253.383.2422 TEL 253.383.2572 FAX www.ahbl.com WEB

TODD CHRISTOPHER SAWIN
STATE OF WASHINGTON
46416
REGISTERED PROFESSIONAL ENGINEER

NOTICE
ALTERATION OF THIS DOCUMENT SHALL INVALIDATE THE PROFESSIONAL SEAL AND SIGNATURE. PUBLICATION OF THIS DOCUMENT DOES NOT DEROGATE FROM RESERVED OWNERSHIP RIGHTS IN IT. THIS DOCUMENT IS FOR USE ONLY FOR THE PROJECT IDENTIFIED IN THE TITLE BLOCK AND IS NOT TO BE USED FOR REPAIR, REMODEL OR ADDITION TO THAT PROJECT OR FOR ANY OTHER PROJECT.

#	REVISIONS	DATE
1	DRAWING ADJUSTMENTS	07/31/2020

ISSAQUAH SCHOOL DISTRICT NO. 411

ISSAQUAH HS #4 AND ES #17

4221 228TH AVE SE; ISSAQUAH, WA 98029

JOB NO: 1802
ISSUE DATE: 07/31/2020

Jurisdiction Stamp Area

80% SITE CONSTRUCTION DOCUMENTS

COVER SHEET

C0.1
LU

PRJ19-00008 Attachment 060

APPENDIX B

TRAFFIC COUNTS

September 1, 2020

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

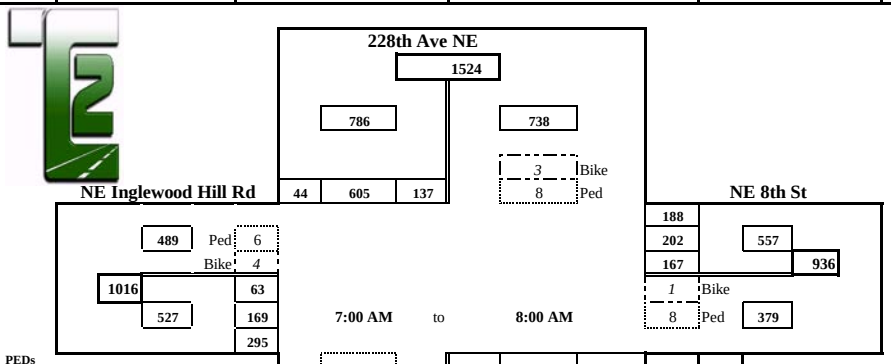
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave NE & NE 8th St/NE Inglewood Hill Rd **Date of Count:** Thurs 5/09/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave NE				From South on (NB) 228th Ave NE				From East on (WB) NE 8th St				From West on (EB) NE Inglewood Hill Rd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	4	47	194	4	3	59	113	19	4	47	32	40	5	12	53	98	718
7:30 A	5	35	187	3	4	74	133	28	2	52	52	47	7	14	47	78	750
7:45 A	3	36	126	13	5	59	137	12	5	36	55	54	5	22	43	76	669
8:00 A	4	19	98	24	3	51	104	14	4	32	63	47	0	15	26	43	536
8:15 A	7	23	82	16	2	76	94	17	4	27	26	34	2	13	17	34	459
8:30 A	2	23	95	11	9	62	123	14	4	27	28	44	4	21	25	55	528
8:45 A	4	28	125	14	4	50	137	16	2	45	47	44	4	42	36	58	642
9:00 A	2	31	148	22	8	45	116	12	2	67	56	40	1	34	36	60	667
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	31	242	1055	107	38	476	957	132	27	333	359	350	28	173	283	502	4969
Peak Hour:	7:00 AM to 8:00 AM																
Total	16	137	605	44	15	243	487	73	15	167	202	188	17	63	169	295	2673
Approach	786				803				557				527				2673
%HV	2.0%				1.9%				2.7%				3.2%				2.4%
PHF	0.80				0.85				0.92				0.81				0.89



PEDs Across:	N	S	E	W	
INT 01	7	3	4	4	18
INT 02	1	3	4		8
INT 03		1		1	2
INT 04		3		1	4
INT 05			1		1
INT 06	1	3	4		8
INT 07	2		1	1	4
INT 08	1		1		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	12	13	15	7	**47**

Bicycles From:	N	S	E	W	
INT 01	2	1		2	5
INT 02	1			2	3
INT 03			1		1
INT 04					0
INT 05					0
INT 06	2		1		3
INT 07			1		1
INT 08			2		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	1	5	4	15

3000 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.81	3.2%
Check	WB	0.92	2.7%
In: 2673	NB	0.85	1.9%
Out: 2673	SB	0.80	2.0%
	T Int.	0.89	2.4%

Conditions:

Special Notes

SAM19056TM_11a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

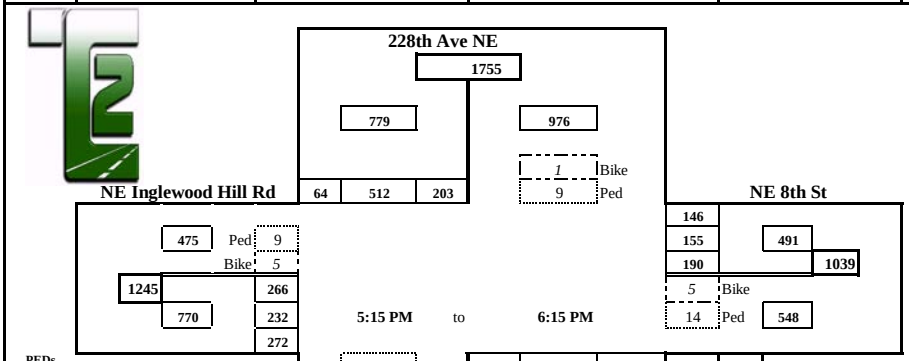
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave NE & NE 8th St/NE Inglewood Hill Rd **Date of Count:** Thurs 5/09/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave NE				From South on (NB) 228th Ave NE				From East on (WB) NE 8th St				From West on (EB) NE Inglewood Hill Rd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	0	56	144	13	3	59	130	27	0	38	45	31	0	21	46	6	616
5:00 P	3	51	133	8	2	67	125	32	0	38	40	33	0	28	58	82	695
5:15 P	1	80	119	9	3	84	114	42	2	46	46	34	1	13	49	65	701
5:30 P	0	49	108	12	0	67	147	36	0	44	47	38	0	178	65	70	861
5:45 P	3	49	121	14	4	62	133	25	0	58	37	29	0	24	60	63	675
6:00 P	1	52	137	16	2	69	156	13	0	45	35	34	1	28	53	77	715
6:15 P	0	53	146	22	2	58	128	39	1	43	36	45	1	36	54	62	722
6:30 P	4	48	150	12	4	66	132	36	0	50	41	35	0	30	55	68	723
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	12	438	1058	106	20	532	1065	250	3	362	327	279	3	358	440	493	5708
Peak Hour: 5:15 PM to 6:15 PM																	
Total	4	203	512	64	8	256	564	113	1	190	155	146	2	266	232	272	2973
Approach			779				933				491				770		2973
%HV			0.5%				0.9%				0.2%				0.3%		0.5%
PHF			0.88				0.93				0.95				0.62		0.86



PEDs Across:	N	S	E	W	
INT 01	3	2		1	6
INT 02	6	4		3	13
INT 03	4	7	6		17
INT 04	8	5	8	2	23
INT 05	1	4	2	1	8
INT 06		6	2	3	11
INT 07		1	2	3	6
INT 08	8	4	9	1	22
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	30	33	29	14	106

Special Notes

Bicycles From:	N	S	E	W	
INT 01	1		1		2
INT 02		2		1	3
INT 03				1	1
INT 04		1	1	3	5
INT 05		2	2		4
INT 06				1	1
INT 07	1		2	1	4
INT 08	1			1	2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	5	6	8	22

3444 *1.0 PHF Peak Hour Volume*

		PHF	%HV
		EB	0.62	0.3%
Check		WB	0.95	0.2%
In:	2973	NB	0.93	0.9%
Out:	2973	SB	0.88	0.5%
		T Int.	0.86	0.5%

N U's	S U's	E U's	W U's
	0		
	0		
	0		
	0		
	1		
	0		
	0		
	0		
	0		
0	1	0	0

SAM19056TM_11p

Prepared for: **City of Sammamish**

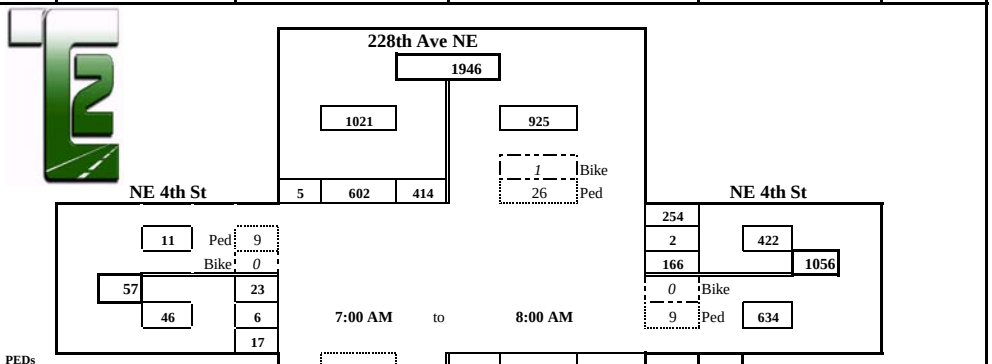
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave NE & NE 4th St
Location: Sammamish, Washington
Date of Count: Thurs 5/09/2019
Checked By: Jess

Time Interval Ending at	From North on (SB) 228th Ave NE				From South on (NB) 228th Ave NE				From East on (WB) NE 4th St				From West on (EB) NE 4th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	4	203	125	0	4	0	114	94	0	42	0	100	0	7	1	2	688
7:30 A	4	142	163	0	6	2	152	98	1	75	0	112	0	2	4	4	754
7:45 A	7	47	178	2	2	1	203	20	0	27	2	30	0	5	0	5	520
8:00 A	4	22	136	3	5	1	179	2	0	22	0	12	1	9	1	6	393
8:15 A	7	13	118	1	3	1	203	3	0	9	1	6	0	8	0	2	365
8:30 A	4	18	146	1	10	7	208	3	4	23	0	11	0	11	0	5	433
8:45 A	4	20	197	0	4	3	208	5	0	18	0	12	0	13	0	9	485
9:00 A	5	37	226	0	9	0	186	10	0	22	0	10	0	8	1	4	504
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	39	502	1289	7	43	15	1453	235	5	238	3	293	1	63	7	37	4142
Peak Hour: 7:00 AM to 8:00 AM																	
Total	19	414	602	5	17	4	648	214	1	166	2	254	1	23	6	17	2355
Approach	1021				866				422				46				2355
%HV	1.9%				2.0%				0.2%				2.2%				1.6%
PHF	0.78				0.86				0.56				0.72				0.78



PEDs Across:	N	S	E	W	
INT 01	5	1	2	3	11
INT 02	20	2	5	3	30
INT 03	1	2	2	2	7
INT 04				1	1
INT 05			2	1	3
INT 06				3	3
INT 07	1	1	2		4
INT 08	2		3	1	6
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	29	6	16	14	65

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	0	1

N U's	S U's	E U's	W U's
0	1		
0	0		
0	2		
0	3		
0	2		
1	3		
0	2		
0	1		
1	14	0	0

3016 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.72	2.2%
Check	WB	0.56	0.2%
In: 2355	NB	0.86	2.0%
Out: 2355	SB	0.78	1.9%
	T Int.	0.78	1.6%

Special Notes

SAM19056TM_10a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

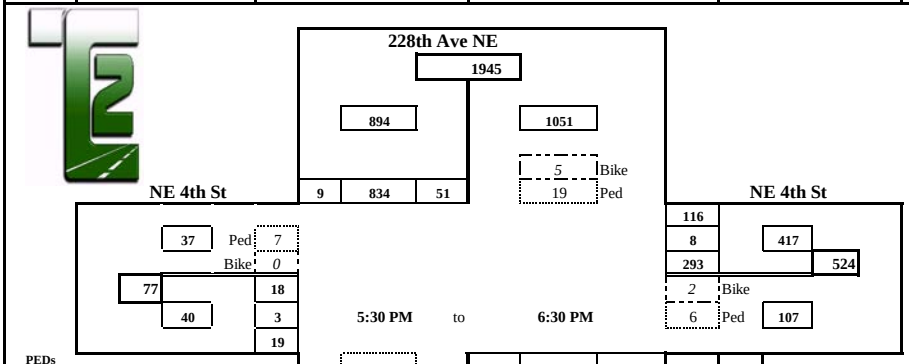
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave NE & NE 4th St **Date of Count:** Thurs 5/09/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave NE				From South on (NB) 228th Ave NE				From East on (WB) NE 4th St				From West on (EB) NE 4th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	0	26	189	2	4	4	214	22	0	53	0	30	0	5	0	2	547
5:00 P	3	17	204	0	1	5	222	19	0	66	2	27	0	9	1	5	577
5:15 P	2	22	176	1	3	1	240	17	0	49	4	33	0	0	2	2	547
5:30 P	1	23	166	1	2	3	244	17	2	78	1	37	0	3	0	1	574
5:45 P	3	11	199	1	5	2	216	18	0	89	2	32	0	5	0	3	578
6:00 P	1	13	212	2	3	7	234	12	0	59	3	33	0	5	2	4	586
6:15 P	2	13	204	3	4	3	226	11	0	76	0	26	0	6	0	5	573
6:30 P	2	14	219	3	4	8	241	12	3	69	3	25	0	2	1	7	604
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	14	139	1569	13	26	33	1837	128	5	539	15	243	0	35	6	29	4586
Peak Hour: 5:30 PM to 6:30 PM																	
Total	8	51	834	9	16	20	917	53	3	293	8	116	0	18	3	19	2341
Approach			894				990				417				40		2341
%HV			0.9%				1.6%				0.7%				n/a		1.2%
PHF			0.95				0.95				0.85				0.91		0.97



2416 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01		2	1	3	6
INT 02	2	2	4	1	9
INT 03	2			1	3
INT 04	2	1		2	5
INT 05	3	1	4	1	9
INT 06	9	3	2	3	17
INT 07		4		2	6
INT 08	7			1	8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	25	13	11	14	63

Bicycles From:	N	S	E	W	
INT 01	1	5			6
INT 02	2			1	3
INT 03	1		4		5
INT 04			1		1
INT 05	2		2		4
INT 06	3				3
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	9	5	7	1	22

	N U's	S U's	E U's	W U's
	1	1		
	2	2		
	1	5		
	0	1		
	2	0		
	3	3		
	0	5		
	0	6		
	9	23	0	0

		PHF	%HV
	EB	0.91	n/a
Check	WB	0.85	0.7%
In: 2341	NB	0.95	1.6%
Out: 2341	SB	0.95	0.9%
	T Int.	0.97	1.2%

Special Notes

SAM19056TM_10p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

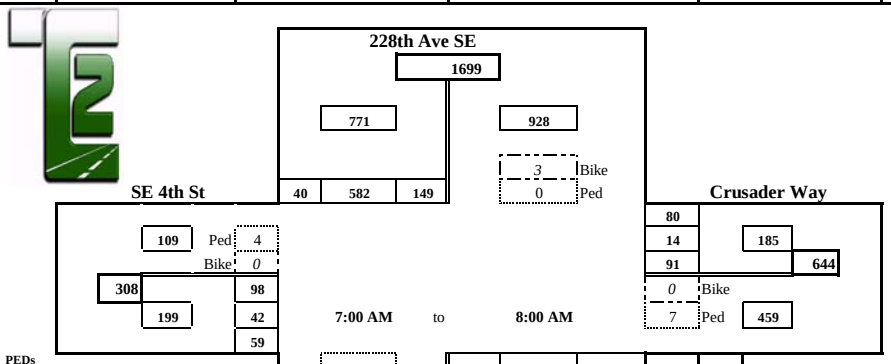
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & Crusader Way/SE 4th St **Date of Count:** Tues 5/07/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) Crusader Way				From West on (EB) SE 4th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	24	131	7	3	20	217	29	0	13	3	10	0	35	3	6	498
7:30 A	3	36	156	16	7	9	193	88	1	20	2	17	6	39	10	13	599
7:45 A	3	80	150	10	0	16	139	135	0	42	6	43	1	13	26	14	674
8:00 A	4	9	145	7	2	10	201	16	0	16	3	10	0	11	3	26	457
8:15 A	3	3	143	6	5	10	193	4	1	2	0	1	1	9	0	10	381
8:30 A	4	6	166	10	3	7	215	3	0	0	0	1	4	17	0	10	435
8:45 A	4	6	194	7	1	13	206	3	0	0	1	0	0	9	0	9	448
9:00 A	1	4	209	10	2	14	201	3	0	1	0	1	1	11	0	10	464
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	24	168	1294	73	23	99	1565	281	2	94	15	83	13	144	42	98	3956
Peak Hour: 7:00 AM to 8:00 AM																	
Total	12	149	582	40	12	55	750	268	1	91	14	80	7	98	42	59	2228
Approach	771				1073				185				199				2228
%HV	1.6%				1.1%				0.5%				3.5%				1.4%
PHF	0.80				0.93				0.51				0.80				0.83



PEDs Across:	N	S	E	W	
INT 01		1	3		4
INT 02		2	2	1	5
INT 03			2	2	4
INT 04				1	1
INT 05		1	3	1	5
INT 06		3	2	3	8
INT 07			2		2
INT 08			4		4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	7	18	8	33

Special Notes

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02	1				1
INT 03					0
INT 04	1				1
INT 05					0
INT 06					0
INT 07	1	1			2
INT 08		1			1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	4	2	0	0	6

2696 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.80	3.5%
Check	WB	0.51	0.5%
In: 2228	NB	0.93	1.1%
Out: 2228	SB	0.80	1.6%
	T Int.	0.83	1.4%

	N U's	S U's	E U's	W U's
	4	2		
	3	1		
	3	1		
	6	3		
	11	1		
	17	2		
	14	3		
	17	5		
	75	18	0	0

SAM19056TM_08a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

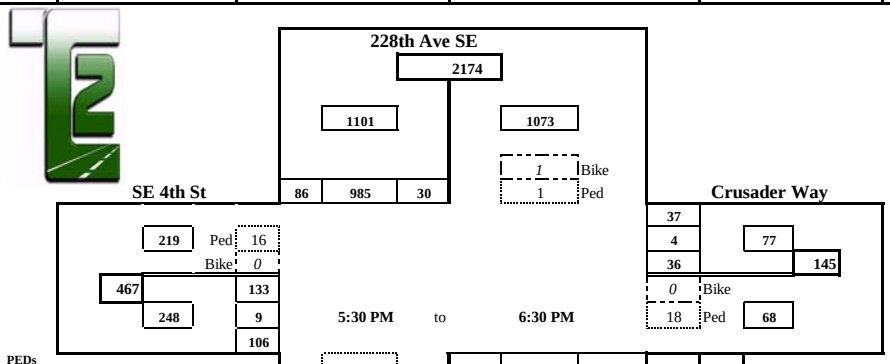
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & Crusader Way/SE 4th St **Date of Count:** Tues 5/07/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) Crusader Way				From West on (EB) SE 4th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	6	245	21	2	30	201	5	0	17	6	16	0	17	0	16	580
5:00 P	3	7	206	17	2	35	190	3	1	10	2	10	0	35	1	26	542
5:15 P	1	2	231	20	3	36	217	1	0	11	3	10	0	27	0	26	584
5:30 P	1	3	231	21	0	37	231	5	0	5	1	2	0	20	1	26	583
5:45 P	1	7	235	21	2	30	226	4	0	3	1	1	0	24	0	27	579
6:00 P	2	10	251	22	4	33	222	10	0	12	1	12	1	44	3	26	646
6:15 P	0	4	247	24	4	29	253	8	2	6	0	10	0	30	2	28	641
6:30 P	1	9	252	19	1	37	202	7	0	15	2	14	0	35	4	25	621
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	10	48	1898	165	18	267	1742	43	3	79	16	75	1	232	11	200	4776
Peak Hour: 5:30 PM to 6:30 PM																	
Total	4	30	985	86	11	129	903	29	2	36	4	37	1	133	9	106	2487
Approach	1101				1061				77				248				2487
%HV	0.4%				1.0%				2.6%				0.4%				0.7%
PHF	0.97				0.91				0.62				0.85				0.96



PEDs Across:	N	S	E	W	
INT 01			1	4	5
INT 02				1	1
INT 03			3	8	11
INT 04		1	2	1	4
INT 05	1	2	3	5	11
INT 06		3	9	5	17
INT 07		5	5	5	15
INT 08			1	1	2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	11	24	30	66

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05	1	1			2
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	1	0	0	2

2584 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.85	0.4%
Check	WB	0.62	2.6%
In: 2487	NB	0.91	1.0%
Out: 2487	SB	0.97	0.4%
	T Int.	0.96	0.7%

N U's	S U's	E U's	W U's
13	0		
12	2		
14	1		
14	1		
18	0		
25	2		
14	1		
19	1		
129	8	0	0

SAM19056TM_08p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

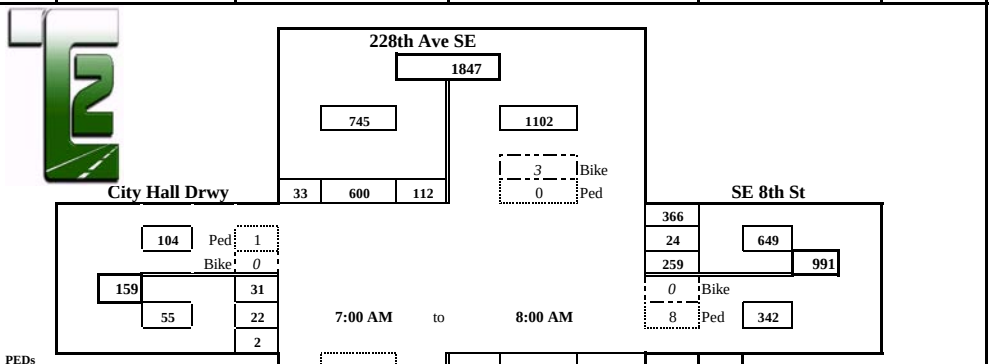
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 8th St/City Hall Drwy **Date of Count:** Tues 5/07/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 8th St				From West on (EB) City Hall Drwy				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	13	135	4	3	11	152	17	1	60	5	103	0	11	7	0	518
7:30 A	2	31	147	5	7	9	188	26	0	62	5	121	0	7	6	0	607
7:45 A	2	34	167	13	2	10	195	55	3	77	8	94	0	6	5	1	665
8:00 A	2	34	151	11	2	17	170	110	0	60	6	48	0	7	4	1	619
8:15 A	6	11	140	12	4	9	122	26	1	51	10	62	1	8	3	3	457
8:30 A	4	10	160	11	3	7	167	24	0	76	4	47	0	10	5	0	521
8:45 A	3	14	175	11	3	12	159	23	2	57	5	36	0	5	5	1	503
9:00 A	1	12	182	19	2	15	155	16	3	89	6	48	0	4	3	1	550
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	22	159	1257	86	26	90	1308	297	10	532	49	559	1	58	38	7	4440
Peak Hour: 7:00 AM to 8:00 AM																	
Total	8	112	600	33	14	47	705	208	4	259	24	366	0	31	22	2	2409
Approach			745				960				649				55		2409
%HV			1.1%				1.5%				0.6%				n/a		1.1%
PHF			0.87				0.81				0.86				0.76		0.91



2660 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.76	n/a
WB	0.86	0.6%
NB	0.81	1.5%
SB	0.87	1.1%
T Int.	0.91	1.1%

Check In: 2409 Out: 2409

PEDs Across:	N	S	E	W	
INT 01			5		5
INT 02		1	1		2
INT 03			1	1	2
INT 04		3	1		4
INT 05		1	1		2
INT 06		7	7		14
INT 07					0
INT 08			1		1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	12	17	1	30

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02					0
INT 03	1				1
INT 04	1				1
INT 05					0
INT 06			1		1
INT 07					0
INT 08		1			1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	1	1	0	5

	N U's	S U's	E U's	W U's
	1	1		
	1	2		
	0	0		
	0	7		
	0	8		
	2	9		
	0	18		
	2	8		
	6	53	0	0

Special Notes

SAM19056TM_07a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

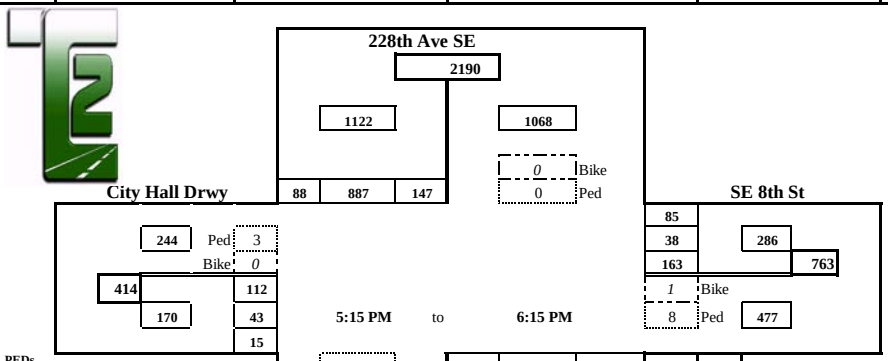
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 8th St/City Hall Drwy **Date of Count:** Tues 5/07/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 8th St				From West on (EB) City Hall Drwy				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	0	38	225	20	4	27	198	56	0	31	10	11	0	13	11	7	647
5:00 P	3	16	166	15	2	19	221	59	0	42	12	28	1	18	8	3	607
5:15 P	2	25	201	23	3	23	205	60	0	36	8	19	0	24	7	6	637
5:30 P	0	42	240	18	1	22	237	70	0	50	7	23	0	16	8	3	736
5:45 P	1	32	203	21	2	33	199	58	0	35	5	17	0	24	15	6	648
6:00 P	1	37	242	24	4	34	217	79	0	31	9	21	0	28	6	1	729
6:15 P	2	36	202	25	4	29	218	80	0	47	17	24	0	44	14	5	741
6:30 P	1	44	218	40	1	36	200	86	3	33	14	24	0	25	11	0	731
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	10	270	1697	186	21	223	1695	548	3	305	82	167	1	192	80	31	5476
Peak Hour: 5:15 PM to 6:15 PM																	
Total	4	147	887	88	11	118	871	287	0	163	38	85	0	112	43	15	2854
Approach	1122				1276				286				170				2854
%HV	0.4%				0.9%				n/a				n/a				0.5%
PHF	0.93				0.97				0.81				0.67				0.96



PEDs Across:	N	S	E	W	
INT 01		3	1	1	5
INT 02		3		2	5
INT 03		10	3	2	15
INT 04		2	2		4
INT 05		4	4		8
INT 06		2		3	5
INT 07		4	2		6
INT 08		4	6	2	12
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	32	18	10	60

Bicycles From:	N	S	E	W	
INT 01			1		1
INT 02			2		2
INT 03					0
INT 04					0
INT 05			1		1
INT 06					0
INT 07		1			1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	1	4	0	5

N U's	S U's	E U's	W U's
4	2		
1	2		
4	9		
1	4		
3	2		
2	5		
1	3		
2	1		
18	28	0	0

		PHF	%HV
	EB	0.67	n/a
Check	WB	0.81	n/a
In: 2854	NB	0.97	0.9%
Out: 2854	SB	0.93	0.4%
	T Int.	0.96	0.5%

Special Notes

SAM19056TM_07p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

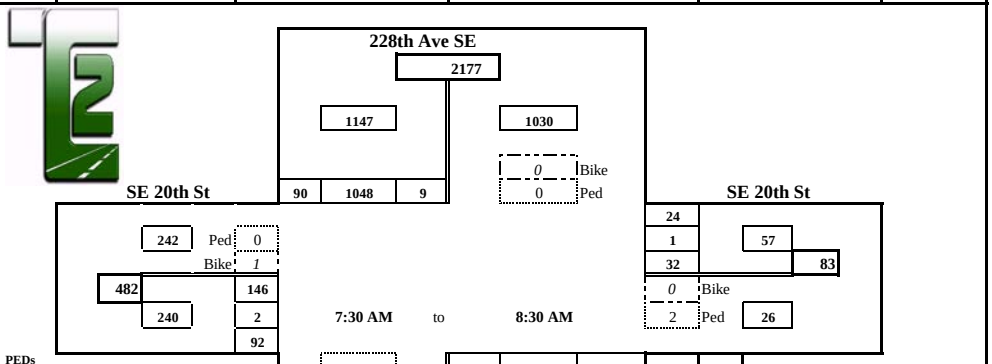
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 20th St **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 20th St				From West on (EB) SE 20th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	1	214	9	3	25	112	0	0	6	0	3	0	13	0	15	398
7:30 A	3	0	201	11	7	35	180	3	0	4	1	3	2	18	0	14	470
7:45 A	12	2	301	16	14	31	282	0	0	3	0	7	4	53	0	14	709
8:00 A	13	3	279	27	7	40	242	2	0	17	0	3	1	60	1	34	708
8:15 A	7	2	240	24	3	47	147	10	0	7	0	6	1	19	0	27	529
8:30 A	6	2	228	23	6	33	189	3	0	5	1	8	2	14	1	17	524
8:45 A	6	3	272	22	8	35	223	2	0	4	1	6	0	18	0	14	600
9:00 A	4	1	284	19	8	27	286	2	0	21	1	3	1	42	1	30	717
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	53	14	2019	151	56	273	1661	22	0	67	4	39	11	237	3	165	4655
Peak Hour: 7:30 AM to 8:30 AM																	
Total	38	9	1048	90	30	151	860	15	0	32	1	24	8	146	2	92	2470
Approach			1147				1026				57				240		2470
%HV			3.3%				2.9%				n/a				3.3%		3.1%
PHF			0.90				0.82				0.71				0.63		0.87



PEDs Across:	N	S	E	W	
INT 01	1		1	1	3
INT 02				2	2
INT 03			1		1
INT 04			1		1
INT 05					0
INT 06					0
INT 07	1		2		3
INT 08			2		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	0	7	3	12

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02			1		1
INT 03		1			1
INT 04				1	1
INT 05		1			1
INT 06		1			1
INT 07	1	1			2
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	4	1	1	7

2868 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.63	3.3%
WB	0.71	n/a
NB	0.82	2.9%
SB	0.90	3.3%
T Int.	0.87	3.1%

Check In: 2470 Out: 2470

N U's	S U's	E U's	W U's
0	1		
0	3		
0	2		
1	2		
0	8		
0	3		
0	4		
1	10		
2	33	0	0

SAM19056TM_04a

PRJ19-00008 Attachment 060

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

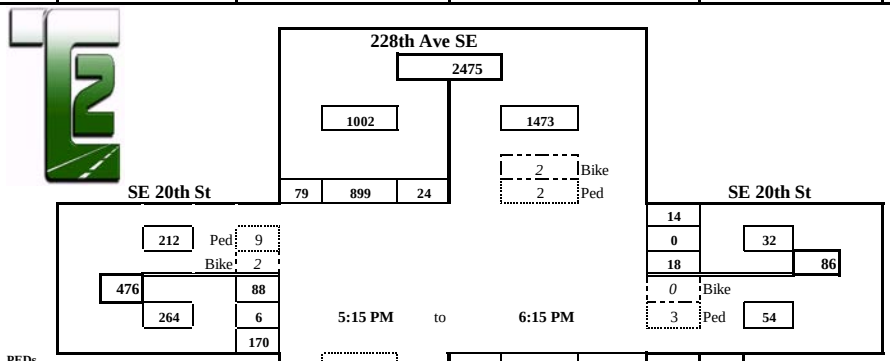
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 20th St **Date of Count:** Thurs 5/02/2019

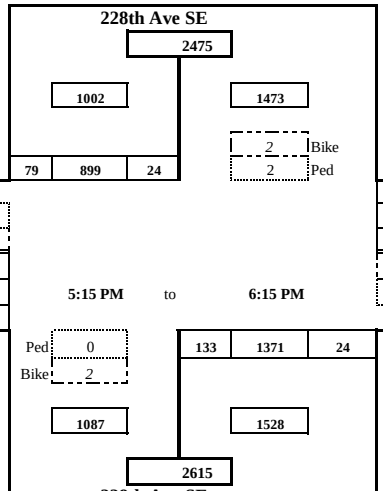
Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 20th St				From West on (EB) SE 20th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	3	0	218	30	4	30	254	6	0	3	0	3	2	27	1	38	610
5:00 P	3	2	223	32	2	32	312	4	0	5	0	2	0	15	1	47	675
5:15 P	2	3	227	18	3	29	309	14	1	4	1	6	0	21	2	47	681
5:30 P	0	4	245	17	3	28	300	9	0	3	0	3	0	26	2	38	675
5:45 P	4	7	259	17	3	32	326	5	1	7	0	5	0	19	1	48	726
6:00 P	0	6	225	28	4	44	362	4	0	3	0	1	2	17	3	38	731
6:15 P	2	7	170	17	4	29	383	6	0	5	0	5	0	26	0	46	694
6:30 P	3	2	196	28	2	24	276	7	0	4	2	3	0	30	0	37	609
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	17	31	1763	187	25	248	2522	55	2	34	3	28	4	181	10	339	5401
Peak Hour: 5:15 PM to 6:15 PM																	
Total	6	24	899	79	14	133	1371	24	1	18	0	14	2	88	6	170	2826
Approach	1002				1528				32				264				2826
%HV	0.6%				0.9%				3.1%				0.8%				0.8%
PHF	0.89				0.91				0.67				0.92				0.97



PEDs Across:	N	S	E	W	
INT 01	1		1		2
INT 02			2		2
INT 03			1	1	2
INT 04				2	2
INT 05			2		2
INT 06	1		1	1	3
INT 07	1			6	7
INT 08	2		2		4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	0	9	10	24

Special Notes



Bicycles From:	N	S	E	W	
INT 01					0
INT 02				1	1
INT 03		1			1
INT 04				1	1
INT 05		1			1
INT 06	1	1			2
INT 07	1			1	2
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	3	0	3	8

2924 *1.0 PHF Peak Hour Volume*

		PHF	%HV
		EB	0.92	0.8%
Check		WB	0.67	3.1%
In:	2826	NB	0.91	0.9%
Out:	2826	SB	0.89	0.6%
		T Int.	0.97	0.8%

N U's	S U's	E U's	W U's
0	10		
0	7		
1	5		
3	6		
1	5		
2	3		
2	7		
4	2		
13	45	0	0

SAM19056TM_04p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

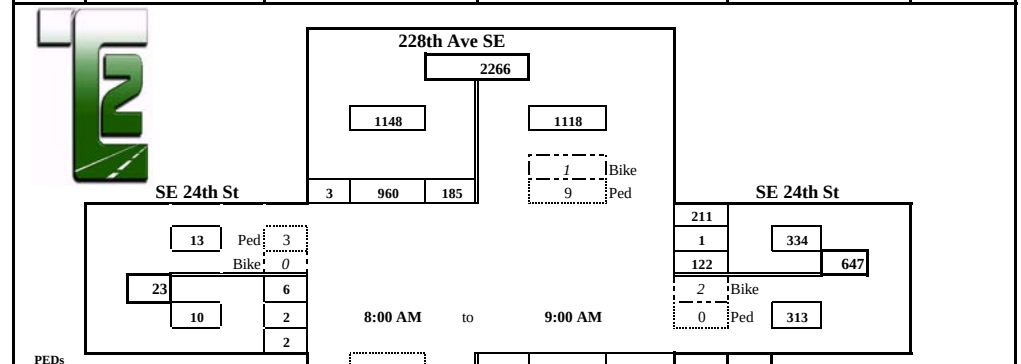
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 24th St **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 24th St				From West on (EB) SE 24th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	1	14	191	1	6	1	146	11	1	34	2	34	0	0	0	1	435
7:30 A	5	20	258	2	6	1	124	19	1	34	0	34	0	1	1	0	494
7:45 A	9	19	200	3	6	0	159	26	10	15	1	61	0	2	0	0	486
8:00 A	13	15	215	1	8	1	111	11	2	15	0	26	0	0	1	0	396
8:15 A	7	49	198	1	4	2	191	31	0	27	0	55	0	0	0	0	554
8:30 A	7	44	220	1	5	2	201	28	1	27	0	49	0	2	1	1	576
8:45 A	6	47	273	1	14	3	251	32	2	35	1	57	0	2	0	0	702
9:00 A	4	45	269	0	8	2	258	35	0	33	0	50	0	2	1	1	696
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	52	253	1824	10	57	12	1441	193	17	220	4	366	0	9	4	3	4339
Peak Hour:	8:00 AM to 9:00 AM																
Total	24	185	960	3	31	9	901	126	3	122	1	211	0	6	2	2	2528
Approach	1148				1036				334				10				2528
%HV	2.1%				3.0%				0.9%				n/a				2.3%
PHF	0.89				0.88				0.90				0.63				0.90



PEDs Across:	N	S	E	W	
INT 01					0
INT 02	1				1
INT 03			1		1
INT 04			3		3
INT 05	3				3
INT 06	2			2	4
INT 07		7			7
INT 08	4	3		1	8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	10	10	4	3	27

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05		1			1
INT 06			1		1
INT 07	1		1		2
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	1	2	0	4

2808 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.63	n/a
Check	WB	0.90	0.9%
In: 2528	NB	0.88	3.0%
Out: 2528	SB	0.89	2.1%
	T Int.	0.90	2.3%

N U's	S U's	E U's	W U's
1			
1			
2			
1			
1			
1			
1			
3			
11	0	0	0

Special Notes

SAM19056TM_03a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

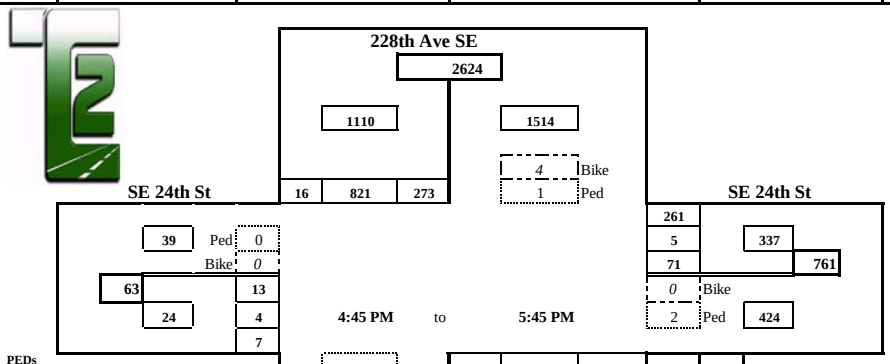
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 24th St **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 24th St				From West on (EB) SE 24th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	53	194	5	4	4	260	37	0	21	0	51	0	0	1	0	626
5:00 P	6	62	204	4	3	0	315	38	0	18	0	74	0	1	0	0	716
5:15 P	1	80	186	1	3	3	291	49	1	17	0	73	0	3	1	0	704
5:30 P	0	59	236	5	2	6	328	26	0	16	3	70	0	1	1	0	751
5:45 P	2	72	195	6	3	9	306	34	0	20	2	44	0	8	2	7	705
6:00 P	3	85	164	6	3	4	284	50	0	29	1	56	0	5	0	7	691
6:15 P	2	94	166	2	4	6	267	36	0	23	0	37	0	2	0	2	635
6:30 P	2	62	103	2	2	4	251	35	0	17	0	43	0	3	1	4	525
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	17	567	1448	31	24	36	2302	305	1	161	6	448	0	23	6	20	5353
Peak Hour: 4:45 PM to 5:45 PM																	
Total	9	273	821	16	11	18	1240	147	1	71	5	261	0	13	4	7	2876
Approach	1110				1405				337				24				2876
%HV	0.8%				0.8%				0.3%				n/a				0.7%
PHF	0.93				0.98				0.92				0.35				0.96



PEDs Across:	N	S	E	W	
INT 01	2		2		4
INT 02			1		1
INT 03					0
INT 04					0
INT 05	1	2	1		4
INT 06	2		2	3	7
INT 07	3	2	2	3	10
INT 08			2		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	8	4	10	6	28

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03	3	1			4
INT 04					0
INT 05	1				1
INT 06	1	2			3
INT 07	1	1			2
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	6	4	0	0	10

	N U's	S U's	E U's	W U's
	3	1		
	1	0		
	1	0		
	1	0		
	1	0		
	0	0		
	2	0		
	1	0		
	10	1	0	0

		PHF	%HV
		EB	0.35	n/a
Check		WB	0.92	0.3%
In:	2876	NB	0.98	0.8%
Out:	2876	SB	0.93	0.8%
		T Int.	0.96	0.7%

Special Notes

SAM19056TM_03p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

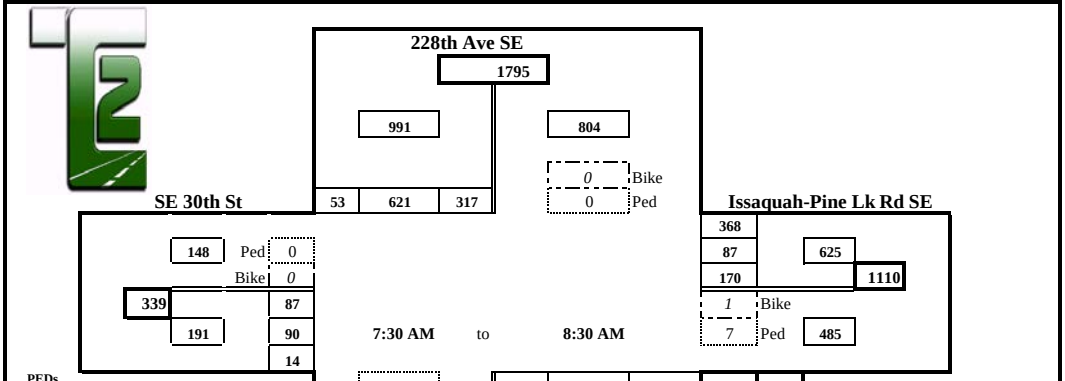
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & Issaquah-Pine Lake Rd SE/SE 30th St **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) Issaquah-Pine Lk Rd SE				From West on (EB) SE 30th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	42	155	24	7	4	85	9	1	23	12	54	1	12	13	2	435
7:30 A	3	57	147	4	8	1	85	10	2	39	15	73	2	16	13	1	461
7:45 A	9	84	189	12	4	3	89	13	5	37	8	112	2	29	23	1	600
8:00 A	18	118	142	7	13	1	80	14	3	41	25	98	2	33	34	10	603
8:15 A	6	63	138	14	4	1	84	17	9	53	34	78	2	12	20	2	516
8:30 A	3	52	152	20	5	3	96	34	2	39	20	80	1	13	13	1	523
8:45 A	5	64	140	10	10	4	141	14	3	28	9	88	2	20	18	4	540
9:00 A	2	74	182	15	6	9	128	23	9	54	8	104	1	22	23	4	646
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	48	554	1245	106	57	26	788	134	34	314	131	687	13	157	157	25	4324
Peak Hour: 7:30 AM to 8:30 AM																	
Total	36	317	621	53	26	8	349	78	19	170	87	368	7	87	90	14	2242
Approach	991				435				625				191				2242
%HV	3.6%				6.0%				3.0%				3.7%				3.9%
PHF	0.87				0.82				0.95				0.62				0.93



PEDs Across:	N	S	E	W	
INT 01		1			1
INT 02		1			1
INT 03					0
INT 04		2	2		4
INT 05			3		3
INT 06		2	2		4
INT 07			1		1
INT 08		1	1		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	7	9	0	16

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05		1			1
INT 06			1		1
INT 07		1			1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	2	1	0	3

	N U's	S U's	E U's	W U's
	0	0	0	0

	PHF	%HV
EB	0.62	3.7%
WB	0.95	3.0%
NB	0.82	6.0%
SB	0.87	3.6%
T Int.	0.93	3.9%

Check In: 2242 Out: 2242

Special Notes

SAM19056TM_02a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

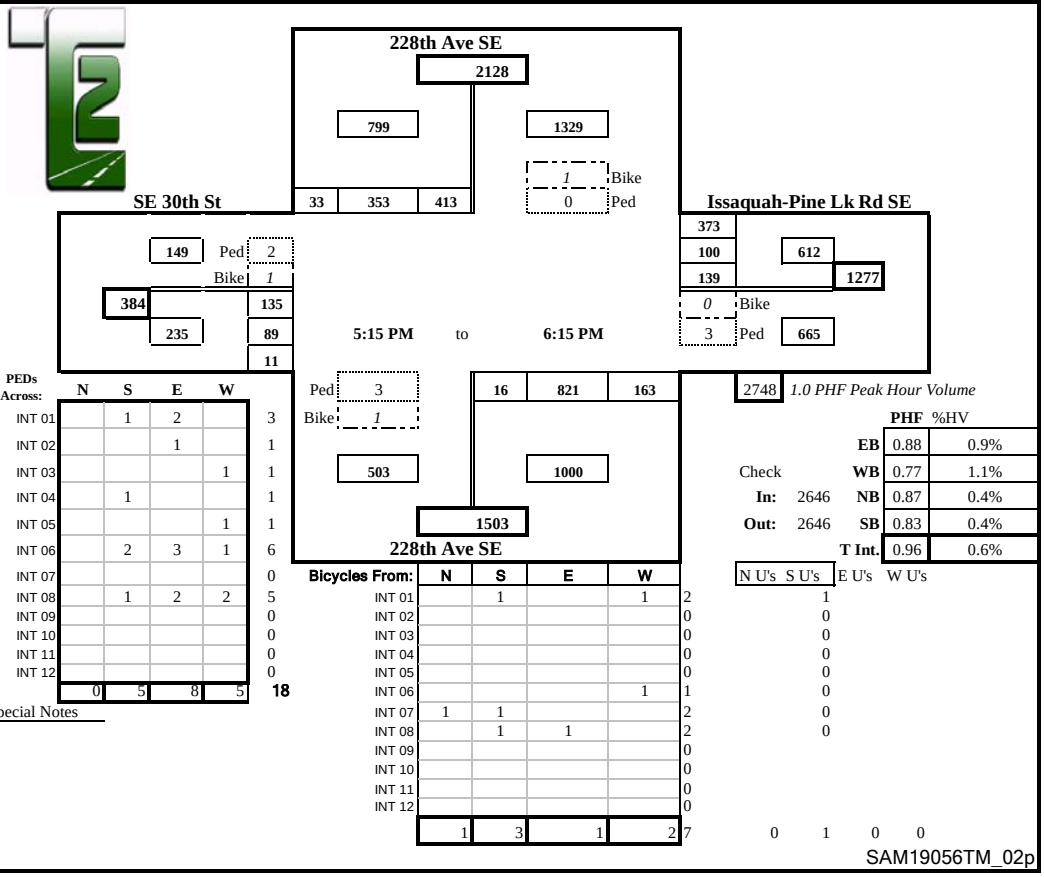
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & Issaquah-Pine Lake Rd SE/SE 30th St **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) Issaquah-Pine Lk Rd SE				From West on (EB) SE 30th St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	0	87	91	6	2	5	176	30	3	32	15	76	3	30	17	5	570
5:00 P	2	109	78	5	1	2	178	42	3	32	25	111	1	30	25	4	641
5:15 P	2	98	115	7	2	6	189	54	3	26	26	97	4	29	26	4	677
5:30 P	1	91	80	12	2	1	201	41	3	30	29	79	1	33	15	0	612
5:45 P	0	112	85	7	0	5	225	57	1	30	17	88	0	40	17	4	687
6:00 P	1	100	65	7	1	3	190	39	1	41	35	122	1	35	29	3	669
6:15 P	1	110	123	7	1	7	205	26	2	38	19	84	0	27	28	4	678
6:30 P	2	51	63	5	0	3	237	32	1	35	31	77	2	41	18	1	594
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	9	758	700	56	9	32	1601	321	17	264	197	734	12	265	175	25	5128
Peak Hour: 5:15 PM to 6:15 PM																	
Total	3	413	353	33	4	16	821	163	7	139	100	373	2	135	89	11	2646
Approach	799				1000				612				235				2646
%HV	0.4%				0.4%				1.1%				0.9%				0.6%
PHF	0.83				0.87				0.77				0.88				0.96



PEDs Across:	N	S	E	W	
INT 01		1	2		3
INT 02			1		1
INT 03				1	1
INT 04		1			1
INT 05				1	1
INT 06		2	3	1	6
INT 07					0
INT 08		1	2	2	5
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	5	8	5	18

Special Notes

Bicycles From:	N	S	E	W	
INT 01		1		1	2
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06				1	1
INT 07	1	1			2
INT 08		1	1		2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	3	1	2	7

N U's	S U's	E U's	W U's
	1		
	0		
	0		
	0		
	0		
	0		
	0		
	0		

2748 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.88	0.9%
WB	0.77	1.1%
NB	0.87	0.4%
SB	0.83	0.4%
T Int.	0.96	0.6%

Check In: 2646 Out: 2646

0 1 0 0

SAM19056TM_02p

Prepared for: **City of Sammamish**

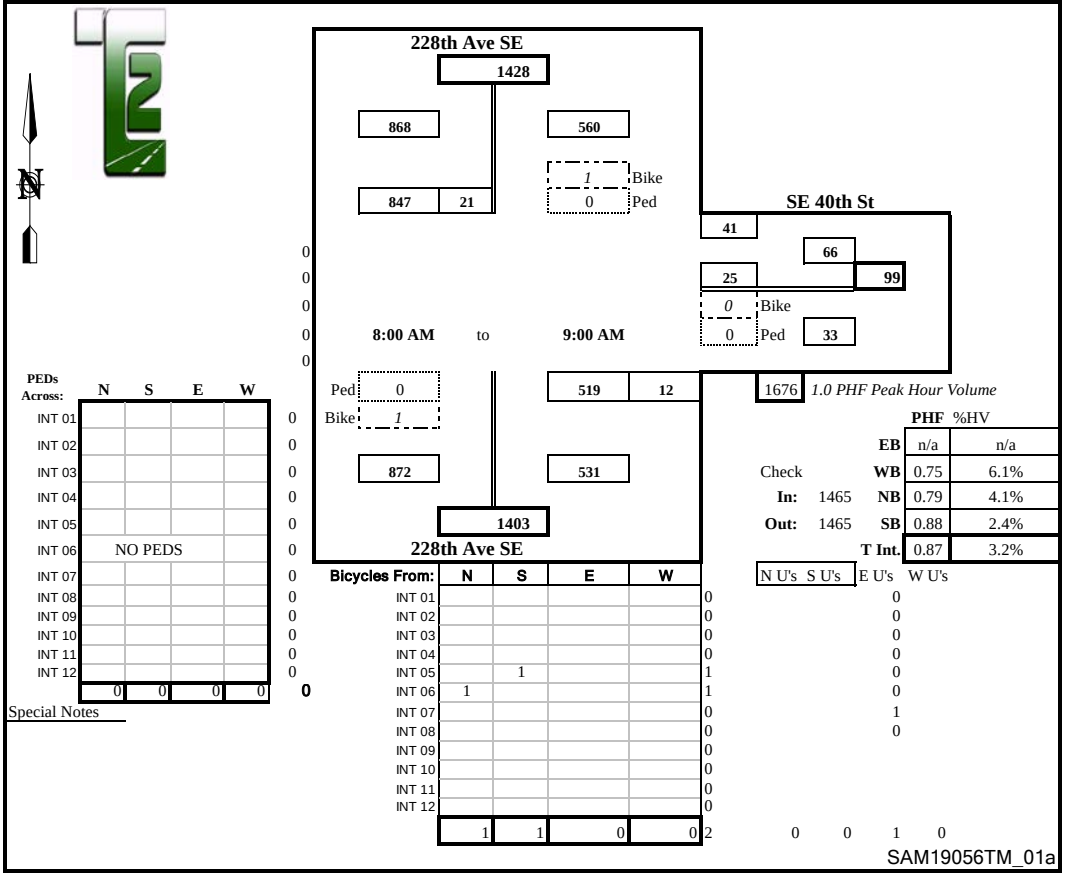
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 40th St
Location: Sammamish, Washington
Date of Count: Thurs 5/02/2019
Checked By: Jess

Time Interval	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 40th St				From West on (EB) 0				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	3	2	191	0	3	0	99	0	0	2	0	1	0	0	0	0	295
7:30 A	2	2	186	0	4	0	93	2	1	9	0	7	0	0	0	0	299
7:45 A	4	2	238	0	3	0	97	2	0	5	0	14	0	0	0	0	358
8:00 A	2	5	205	0	5	0	108	1	2	12	0	29	0	0	0	0	360
8:15 A	5	8	214	0	2	0	88	2	3	6	0	16	0	0	0	0	334
8:30 A	4	5	206	0	1	0	114	3	1	5	0	10	0	0	0	0	343
8:45 A	7	4	185	0	8	0	168	1	0	8	0	3	0	0	0	0	369
9:00 A	5	4	242	0	11	0	149	6	0	6	0	12	0	0	0	0	419
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	32	32	1667	0	37	0	916	17	7	53	0	92	0	0	0	0	2777
Peak Hour: 8:00 AM to 9:00 AM																	
Total	21	21	847	0	22	0	519	12	4	25	0	41	0	0	0	0	1465
Approach	868				531				66				0				1465
%HV	2.4%				4.1%				6.1%				n/a				3.2%
PHF	0.88				0.79				0.75				n/a				0.87



SAM19056TM_01a

Prepared for: **City of Sammamish**

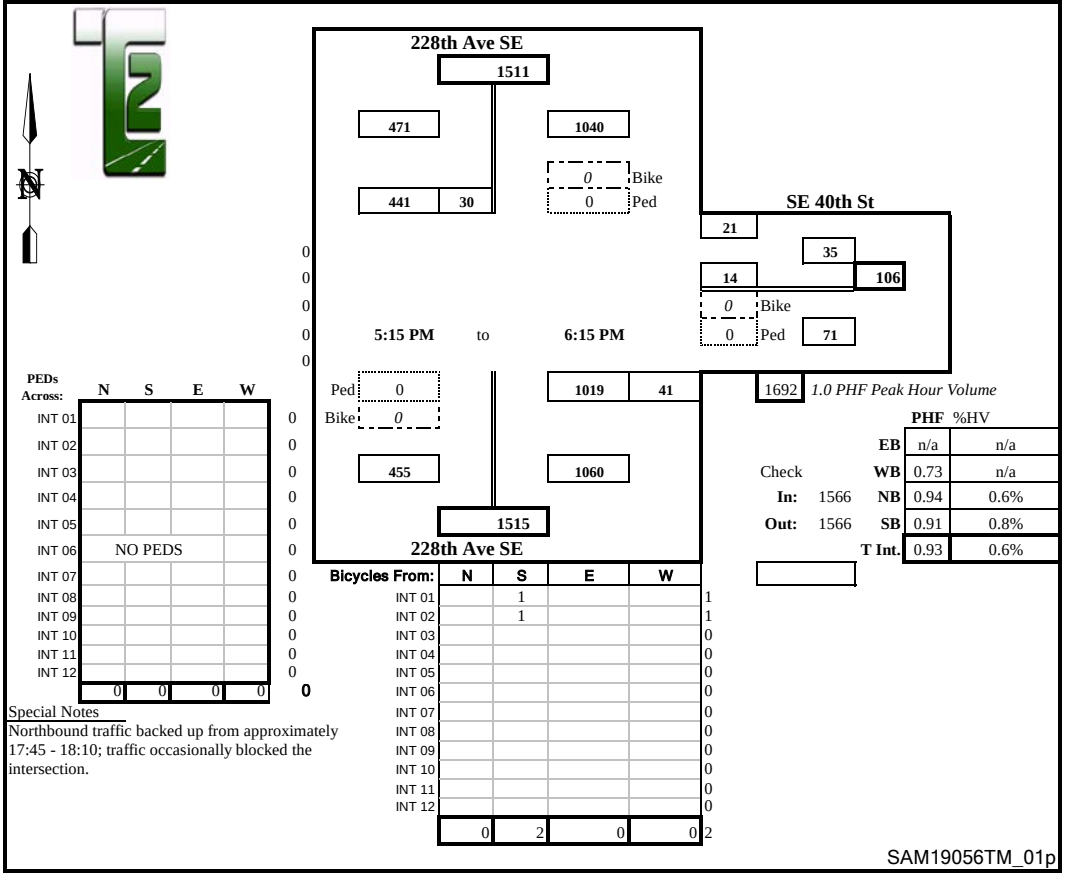
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 228th Ave SE & SE 40th St
Location: Sammamish, Washington
Date of Count: Thurs 5/02/2019
Checked By: Jess

Time Interval Ending at	From North on (SB) 228th Ave SE				From South on (NB) 228th Ave SE				From East on (WB) SE 40th St				From West on (EB) 0				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	6	117	0	2	0	218	5	0	3	0	2	0	0	0	0	351
5:00 P	1	6	118	0	3	0	235	5	1	3	0	6	0	0	0	0	373
5:15 P	1	7	130	0	0	0	218	1	0	1	0	5	0	0	0	0	362
5:30 P	1	8	104	0	1	0	259	13	0	1	0	5	0	0	0	0	390
5:45 P	1	6	97	0	3	0	252	5	0	6	0	5	0	0	0	0	371
6:00 P	0	6	123	0	0	0	270	12	0	5	0	7	0	0	0	0	423
6:15 P	2	10	117	0	2	0	238	11	0	2	0	4	0	0	0	0	382
6:30 P	0	6	138	0	0	0	223	11	0	0	0	7	0	0	0	0	385
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	7	55	944	0	11	0	1913	63	1	21	0	41	0	0	0	0	3037
Peak Hour: 5:15 PM to 6:15 PM																	
Total	4	30	441	0	6	0	1019	41	0	14	0	21	0	0	0	0	1566
Approach	471				1060				35				0				1566
%HV	0.8%				0.6%				n/a				n/a				0.6%
PHF	0.91				0.94				0.73				n/a				0.93



Special Notes

Northbound traffic backed up from approximately 17:45 - 18:10; traffic occasionally blocked the intersection.

SAM19056TM_01p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

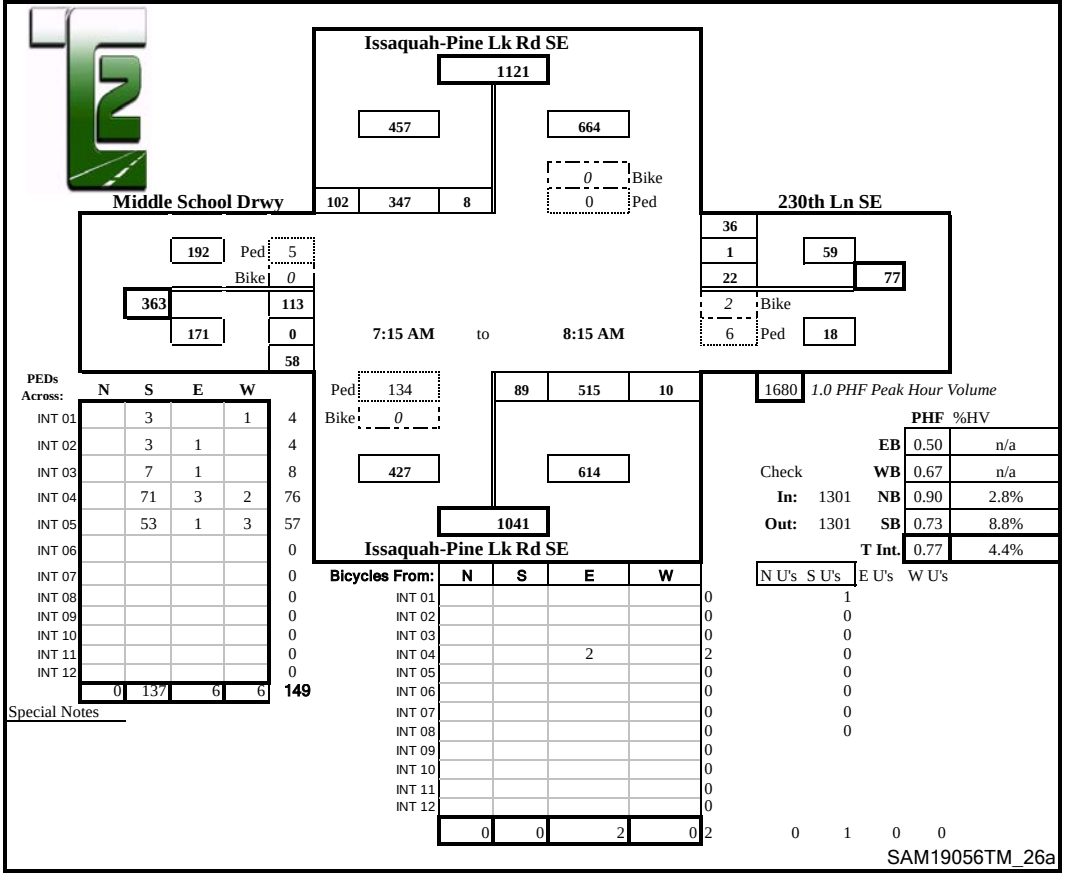
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & 230th Ln SE/Middle School Drwy **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 230th Ln SE				From West on (EB) Middle School Drwy				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	1	59	1	5	7	107	1	0	3	0	10	0	0	0	0	189
7:30 A	2	2	74	7	0	5	114	1	0	4	0	8	0	4	0	2	221
7:45 A	10	1	77	20	6	24	145	1	0	9	0	13	0	13	0	3	306
8:00 A	22	2	101	53	3	47	120	3	0	0	1	8	0	50	0	35	420
8:15 A	6	3	95	22	8	13	136	5	0	9	0	7	0	46	0	18	354
8:30 A	0	2	76	0	1	2	121	2	0	4	0	10	0	2	0	2	221
8:45 A	2	2	100	0	5	0	135	2	0	0	0	10	0	1	0	0	250
9:00 A	3	0	117	2	7	3	156	1	0	5	0	18	0	2	0	0	304
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	47	13	699	105	35	101	1034	16	0	34	1	84	0	118	0	60	2265
Peak Hour:	7:15 AM				to	8:15 AM											
Total	40	8	347	102	17	89	515	10	0	22	1	36	0	113	0	58	1301
Approach	457				614				59				171				1301
%HV	8.8%				2.8%				n/a				n/a				4.4%
PHF	0.73				0.90				0.67				0.50				0.77



1680 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.50	n/a
WB	0.67	n/a
NB	0.90	2.8%
SB	0.73	8.8%
T Int.	0.77	4.4%

Check In: 1301 Out: 1301

PEDs Across:

	N	S	E	W	
INT 01		3		1	4
INT 02		3	1		4
INT 03		7	1		8
INT 04		71	3	2	76
INT 05		53	1	3	57
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	137	6	6	149

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04			2		2
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	2	0	2

N U's	S U's	E U's	W U's
	1		
	0		
	0		
	0		
	0		
	0		
	0		
	0		
0	1	0	0

Special Notes

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

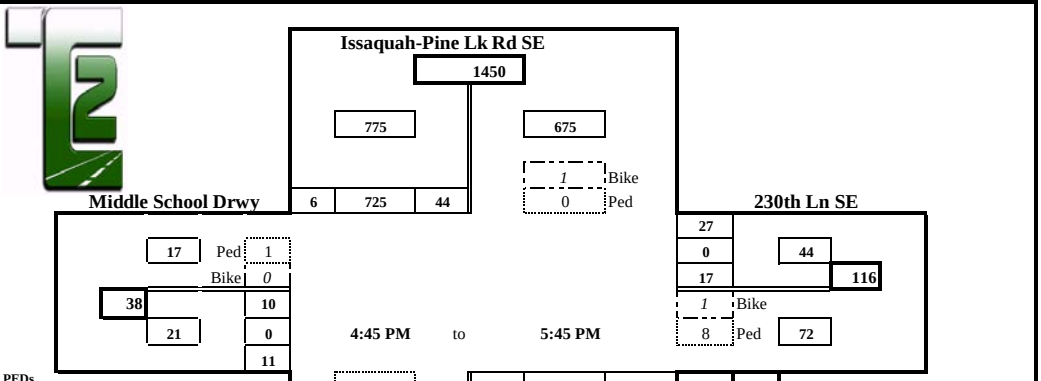
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & 230th Ln SE/Middle School Drwy **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 230th Ln SE				From West on (EB) Middle School Drwy				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	10	139	1	3	5	134	9	0	6	0	7	0	0	0	3	314
5:00 P	2	13	182	4	4	6	168	2	0	3	0	8	0	6	0	5	397
5:15 P	2	7	199	1	1	1	156	9	0	3	0	5	0	0	0	0	381
5:30 P	1	13	153	1	3	0	153	11	0	7	0	5	0	1	0	3	347
5:45 P	1	11	191	0	2	4	161	6	0	4	0	9	0	3	0	3	392
6:00 P	1	9	161	0	3	1	157	5	0	6	0	2	0	0	0	1	342
6:15 P	1	14	178	2	4	3	147	6	0	4	0	9	0	2	0	0	365
6:30 P	1	16	169	4	3	9	167	6	0	2	0	8	0	0	0	4	385
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	10	93	1372	13	23	29	1243	54	0	35	0	53	0	12	0	19	2923
	Peak Hour: 4:45 PM to 5:45 PM																
Total	6	44	725	6	10	11	638	28	0	17	0	27	0	10	0	11	1517
Approach	775				677				44				21				1517
%HV	0.8%				1.5%				n/a				n/a				1.1%
PHF	0.94				0.96				0.85				0.48				0.96



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02		3			3
INT 03			2		2
INT 04		4	2	1	7
INT 05		3	4		7
INT 06			4		4
INT 07		4	2		6
INT 08		1	2		3
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	15	16	1	32

Bicycles From:

	N	S	E	W	
INT 01	1				1
INT 02		1	1		2
INT 03		1			1
INT 04	1				1
INT 05					0
INT 06					0
INT 07		1		1	2
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	3	1	1	7

N U's	S U's	E U's	W U's
0			
0			
1			
0			
0			
0			
0			
0			
1	0	0	0

1588 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.48	n/a
WB	0.85	n/a
NB	0.96	1.5%
SB	0.94	0.8%
T Int.	0.96	1.1%

Check In: 1517 Out: 1517

Special Notes

SAM19056TM_26p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

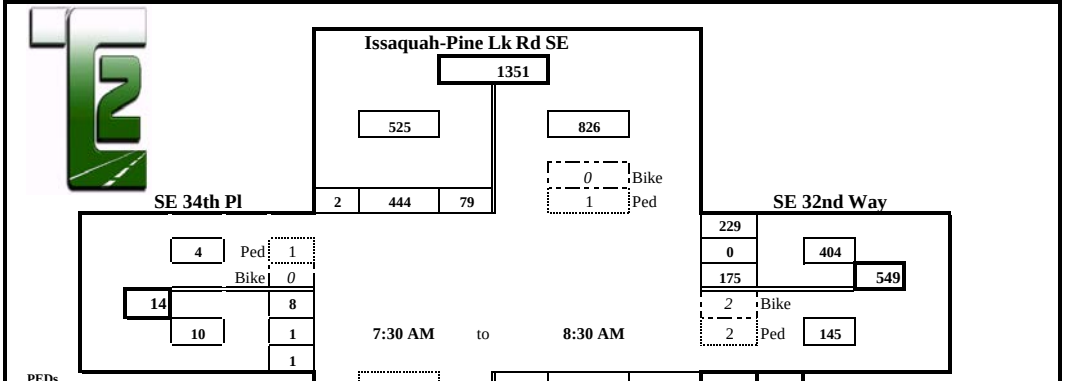
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 32nd Way/SE 34th Pl **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) SE 32nd Way				From West on (EB) SE 34th Pl				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	12	14	85	0	5	0	117	7	0	34	0	24	0	1	0	0	282
7:30 A	11	19	70	1	3	1	121	19	1	42	0	35	0	1	0	0	309
7:45 A	3	14	106	0	3	0	144	10	1	40	0	56	0	3	0	1	374
8:00 A	2	18	79	0	4	0	142	22	2	58	0	72	0	0	0	0	391
8:15 A	4	26	98	1	2	2	158	13	7	49	0	60	0	3	1	0	411
8:30 A	2	21	161	1	2	0	145	20	0	28	0	41	0	2	0	0	419
8:45 A	9	18	121	1	3	0	141	11	3	45	0	34	0	0	0	1	372
9:00 A	6	20	89	1	6	0	118	24	4	48	0	44	0	1	0	0	345
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	49	150	809	5	28	3	1086	126	18	344	0	366	0	11	1	2	2903
Peak Hour: 7:30 AM to 8:30 AM																	
Total	11	79	444	2	11	2	589	65	10	175	0	229	0	8	1	1	1595
Approach	525				656				404				10				1595
%HV	2.1%				1.7%				2.5%				n/a				2.0%
PHF	0.72				0.95				0.78				0.63				0.95



1676 *1.0 PHF Peak Hour Volume*

PEDs Across:	N	S	E	W	
INT 01					0
INT 02					0
INT 03			1	1	2
INT 04			1		1
INT 05					0
INT 06	1				1
INT 07					0
INT 08	10		3	1	14
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	11	0	5	2	18

Special Notes

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04			1		1
INT 05					0
INT 06			1		1
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	2	0	2

	PHF	%HV
EB	0.63	n/a
WB	0.78	2.5%
NB	0.95	1.7%
SB	0.72	2.1%
T Int.	0.95	2.0%

Check In: 1595 Out: 1595

	N U's	S U's	E U's	W U's
	3	0	0	
	1	0	1	
	1	0	1	
	1	2	0	
	2	2	0	
	3	3	1	
	3	1	0	
	1	3	0	
	15	11	3	0

SAM19056TM_27a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

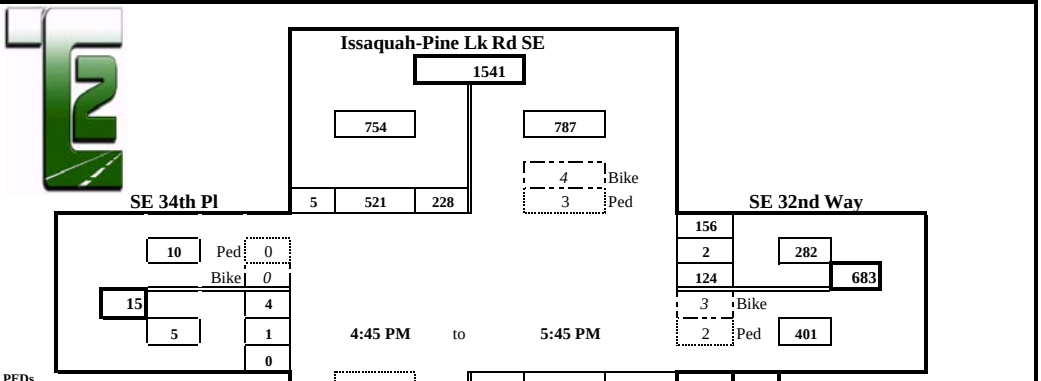
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 32nd Way/SE 34th Pl **Date of Count:** Thurs 5/02/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) SE 32nd Way				From West on (EB) SE 34th Pl				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	4	41	142	1	2	0	139	35	2	22	1	45	0	0	0	0	426
5:00 P	4	68	152	0	2	2	144	45	3	27	1	42	0	0	0	0	481
5:15 P	2	65	133	0	1	1	171	40	0	34	1	41	0	1	1	0	488
5:30 P	1	47	121	4	3	0	153	44	0	28	0	37	0	1	0	0	435
5:45 P	1	48	115	1	2	0	159	43	0	35	0	36	0	2	0	0	439
6:00 P	0	40	136	1	3	0	152	67	0	33	1	28	0	0	2	1	461
6:15 P	0	40	101	0	4	0	144	59	1	24	1	37	0	0	0	0	406
6:30 P	1	53	113	0	3	1	134	52	0	31	0	43	0	0	1	0	428
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	13	402	1013	7	20	4	1196	385	6	234	5	309	0	4	4	1	3564
	Peak Hour: 4:45 PM to 5:45 PM																
Total	8	228	521	5	8	3	627	172	3	124	2	156	0	4	1	0	1843
Approach	754				802				282				5				1843
%HV	1.1%				1.0%				1.1%				n/a				1.0%
PHF	0.86				0.95				0.93				0.63				0.94



PEDs Across:	N	S	E	W	
INT 01					0
INT 02					0
INT 03	2		2		4
INT 04					0
INT 05	1	1			2
INT 06	1			12	13
INT 07			2	2	4
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	4	1	4	14	**23**

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02			1		1
INT 03			2		2
INT 04	2				2
INT 05	2				2
INT 06				1	1
INT 07			1		1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	5	0	4	1	10

1952 *1.0 PHF Peak Hour Volume*

	PHF	%HV
EB	0.63	n/a
WB	0.93	1.1%
NB	0.95	1.0%
SB	0.86	1.1%
T Int.	0.94	1.0%

Check In: 1843 Out: 1843

	N U's	S U's	E U's	W U's
	4	2	0	
	2	1	1	
	3	1	0	
	5	1	0	
	3	2	1	
	9	1	0	
	6	2	0	
	4	1	1	
	36	11	3	0

Special Notes

SAM19056TM_27p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

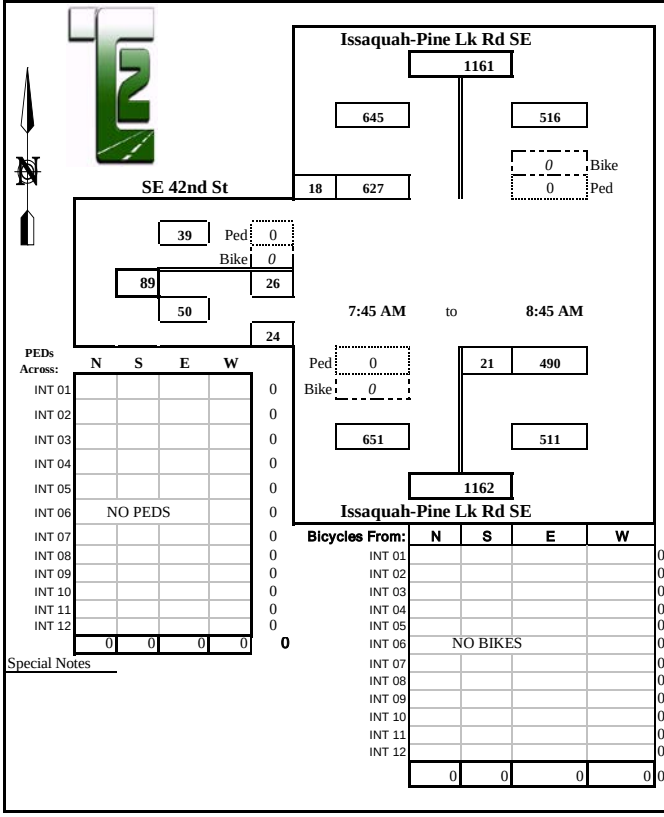
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 42nd St **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 0				From West on (EB) SE 42nd St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	3	0	116	4	3	7	87	0	0	0	0	0	1	3	0	5	222
7:30 A	2	0	111	3	2	5	101	0	0	0	0	0	0	5	0	6	231
7:45 A	5	0	145	3	1	2	117	0	0	0	0	0	0	3	0	5	275
8:00 A	4	0	133	6	0	5	122	0	0	0	0	0	1	7	0	6	279
8:15 A	3	0	146	2	4	6	131	0	0	0	0	0	0	8	0	5	298
8:30 A	3	0	184	7	0	3	124	0	0	0	0	0	1	6	0	7	331
8:45 A	13	0	164	3	5	7	113	0	0	0	0	0	3	5	0	6	298
9:00 A	4	0	137	2	4	11	101	0	0	0	0	0	6	6	0	9	266
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	37	0	1136	30	19	46	896	0	0	0	0	0	12	43	0	49	2200
Peak Hour: 7:45 AM to 8:45 AM																	
Total	23	0	627	18	9	21	490	0	0	0	0	0	5	26	0	24	1206
Approach	645				511				0				50				1206
%HV	3.6%				1.8%				n/a				10.0%				3.1%
PHF	0.84				0.93				n/a				0.96				0.91



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO PEDS				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO BIKES				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

1324 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.96	10.0%
Check	WB	n/a	n/a
In: 1206	NB	0.93	1.8%
Out: 1206	SB	0.84	3.6%
	T Int.	0.91	3.1%

Conditions:

Special Notes

SAM19056TM_29a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

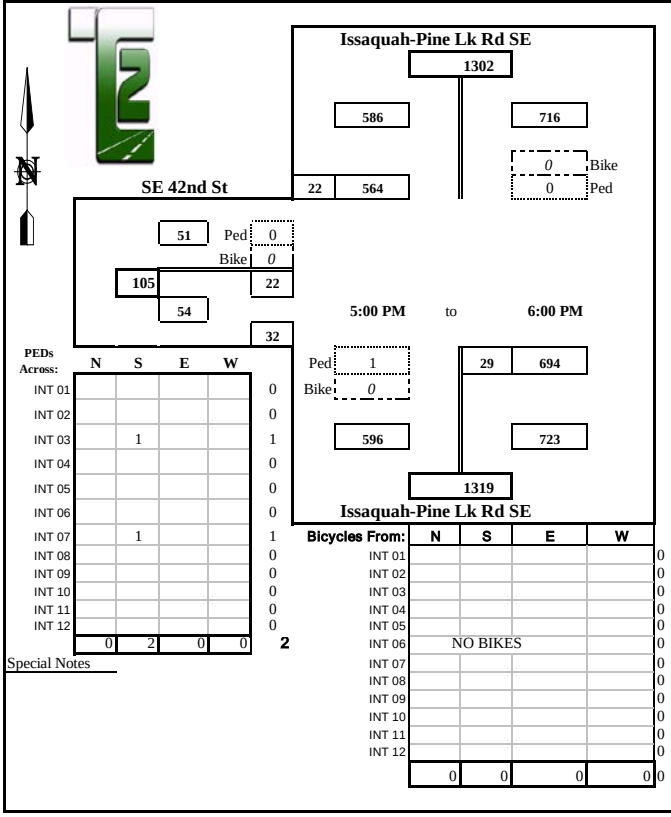
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 42nd St **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 0				From West on (EB) SE 42nd St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	3	0	148	4	4	6	143	0	0	0	0	0	0	3	0	11	315
5:00 P	1	0	163	3	1	7	151	0	0	0	0	0	0	11	0	8	343
5:15 P	2	0	152	3	2	5	179	0	0	0	0	0	0	5	0	11	355
5:30 P	2	0	130	6	2	7	162	0	0	0	0	0	0	6	0	3	314
5:45 P	1	0	135	3	2	10	167	0	0	0	0	0	0	7	0	6	328
6:00 P	1	0	147	10	2	7	186	0	0	0	0	0	2	4	0	12	366
6:15 P	1	0	109	4	4	5	169	0	0	0	0	0	0	6	0	5	298
6:30 P	1	0	125	6	2	6	157	0	0	0	0	0	0	1	0	6	301
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	12	0	1109	39	19	53	1314	0	0	0	0	0	2	43	0	62	2620
Peak Hour: 5:00 PM to 6:00 PM																	
Total	6	0	564	22	8	29	694	0	0	0	0	0	2	22	0	32	1363
Approach	586				723				0				54				1363
%HV	1.0%				1.1%				n/a				3.7%				1.2%
PHF	0.93				0.94				n/a				0.84				0.93



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03		1			1
INT 04					0
INT 05					0
INT 06					0
INT 07		1			1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	2	0	0	2

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO BIKES				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

1464 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.84	3.7%
Check	WB	n/a	n/a
In: 1363	NB	0.94	1.1%
Out: 1363	SB	0.93	1.0%
	T Int.	0.93	1.2%

Conditions:

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

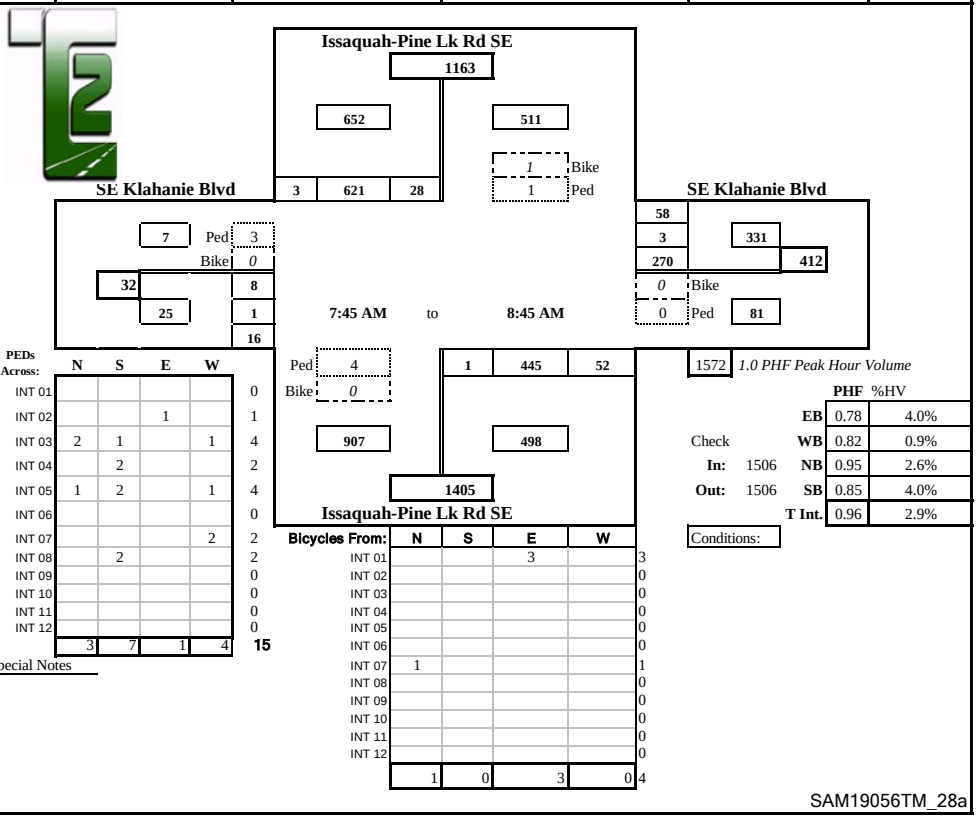
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE Klahanie Blvd **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) SE Klahanie Blvd				From West on (EB) SE Klahanie Blvd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	3	6	114	1	5	0	87	11	0	51	0	7	0	0	0	3	280
7:30 A	5	3	114	0	1	0	84	11	2	63	0	18	0	4	0	7	304
7:45 A	3	1	148	1	4	0	98	11	0	50	0	21	0	0	0	4	334
8:00 A	6	5	133	1	1	0	100	8	2	76	1	22	1	5	0	3	354
8:15 A	3	9	141	1	5	0	114	15	0	79	2	20	0	3	0	5	389
8:30 A	3	8	182	1	1	0	114	17	0	51	0	13	0	0	0	7	393
8:45 A	14	6	165	0	6	1	117	12	1	64	0	3	0	0	1	1	370
9:00 A	5	4	142	0	8	3	99	20	0	57	0	16	0	1	2	1	345
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	42	42	1139	5	31	4	813	105	5	491	3	120	1	13	3	31	2769
Peak Hour: 7:45 AM to 8:45 AM																	
Total	26	28	621	3	13	1	445	52	3	270	3	58	1	8	1	16	1506
Approach	652				498				331				25				1506
%HV	4.0%				2.6%				0.9%				4.0%				2.9%
PHF	0.85				0.95				0.82				0.78				0.96



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02			1		1
INT 03	2	1		1	4
INT 04		2			2
INT 05	1	2		1	4
INT 06					0
INT 07				2	2
INT 08		2			2
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	3	7	1	4	15

Bicycles From:

	N	S	E	W	
INT 01			3		3
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07	1				1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	3	0	4

1572 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.78	4.0%
Check	WB	0.82	0.9%
In: 1506	NB	0.95	2.6%
Out: 1506	SB	0.85	4.0%
	T Int.	0.96	2.9%

Conditions:

Special Notes

SAM19056TM_28a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

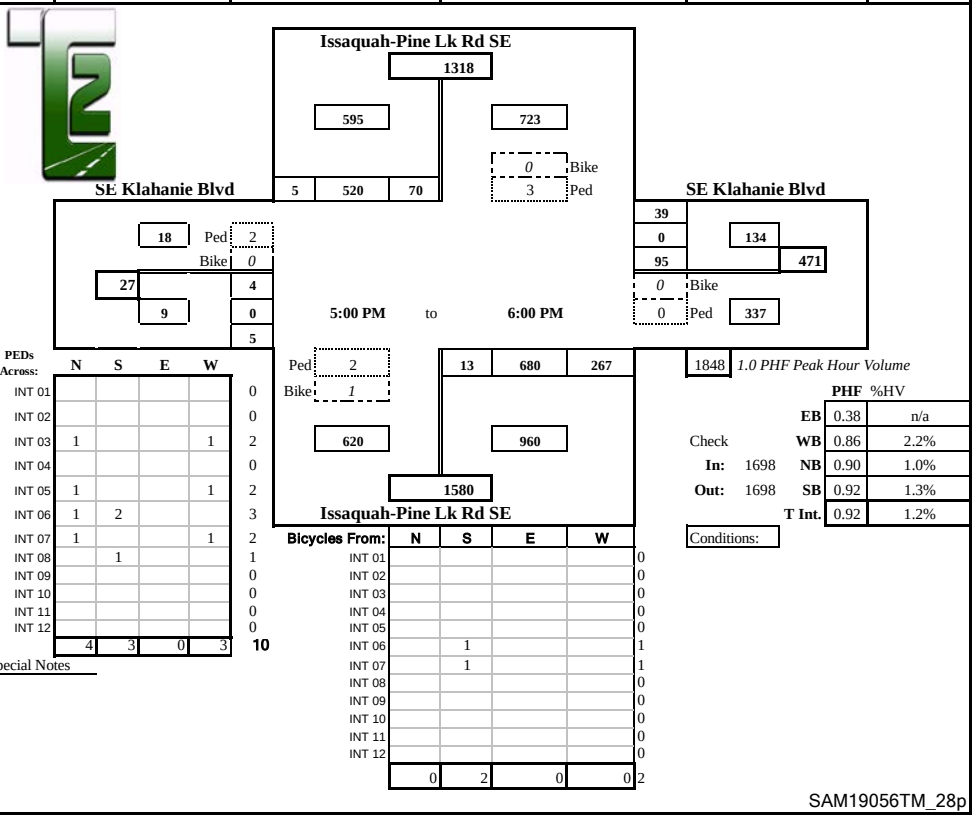
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE Klahanie Blvd **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) SE Klahanie Blvd				From West on (EB) SE Klahanie Blvd				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	3	13	146	0	2	2	137	39	1	24	1	12	0	0	0	3	377
5:00 P	2	16	154	1	2	5	153	53	0	16	0	5	0	0	0	0	403
5:15 P	2	13	147	2	2	4	178	51	1	23	0	6	0	0	0	0	424
5:30 P	2	16	116	1	3	1	156	71	1	22	0	13	0	0	0	0	396
5:45 P	1	20	121	0	1	4	162	67	1	26	0	13	0	2	0	1	416
6:00 P	3	21	136	2	4	4	184	78	0	24	0	7	0	2	0	4	462
6:15 P	1	8	103	3	4	1	166	84	0	20	0	8	0	0	1	3	397
6:30 P	1	9	122	0	2	4	152	98	1	25	0	10	0	1	0	0	421
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	15	116	1045	9	20	25	1288	541	5	180	1	74	0	5	1	11	3296
Peak Hour: 5:00 PM to 6:00 PM																	
Total	8	70	520	5	10	13	680	267	3	95	0	39	0	4	0	5	1698
Approach			595				960				134				9		1698
%HV			1.3%				1.0%				2.2%				n/a		1.2%
PHF			0.92				0.90				0.86				0.38		0.92



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03	1			1	2
INT 04					0
INT 05	1			1	2
INT 06	1	2			3
INT 07	1			1	2
INT 08		1			1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	4	3	0	3	10

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06		1			1
INT 07		1			1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	2	0	0	2

1848 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.38	n/a
Check	WB	0.86	2.2%
In: 1698	NB	0.90	1.0%
Out: 1698	SB	0.92	1.3%
	T Int.	0.92	1.2%

Conditions:

Special Notes

SAM19056TM_28p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

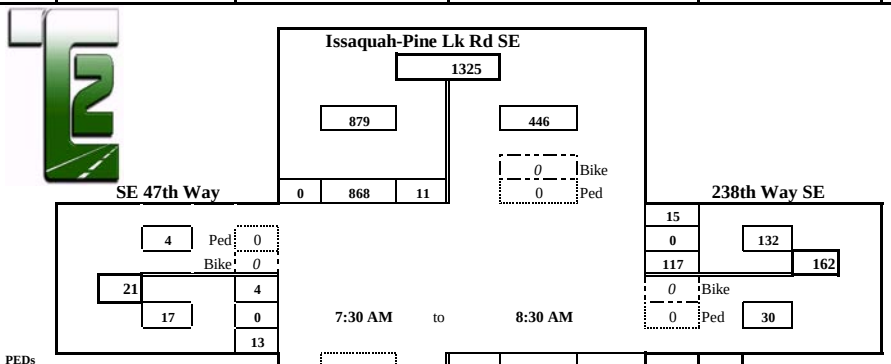
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & 238th Way SE/SE 47th Way **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 238th Way SE				From West on (EB) SE 47th Way				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	1	180	0	3	3	90	3	0	19	1	1	0	0	1	4	303
7:30 A	5	1	202	0	3	0	95	5	0	16	0	4	0	0	0	1	324
7:45 A	2	2	220	0	3	1	94	5	0	26	0	1	0	0	0	5	354
8:00 A	5	3	212	0	1	2	101	1	0	39	0	6	0	1	0	1	366
8:15 A	5	5	236	0	5	0	117	10	0	22	0	6	0	3	0	5	404
8:30 A	3	1	200	0	2	1	115	3	0	30	0	2	0	0	0	2	354
8:45 A	7	3	186	0	4	1	108	5	0	14	0	0	0	0	0	1	318
9:00 A	1	6	198	0	4	5	119	9	0	32	0	3	0	0	0	1	373
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	30	22	1634	0	25	13	839	41	0	198	1	23	0	4	1	20	2796
Peak Hour:	7:30 AM to 8:30 AM																
Total	15	11	868	0	11	4	427	19	0	117	0	15	0	4	0	13	1478
Approach	879				450				132				17				1478
%HV	1.7%				2.4%				n/a				n/a				1.8%
PHF	0.91				0.89				0.73				0.53				0.91



PEDs Across:	N	S	E	W	
INT 01		1			1
INT 02					0
INT 03					0
INT 04					0
INT 05		4			4
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	5	0	0	5

Bicycles From:	N	S	E	W	
INT 01		1			1
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06					0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	1	0	0	1

1616 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.53	n/a
Check	WB	0.73	n/a
In: 1478	NB	0.89	2.4%
Out: 1478	SB	0.91	1.7%
	T Int.	0.91	1.8%

Conditions:

Special Notes

SAM19056TM_30a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

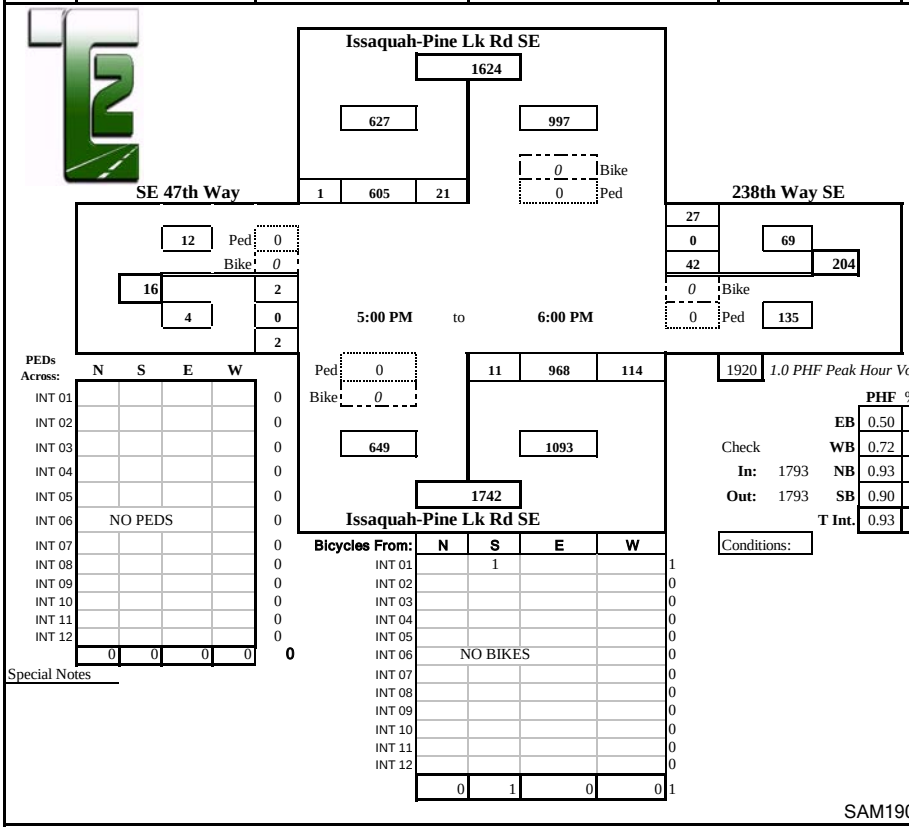
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & 238th Way SE/SE 47th Way **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 238th Way SE				From West on (EB) SE 47th Way				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	4	164	0	2	0	186	20	0	5	0	2	0	0	0	0	381
5:00 P	4	4	159	3	1	0	221	23	0	11	0	2	0	0	0	5	428
5:15 P	2	4	161	0	3	4	224	30	0	6	0	10	0	1	0	1	441
5:30 P	3	6	137	1	1	2	244	22	0	15	0	9	0	0	0	0	436
5:45 P	1	4	139	0	2	5	235	34	0	12	0	5	0	1	0	1	436
6:00 P	1	7	168	0	3	0	265	28	0	9	0	3	0	0	0	0	480
6:15 P	1	3	123	1	2	0	186	20	0	9	0	4	0	2	0	1	349
6:30 P	0	6	137	0	1	0	221	23	0	10	0	3	0	0	0	1	401
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	13	38	1188	5	15	11	1782	200	0	77	0	38	0	4	0	9	3352
Peak Hour: 5:00 PM to 6:00 PM																	
Total	7	21	605	1	9	11	968	114	0	42	0	27	0	2	0	2	1793
Approach	627				1093				69				4				1793
%HV	1.1%				0.8%				n/a				n/a				0.9%
PHF	0.90				0.93				0.72				0.50				0.93



SAM19056TM_30p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

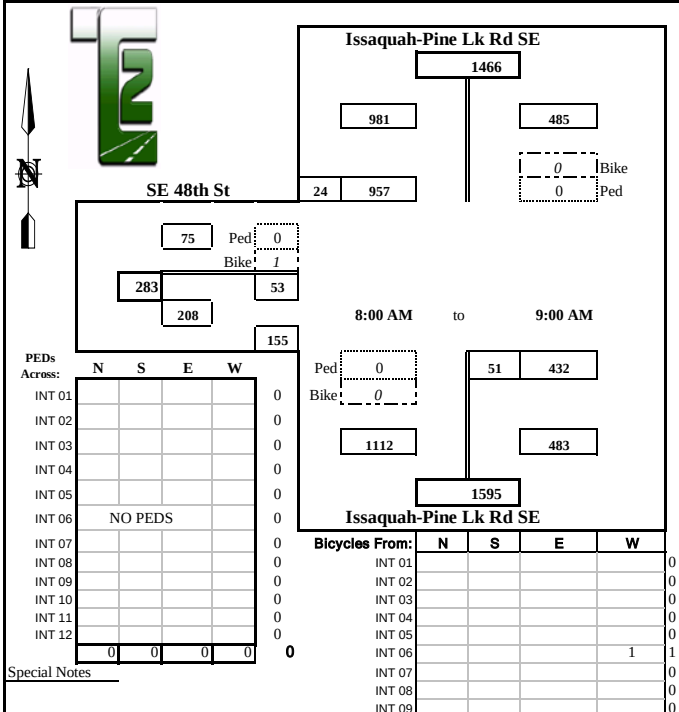
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 48th St **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 0				From West on (EB) SE 48th St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	2	0	201	2	3	6	93	0	0	0	0	0	0	3	0	26	331
7:30 A	4	0	222	2	7	14	91	0	0	0	0	0	0	2	0	31	362
7:45 A	2	0	241	0	5	8	86	0	0	0	0	0	1	7	0	41	383
8:00 A	4	0	247	2	1	12	83	0	0	0	0	0	1	7	0	53	404
8:15 A	5	0	281	8	3	10	99	0	0	0	0	0	0	23	0	37	458
8:30 A	3	0	236	6	4	13	120	0	0	0	0	0	2	10	0	32	417
8:45 A	10	0	199	8	3	15	97	0	0	0	0	0	3	10	0	46	375
9:00 A	3	0	241	2	5	13	116	0	0	0	0	0	3	10	0	40	422
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	33	0	1868	30	31	91	785	0	0	0	0	0	10	72	0	306	3152
Peak Hour:	8:00 AM to 9:00 AM																
Total	21	0	957	24	15	51	432	0	0	0	0	0	8	53	0	155	1672
Approach	981				483				0				208				1672
%HV	2.1%				3.1%				n/a				3.8%				2.6%
PHF	0.85				0.91				n/a				0.87				0.91



PEDs Across:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO PEDS				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	**0**

Bicycles From:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06				1	1
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	1	1

1832 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.87	3.8%
Check	WB	n/a	n/a
In: 1672	NB	0.91	3.1%
Out: 1672	SB	0.85	2.1%
	T Int.	0.91	2.6%

Conditions:

Special Notes

SAM19056TM_31a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

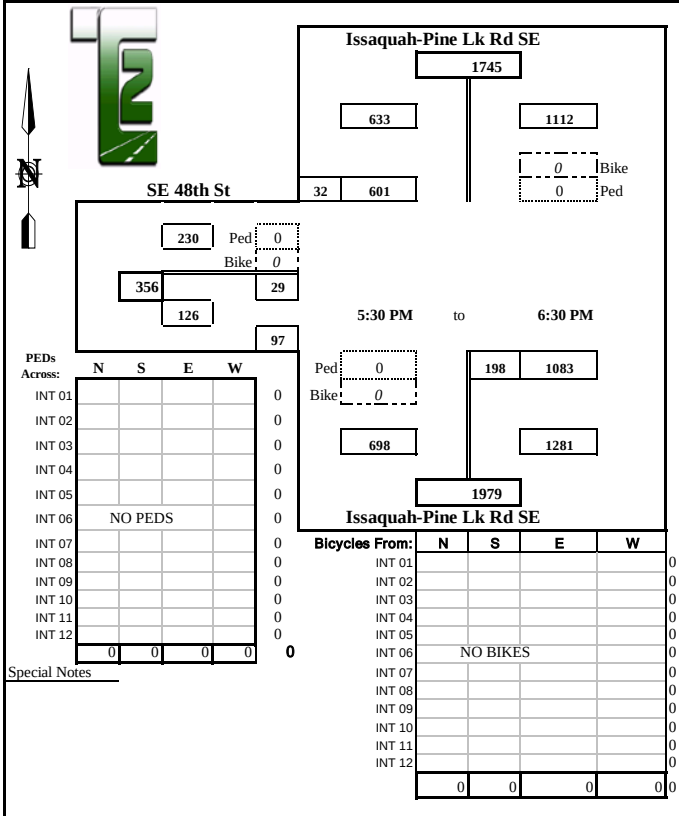
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Issaquah-Pine Lake Rd SE & SE 48th St **Date of Count:** Thurs 5/16/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) Issaquah-Pine Lk Rd SE				From South on (NB) Issaquah-Pine Lk Rd SE				From East on (WB) 0				From West on (EB) SE 48th St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	2	0	169	4	2	35	193	0	0	0	0	0	0	8	0	16	425
5:00 P	2	0	174	10	1	30	256	0	0	0	0	0	0	7	0	19	496
5:15 P	4	0	166	5	3	39	242	0	0	0	0	0	0	11	0	20	483
5:30 P	3	0	144	14	2	46	268	0	0	0	0	0	0	5	0	22	499
5:45 P	1	0	155	11	4	50	249	0	0	0	0	0	0	11	0	30	506
6:00 P	3	0	171	8	2	42	273	0	0	0	0	0	0	9	0	22	525
6:15 P	1	0	137	6	4	46	284	0	0	0	0	0	0	4	0	25	502
6:30 P	1	0	138	7	1	60	277	0	0	0	0	0	0	5	0	20	507
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	17	0	1254	65	19	348	2042	0	0	0	0	0	0	60	0	174	3943
Peak Hour: 5:30 PM to 6:30 PM																	
Total	6	0	601	32	11	198	1083	0	0	0	0	0	0	29	0	97	2040
Approach	633				1281				0				126				2040
%HV	0.9%				0.9%				n/a				n/a				0.8%
PHF	0.88				0.95				n/a				0.77				0.97



PEDs Across:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO PEDS				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Bicycles From:

	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO BIKES				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Special Notes

2100 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.77	n/a
Check	WB	n/a	n/a
In: 2040	NB	0.95	0.9%
Out: 2040	SB	0.88	0.9%
	T Int.	0.97	0.8%

Conditions:

SAM19056TM_31p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

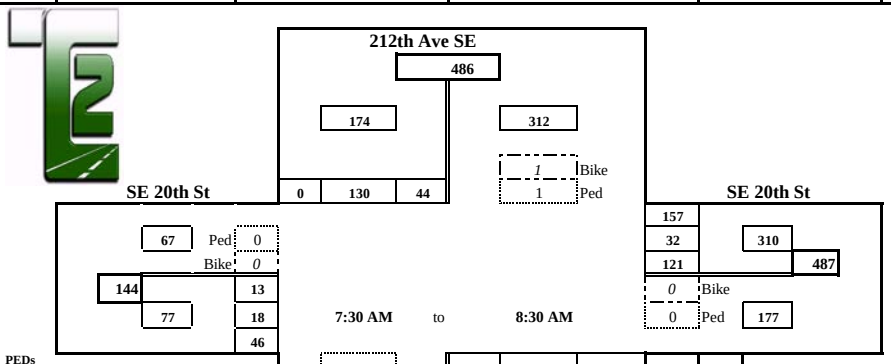
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 212th Ave SE & SE 20th St **Date of Count:** Tues 4/30/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 212th Ave SE				From South on (NB) 212th Ave SE				From East on (WB) SE 20th St				From West on (EB) SE 20th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	0	10	23	1	1	6	21	13	1	22	2	29	0	3	3	5	138
7:30 A	0	10	31	1	4	6	26	21	0	11	5	27	0	2	5	6	151
7:45 A	1	5	27	0	2	6	38	55	0	24	5	28	1	3	6	9	206
8:00 A	0	10	33	0	1	11	31	41	0	32	7	41	0	2	7	16	231
8:15 A	1	17	32	0	1	15	44	10	2	46	8	38	0	3	2	6	221
8:30 A	0	12	38	0	1	3	29	9	3	19	12	50	1	5	3	15	195
8:45 A	1	12	35	1	3	2	27	9	3	17	11	24	0	0	8	4	150
9:00 A	2	19	32	3	3	17	43	22	1	12	13	31	1	2	10	9	213
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	5	95	251	6	16	66	259	180	10	183	63	268	3	20	44	70	1505
Peak Hour: 7:30 AM to 8:30 AM																	
Total	2	44	130	0	5	35	142	115	5	121	32	157	2	13	18	46	853
Approach	174				292				310				77				853
%HV	1.1%				1.7%				1.6%				2.6%				1.6%
PHF	0.87				0.74				0.84				0.77				0.92



PEDs Across:	N	S	E	W	
INT 01					0
INT 02	3			2	5
INT 03					0
INT 04	1				1
INT 05					0
INT 06					0
INT 07	1				1
INT 08	16				16
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	21	0	0	2	23

Bicycles From:	N	S	E	W	
INT 01			2		2
INT 02			1		1
INT 03					0
INT 04					0
INT 05					0
INT 06	1	1			2
INT 07		1	1		2
INT 08			1		1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	2	5	0	8

924 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.77	2.6%
Check	WB	0.84	1.6%
In: 853	NB	0.74	1.7%
Out: 853	SB	0.87	1.1%
	T Int.	0.92	1.6%

Conditions:

Special Notes

SAM19056TM_49a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

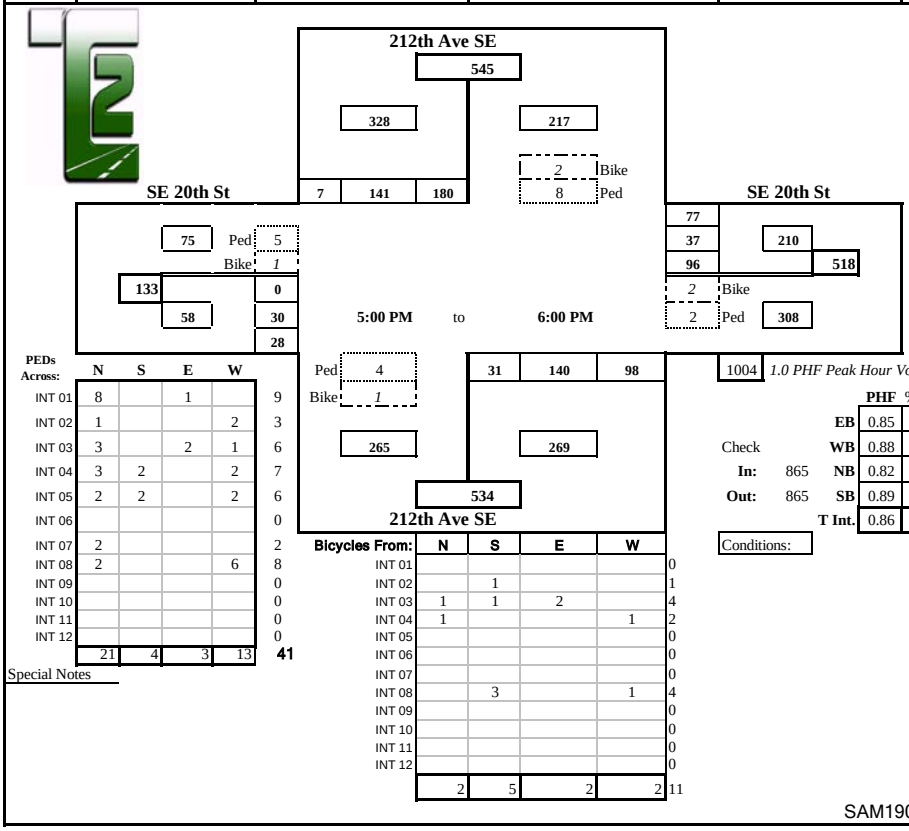
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 212th Ave SE & SE 20th St **Date of Count:** Tues 4/30/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval Ending at	From North on (SB) 212th Ave SE				From South on (NB) 212th Ave SE				From East on (WB) SE 20th St				From West on (EB) SE 20th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	1	35	40	3	1	13	38	20	3	29	7	22	1	3	6	3	219
5:00 P	0	39	31	2	1	10	28	24	0	23	5	12	0	2	8	10	194
5:15 P	1	45	39	1	0	6	32	22	0	28	9	13	0	0	5	8	208
5:30 P	0	54	23	1	0	10	31	22	0	29	7	21	0	0	6	6	210
5:45 P	0	44	45	3	0	4	53	25	0	24	12	24	0	0	11	6	251
6:00 P	0	37	34	2	0	11	24	29	0	15	9	19	0	0	8	8	196
6:15 P	0	40	23	1	0	4	32	26	0	34	6	20	0	1	8	4	199
6:30 P	0	23	31	1	1	6	37	22	0	23	12	15	0	1	12	3	186
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	2	317	266	14	3	64	275	190	3	205	67	146	1	7	64	48	1663
Peak Hour: 5:00 PM to 6:00 PM																	
Total	1	180	141	7	0	31	140	98	0	96	37	77	0	0	30	28	865
Approach	328				269				210				58				865
%HV	0.3%				n/a				n/a				n/a				0.1%
PHF	0.89				0.82				0.88				0.85				0.86



PEDs Across:	N	S	E	W	
INT 01	8		1		9
INT 02	1			2	3
INT 03	3		2	1	6
INT 04	3	2		2	7
INT 05	2	2		2	6
INT 06					0
INT 07	2				2
INT 08	2			6	8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	21	4	3	13	41

Bicycles From:	N	S	E	W	
INT 01					0
INT 02		1			1
INT 03	1	1	2		4
INT 04	1			1	2
INT 05					0
INT 06					0
INT 07					0
INT 08		3		1	4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	2	5	2	2	11

1004 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.85	n/a
Check	WB	0.88	n/a
In: 865	NB	0.82	n/a
Out: 865	SB	0.89	0.3%
	T Int.	0.86	0.1%

Conditions:

Special Notes

SAM19056TM_49p

PRJ19-00008 Attachment 060

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

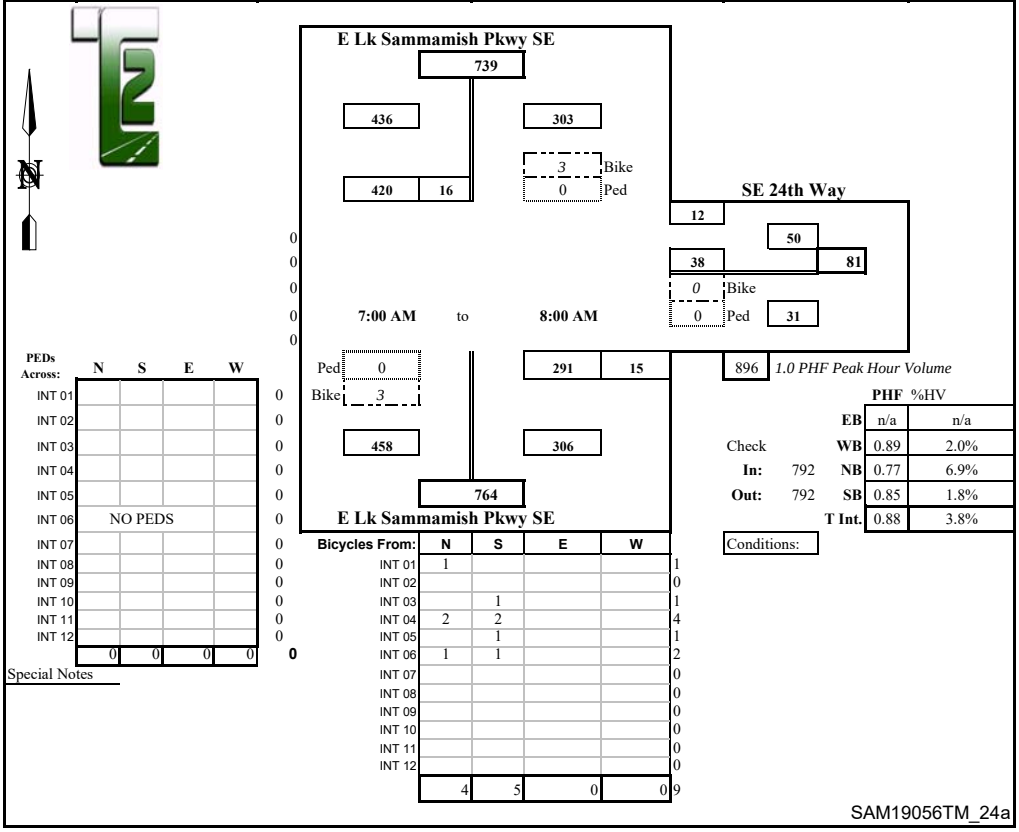
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: E Lake Sammamish Pkwy SE & SE 24th Way **Date of Count:** Tues 4/30/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) E Lk Sammamish Pkwy SE				From South on (NB) E Lk Sammamish Pkwy SE				From East on (WB) SE 24th Way				From West on (EB) 0				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	1	4	75	0	5	0	62	4	0	9	0	3	0	0	0	0	157
7:30 A	4	6	113	0	3	0	61	5	1	9	0	2	0	0	0	0	196
7:45 A	2	3	125	0	7	0	69	5	0	11	0	2	0	0	0	0	215
8:00 A	1	3	107	0	6	0	99	1	0	9	0	5	0	0	0	0	224
8:15 A	0	1	82	0	1	0	63	1	0	4	0	2	0	0	0	0	153
8:30 A	2	1	68	0	5	0	95	1	0	6	0	2	0	0	0	0	173
8:45 A	1	1	104	0	3	0	73	4	1	4	0	3	0	0	0	0	189
9:00 A	7	6	81	0	5	0	50	2	1	10	0	2	0	0	0	0	151
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	18	25	755	0	35	0	572	23	3	62	0	21	0	0	0	0	1458
Peak Hour: 7:00 AM to 8:00 AM																	
Total	8	16	420	0	21	0	291	15	1	38	0	12	0	0	0	0	792
Approach	436				306				50				0				792
%HV	1.8%				6.9%				2.0%				n/a				3.8%
PHF	0.85				0.77				0.89				n/a				0.88



PEDs Across:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	NO PEDS				0
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	0	0	0

Bicycles From:	N	S	E	W	
INT 01	1				1
INT 02					0
INT 03		1			1
INT 04	2	2			4
INT 05		1			1
INT 06	1	1			2
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	4	5	0	0	9

		PHF	%HV
	EB	n/a	n/a
Check	WB	0.89	2.0%
In: 792	NB	0.77	6.9%
Out: 792	SB	0.85	1.8%
	T Int.	0.88	3.8%

Conditions:

Special Notes

SAM19056TM_24a

Prepared for: **City of Sammamish**

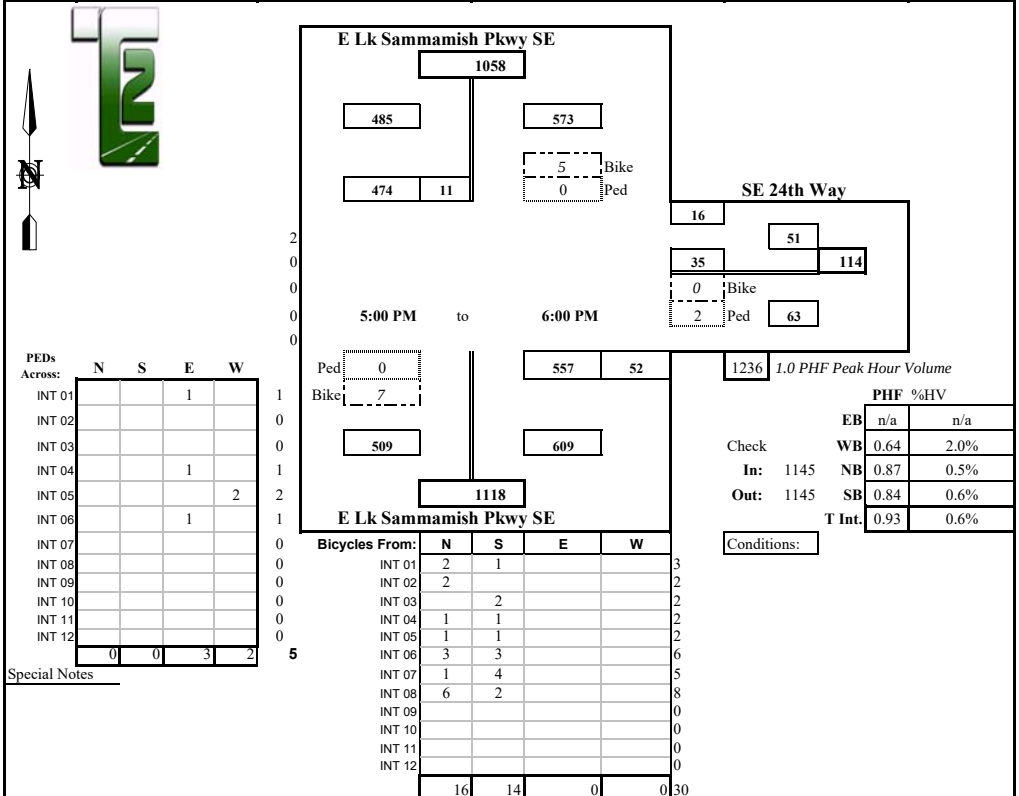
Traffic Count Consultants, Inc.

Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: E Lake Sammamish Pkwy SE & SE 24th Way
Location: Sammamish, Washington
Date of Count: Tues 4/30/2019
Checked By: Jess

Time Interval	From North on (SB) E Lk Sammamish Pkwy SE				From South on (NB) E Lk Sammamish Pkwy SE				From East on (WB) SE 24th Way				From West on (EB) 0				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	4	4	139	0	0	0	129	2	0	6	0	2	0	0	0	0	282
5:00 P	3	2	120	0	3	0	105	6	0	6	0	0	0	0	0	0	239
5:15 P	1	4	141	0	1	0	128	7	1	6	0	1	0	0	0	0	287
5:30 P	1	0	113	0	1	0	158	18	0	15	0	5	0	0	0	0	309
5:45 P	0	2	98	0	1	0	139	14	0	7	0	1	0	0	0	0	261
6:00 P	1	5	122	0	0	0	132	13	0	7	0	9	0	0	0	0	288
6:15 P	0	2	93	0	3	0	91	13	0	2	0	4	0	0	0	0	205
6:30 P	1	4	88	0	3	0	108	16	0	11	0	5	0	0	0	0	232
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	11	23	914	0	12	0	990	89	1	60	0	27	0	0	0	0	2103
Peak Hour: 5:00 PM to 6:00 PM																	
Total	3	11	474	0	3	0	557	52	1	35	0	16	0	0	0	0	1145
Approach			485				609				51				0		1145
%HV			0.6%				0.5%				2.0%				n/a		0.6%
PHF			0.84				0.87				0.64				n/a		0.93



PEDs Across:	N	S	E	W	
INT 01			1		1
INT 02					0
INT 03					0
INT 04			1		1
INT 05				2	2
INT 06			1		1
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	3	2	5

Bicycles From:	N	S	E	W	
INT 01	2	1			3
INT 02	2				2
INT 03		2			2
INT 04	1	1			2
INT 05	1	1			2
INT 06	3	3			6
INT 07	1	4			5
INT 08	6	2			8
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	16	14	0	0	30

		PHF	%HV
	EB	n/a	n/a
Check	WB	0.64	2.0%
In: 1145	NB	0.87	0.5%
Out: 1145	SB	0.84	0.6%
	T Int.	0.93	0.6%

Conditions:

Special Notes

SAM19056TM_24p

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

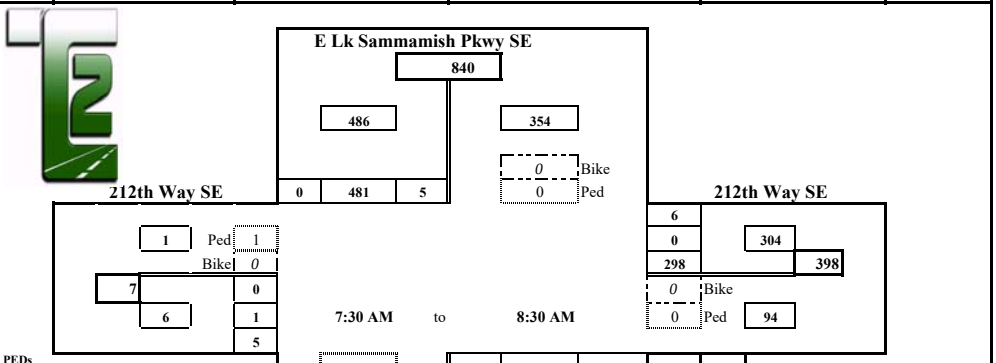
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: E Lake Sammamish Pkwy SE & 212th Way SE **Date of Count:** Tues 4/30/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) E Lk Sammamish Pkwy SE				From South on (NB) E Lk Sammamish Pkwy SE				From East on (WB) 212th Way SE				From West on (EB) 212th Way SE				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	1	0	100	0	5	0	57	21	0	60	0	0	0	0	0	2	240
7:30 A	3	3	148	0	2	0	64	21	1	58	0	1	0	0	0	2	297
7:45 A	2	1	140	0	10	0	79	21	0	60	0	2	0	0	1	1	305
8:00 A	1	0	145	0	2	0	82	23	1	79	0	2	0	0	0	0	331
8:15 A	0	3	87	0	2	1	80	20	0	91	0	2	0	0	0	2	286
8:30 A	1	1	109	0	6	0	107	24	0	68	0	0	0	0	0	2	311
8:45 A	1	0	104	0	5	1	71	20	0	63	0	0	0	1	0	2	262
9:00 A	7	3	118	0	1	0	49	25	0	63	0	4	0	0	0	1	263
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	16	11	951	0	33	2	589	175	2	542	0	11	0	1	1	12	2295
Peak Hour: 7:30 AM to 8:30 AM																	
Total	4	5	481	0	20	1	348	88	1	298	0	6	0	0	1	5	1233
Approach			486				437				304				6		1233
%HV			0.8%				4.6%				0.3%				n/a		2.0%
PHF			0.84				0.83				0.82				0.75		0.93



PEDs Across:	N	S	E	W	
INT 01			1		1
INT 02					0
INT 03					0
INT 04				1	1
INT 05					0
INT 06					0
INT 07				1	1
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	0	1	2	3

Bicycles From:	N	S	E	W	
INT 01			1		1
INT 02					0
INT 03		2			2
INT 04		1			1
INT 05		1			1
INT 06					0
INT 07			1		1
INT 08		1			1
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	0	5	2	0	7

1324 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.75	n/a
Check	WB	0.82	0.3%
In: 1233	NB	0.83	4.6%
Out: 1233	SB	0.84	0.8%
	T Int.	0.93	2.0%

Conditions:

Special Notes

SAM19056TM_23a

Prepared for: **City of Sammamish**

Traffic Count Consultants, Inc.

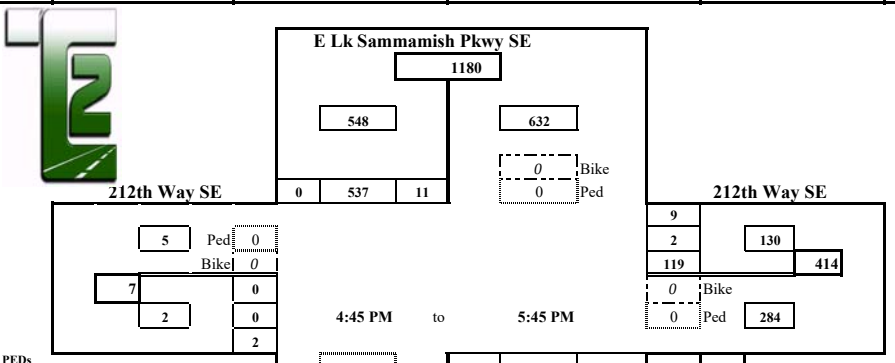
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: E Lake Sammamish Pkwy SE & 212th Way SE **Date of Count:** Tues 4/30/2019

Location: Sammamish, Washington **Checked By:** Jess

Time Interval	From North on (SB) E Lk Sammamish Pkwy SE				From South on (NB) E Lk Sammamish Pkwy SE				From East on (WB) 212th Way SE				From West on (EB) 212th Way SE				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:45 P	3	7	135	0	0	2	142	53	1	36	0	4	0	0	1	0	380
5:00 P	7	1	141	0	4	2	131	64	0	31	0	2	0	0	0	0	372
5:15 P	2	4	129	0	0	0	146	60	0	31	1	2	0	0	0	0	373
5:30 P	1	2	137	0	2	1	176	72	0	29	1	5	0	0	0	0	423
5:45 P	2	4	130	0	1	0	170	77	0	28	0	0	0	0	0	2	411
6:00 P	2	3	115	0	2	2	142	45	0	27	0	1	0	0	0	0	335
6:15 P	1	3	96	0	4	0	123	64	1	27	0	1	0	0	0	0	314
6:30 P	2	2	104	1	2	2	141	71	0	22	1	1	0	0	0	1	346
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	20	26	987	1	15	9	1171	506	2	231	3	16	0	0	1	3	2954
Peak Hour: 4:45 PM to 5:45 PM																	
Total	12	11	537	0	7	3	623	273	0	119	2	9	0	0	0	2	1579
Approach	548				899				130				2				1579
%HV	2.2%				0.8%				n/a				n/a				1.2%
PHF	0.96				0.90				0.93				0.25				0.93



PEDs Across:	N	S	E	W	
INT 01					0
INT 02					0
INT 03					0
INT 04					0
INT 05					0
INT 06	1			1	2
INT 07					0
INT 08					0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	1	0	0	1	2

Special Notes

Ped 0
Bike 3

3 623 273

658 899

1557

E Lk Sammamish Pkwy SE

Bicycles From:	N	S	E	W	
INT 01			1		1
INT 02		1			1
INT 03					0
INT 04		1			1
INT 05		1			1
INT 06	3	1	1		5
INT 07	2	2			4
INT 08	2	2			4
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	7	8	2	0	17

1692 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.25	n/a
Check	WB	0.93	n/a
In: 1579	NB	0.90	0.8%
Out: 1579	SB	0.96	2.2%
	T Int.	0.93	1.2%

Conditions:

SAM19056TM_23p

Prepared for: **The City of Issaquah**

Traffic Count Consultants, Inc.

Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Providence Point Dr SE & SE 43rd Way **Date of Count:** Wed 3/22/2017

Location: Issaquah, Washington **Checked By:** Jess

Time Interval	From North on (SB) Providence Point Dr SE				From South on (NB) 0				From East on (WB) SE 43rd Way				From West on (EB) SE 43rd Way				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	0	14	0	0	0	0	2	0	159	2	1	5	181	0	361
4:30 P	0	0	0	13	0	0	0	0	1	0	138	3	2	3	170	0	327
4:45 P	0	0	0	7	0	0	0	0	2	0	135	0	0	12	202	0	356
5:00 P	1	0	0	10	0	0	0	0	0	0	129	2	0	8	186	0	335
5:15 P	0	0	0	8	0	0	0	0	1	0	133	0	1	6	257	0	404
5:30 P	0	0	0	13	0	0	0	0	2	0	150	1	0	4	252	0	420
5:45 P	0	1	0	6	0	0	0	0	1	0	128	1	2	9	262	0	407
6:00 P	0	0	0	6	0	0	0	0	0	0	112	1	0	4	262	0	385
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	2	3	4	5	6	7	8	9
	Southbound		Westbound		Northbound		Eastbound	
	Total Appr	HV	al Apprd	HV	l Appr	HV	Total Approad	HV
4:15 P	7	0	135	2	0	0	214	0
4:30 P	10	1	131	0	0	0	194	0
4:45 P	8	0	133	1	0	0	263	1
5:00 P	13	0	151	2	0	0	256	0
5:15 P	7	0	129	1	0	0	271	2
5:30 P	6	0	113	0	0	0	266	0
5:45 P	0	0	0	0	0	0	0	0
6:00 P	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0

	3	4	5				11	12	13				7	8	9				15	16	17			
	Southbound						Westbound						Northbound						Eastbound					
	SBL2	SBL	SBT	SBR	SBR2	SBP	WBL2	WBL	WBT	WBR	WBR2	WBP	NBL2	NBL	NBT	NBR	NBR2	NBP	EBL2	EBL	EBT	EBR	EBR2	EBP
PM Peak Hour Data		1	0	37				0	540	4				0	0	0				27	957	0		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Southbound		Westbound		Northbound		Eastbound		Int
SBPHF	SBTrk	WBPHF	WBTrk	NBPHF	NBTrk	EBPHF	EBTrk	PHF
0.73	0.0%	0.90	0.6%	#DIV/0!	#####	0.91	0.2%	0.96
25	26	27	28	29	30	31	32	33	34

Pedestrians			
North Leg	East Leg	South Leg	West Leg
11	0	9	1

Bicycles			
North Leg	East Leg	South Leg	West Leg
9	0	9	0

PRJ19-00008 Attachment 060

Prepared for: **The City of Issaquah**

Traffic Count Consultants, Inc.

Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Providence Point Pl SE & SE 43rd Way **Date of Count:** Wed 3/22/2017

Location: Issaquah, Washington **Checked By:** Jess

Time Interval	From North on (SB) 0				From South on (NB) Providence Point Pl SE				From East on (WB) SE 43rd Way				From West on (EB) SE 43rd Way				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	0	0	1	1	0	7	2	8	165	0	1	0	179	0	360
4:30 P	0	0	0	0	0	6	0	1	1	5	146	0	2	0	172	0	330
4:45 P	0	0	0	0	0	5	0	7	2	1	141	0	0	0	207	0	361
5:00 P	0	0	0	0	0	3	0	2	0	3	136	0	0	0	192	0	336
5:15 P	0	0	0	0	0	4	0	3	1	4	137	0	1	0	260	0	408
5:30 P	0	0	0	0	0	0	0	2	2	2	161	0	0	0	254	0	419
5:45 P	0	0	0	0	0	3	0	5	1	3	131	0	2	0	266	0	408
6:00 P	0	0	0	0	0	1	0	3	0	1	117	0	0	0	263	0	385
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	2 Southbound Total Appr	3 HV	4 Westbound al Apprd	5 HV	6 Northbound l Appr	7 HV	8 Eastbound Total Approad	9 HV
4:15 P	0	0	142	2	12	0	207	0
4:30 P	0	0	139	0	5	0	192	0
4:45 P	0	0	141	1	7	0	260	1
5:00 P	0	0	163	2	2	0	254	0
5:15 P	0	0	134	1	8	0	266	2
5:30 P	0	0	118	0	4	0	263	0
5:45 P	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0

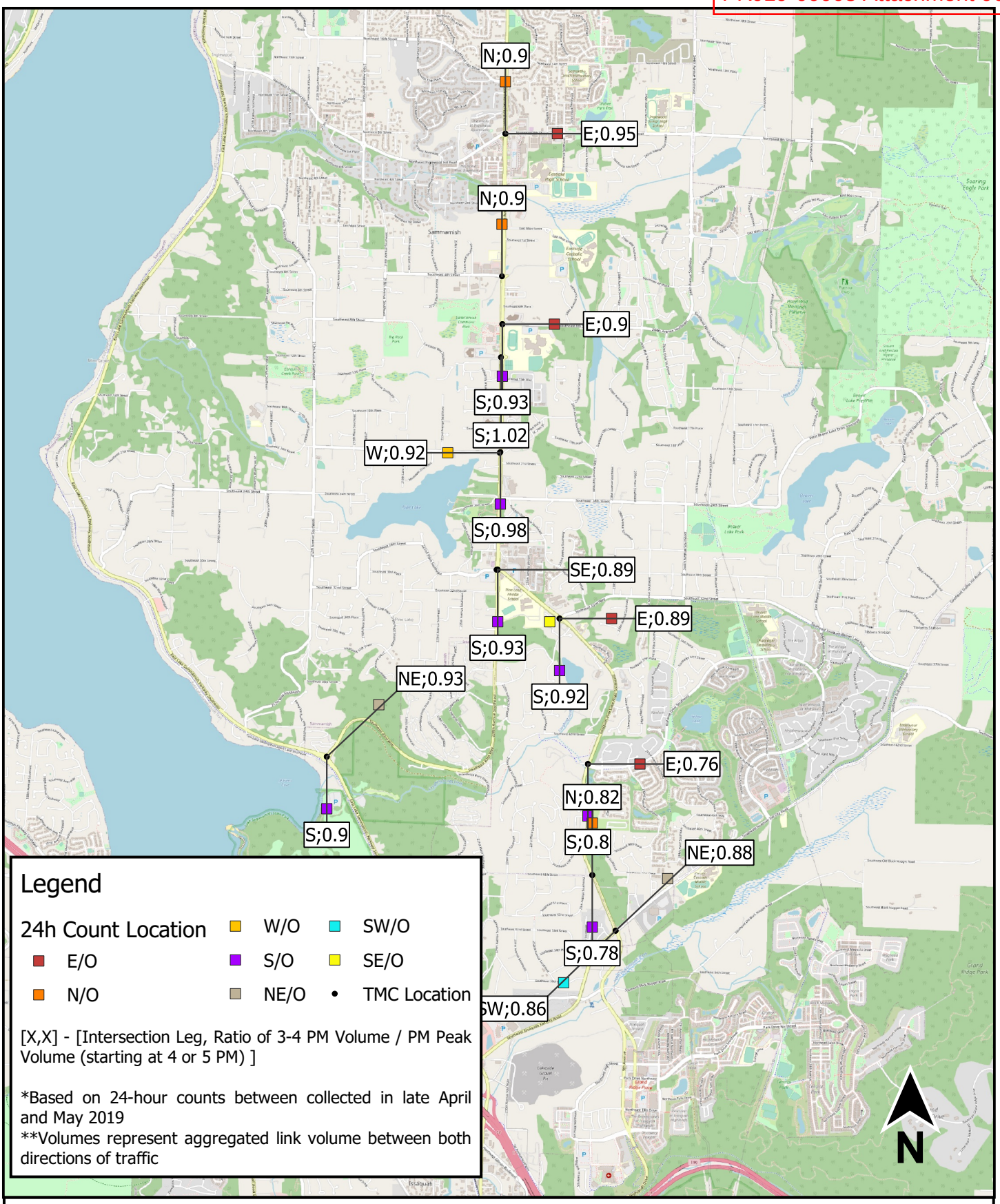
	3	4	5				11	12	13				7	8	9				15	16	17			
	Southbound						Westbound						Northbound						Eastbound					
	SBL2	SBL	SBT	SBR	SBR2	SBP	WBL2	WBL	WBT	WBR	WBR2	WBP	NBL2	NBL	NBT	NBR	NBR2	NBP	EBL2	EBL	EBT	EBR	EBR2	EBP
PM Peak Hour Data		0	0	0				12	565	0				10	0	12				0	972	0		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Southbound		Westbound		Northbound		Eastbound		Int
SBPHF	SBTrk	WBPHF	WBTrk	NBPHF	NBTrk	EBPHF	EBTrk	PHF
#DIV/0!	######	0.88	0.5%	0.69	0.0%	0.91	0.2%	0.94
25	26	27	28	29	30	31	32	33	34

Pedestrians			
North Leg	East Leg	South Leg	West Leg
11	0	9	1

Bicycles			
North Leg	East Leg	South Leg	West Leg
9	0	9	0

PRJ19-00008 Attachment 060



Legend

24h Count Location

E/O	W/O	SW/O
N/O	S/O	SE/O
	NE/O	• TMC Location

[X,X] - [Intersection Leg, Ratio of 3-4 PM Volume / PM Peak Volume (starting at 4 or 5 PM)]

*Based on 24-hour counts between collected in late April and May 2019

**Volumes represent aggregated link volume between both directions of traffic

Issaquah School District
HS #4 and ES #17

Comparison of Afternoon with Early Evening Peak Hour Volumes by Intersection Leg at Study Corridors

heffron transportation inc

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
228TH AVE SE N/O
SE 4TH ST
LOC# 08 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 08

Date Start: 11-May-19
Date End: 17-May-19

	11-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	91	73	104	86	28	27	21	28	32	20	31	26	49	43	51	43
01:00	29	48	38	34	18	14	14	9	10	15	11	11	22	28	20	23
02:00	20	18	27	25	16	14	10	14	11	19	15	12	17	12	17	16
03:00	10	16	16	20	16	12	14	20	24	27	17	20	16	20	16	19
04:00	30	30	28	19	41	56	62	52	48	58	58	59	44	58	44	47
05:00	39	59	36	52	115	192	105	181	116	199	98	170	114	180	89	148
06:00	107	139	82	78	375	391	368	435	396	435	399	412	372	398	300	327
07:00	259	277	161	172	881	**844**	883	**897**	929	886	856	808	887	**907**	694	684
08:00	493	535	364	407	**964**	844	907	823	926	865	939	**955**	892	866	784	756
09:00	799	760	557	551	890	787	**930**	814	**941**	**917**	**950**	870	**936**	789	**858**	**784**
10:00	850	890	**754**	698	666	647	636	636	711	624	643	642	703	710	709	692
11:00	**945**	**992**	710	**747**	685	620	713	597	731	651	770	659	785	729	763	714
12:00 PM	**1010**	**1013**	764	756	729	694	793	691	844	758	798	761	834	727	825	771
01:00	906	932	774	765	675	640	679	670	821	775	667	724	720	738	749	749
02:00	912	894	691	721	780	803	771	822	783	943	808	866	878	872	803	846
03:00	872	886	684	**766**	1029	870	1016	960	998	882	1018	866	1114	965	962	885
04:00	831	903	**811**	741	1015	940	**1069**	956	1110	964	1036	946	960	1029	976	926
05:00	825	835	750	721	**1122**	**1044**	1065	**1110**	**1129**	**1163**	**1038**	1062	**1120**	**1156**	**1007**	**1013**
06:00	711	732	710	626	989	969	953	951	1107	1036	1023	**1070**	932	1016	918	914
07:00	628	561	530	507	668	679	725	672	753	786	815	734	811	761	704	671
08:00	581	507	451	431	540	539	535	547	566	525	499	472	628	628	543	521
09:00	436	367	313	231	363	271	312	245	356	308	327	296	469	439	368	308
10:00	284	246	164	151	121	136	149	130	152	146	140	155	312	295	189	180
11:00	226	148	73	51	73	43	78	59	89	71	82	81	169	124	113	82
Lane	11894	11861	9592	9356	12799	12076	12808	12319	13583	13073	13038	12677	13784	13490	12500	12122
Day	23755		18948		24875		25127		26656		25715		27274		24621	
AM Peak	11:00	11:00	10:00	11:00	8:00	7:00	9:00	7:00	9:00	9:00	9:00	8:00	9:00	7:00	9:00	9:00
Vol.	945	992	754	747	964	844	930	897	941	917	950	955	936	907	858	784
PM Peak	12:00	12:00	16:00	15:00	17:00	17:00	16:00	17:00	17:00	17:00	17:00	18:00	17:00	17:00	17:00	17:00
Vol.	1010	1013	811	766	1122	1044	1069	1110	1129	1163	1038	1070	1120	1156	1007	1013

Comb. Total	23755		18948		24875		25127		26656		25715		27274		24621	

ADT	**ADT**	**24621**	AADT	24621
	AWDT	**25929**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
228TH AVE NE N/O
NE 8TH ST/NE INGLEWOOD HILL RD
LOC# 06 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 06

Date Start: 30 Apr-19
Date End: 06-May-19

	30-Apr-19		Wed		Thu		Fri		Sat		Sun		Mon		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	19	13	26	28	14	19	25	17	78	61	80	58	28	21	39	31
01:00	5	17	8	12	11	13	8	13	28	31	49	31	10	8	17	18
02:00	6	8	10	9	8	15	13	16	17	13	21	16	7	10	12	12
03:00	9	14	10	13	8	9	11	11	9	13	11	10	17	13	11	12
04:00	27	52	29	41	29	48	30	50	13	17	13	18	23	49	23	39
05:00	98	142	79	140	87	148	84	136	24	61	14	36	84	133	67	114
06:00	304	489	297	483	264	450	253	408	92	119	55	82	255	455	217	355
07:00	**843**	**822**	**858**	**810**	765	**728**	**794**	**829**	211	333	96	167	770	**829**	620	**645**
08:00	765	641	771	643	**806**	690	777	658	378	480	216	342	**815**	648	**647**	586
09:00	668	652	637	686	687	673	663	602	498	623	380	426	583	600	588	609
10:00	528	464	580	459	529	443	480	485	614	638	512	543	535	448	540	497
11:00	444	452	510	459	502	458	513	516	**722**	**723**	**593**	**571**	557	471	549	521
12:00 PM	520	453	525	515	551	547	562	476	**774**	682	661	617	511	447	586	534
01:00	501	496	561	527	534	524	549	534	752	**716**	**663**	592	567	430	590	546
02:00	786	665	**846**	653	808	697	834	733	710	636	652	592	776	606	773	655
03:00	788	699	822	748	**883**	712	**904**	744	663	647	647	624	827	697	**791**	696
04:00	776	862	788	771	789	825	758	**887**	670	566	613	**643**	**873**	816	752	767
05:00	815	**961**	843	**875**	783	**875**	809	869	649	578	639	549	793	**926**	762	**805**
06:00	**833**	785	802	790	785	835	799	827	586	553	568	459	785	708	737	708
07:00	665	593	607	573	637	565	637	584	454	409	462	395	594	529	579	521
08:00	559	371	504	355	515	346	467	389	367	312	374	298	455	341	463	345
09:00	356	195	328	226	355	213	365	272	293	251	220	176	262	178	311	216
10:00	129	118	150	102	135	103	277	189	220	221	116	103	109	93	162	133
11:00	53	42	62	47	56	49	109	110	122	127	51	41	56	35	73	64
Lane	10497	10006	10653	9965	10541	9985	10721	10355	8944	8810	7706	7389	10292	9491	9908	9429
Day	20503		20618		20526		21076		17754		15095		19783		19336	
AM Peak	7:00	7:00	7:00	7:00	8:00	7:00	7:00	7:00	11:00	11:00	11:00	11:00	8:00	7:00	8:00	7:00
Vol.	843	822	858	810	806	728	794	829	722	723	593	571	815	829	647	645
PM Peak	18:00	17:00	13:00	17:00	15:00	17:00	15:00	16:00	12:00	13:00	13:00	16:00	16:00	17:00	15:00	17:00
Vol.	833	961	846	875	883	875	904	887	774	716	663	643	873	926	791	805

Comb. Total	20503		20618		20526		21076		17754		15095		19783		19336	

ADT	**ADT**	**19336**	AADT	19336
	AWDT	**20501**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
228TH AVE SE S/O
SE 8TH ST
LOC# 09 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 09

Date Start: 11-May-19
Date End: 17-May-19

	11-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	112	67	118	89	37	34	35	32	38	24	37	28	67	44	63	45
01:00	38	52	52	35	23	17	15	10	14	14	18	14	22	22	26	23
02:00	26	14	33	24	15	11	9	12	17	19	15	12	20	14	19	15
03:00	19	17	15	20	23	19	19	24	25	24	21	17	21	18	20	20
04:00	38	37	41	19	63	77	80	66	73	68	79	66	69	56	63	56
05:00	57	87	49	57	149	209	149	201	166	212	138	186	145	192	122	163
06:00	121	156	100	95	395	465	371	499	412	506	374	511	408	458	312	384
07:00	281	315	186	208	886	866	**983**	**965**	892	922	811	881	941	897	711	722
08:00	544	595	406	427	**924**	**988**	863	959	902	973	**1028**	**1043**	855	**1037**	789	860
09:00	842	846	567	624	891	858	948	938	**1068**	**1029**	1003	991	**943**	861	**895**	**878**
10:00	901	920	**746**	733	672	660	681	678	786	676	625	652	721	719	733	720
11:00	**957**	**1060**	721	**845**	727	599	674	659	727	695	784	663	796	779	769	757
12:00 PM	**1018**	**1010**	774	**813**	727	744	776	690	805	724	793	791	822	733	816	786
01:00	980	973	852	776	706	678	683	646	805	751	740	724	748	773	788	760
02:00	973	968	749	763	804	788	829	797	814	851	787	819	881	888	834	839
03:00	975	939	751	794	943	**1038**	951	**1115**	993	1029	1014	**1043**	1038	**1112**	952	**1010**
04:00	914	977	**885**	800	1150	942	1198	985	1224	**1059**	1174	968	1116	1054	1094	969
05:00	882	887	800	750	**1301**	950	**1252**	999	**1333**	1028	**1191**	981	**1227**	1087	**1141**	955
06:00	794	815	765	631	1135	948	1141	902	1221	1041	1188	990	1038	979	1040	901
07:00	665	588	565	511	795	656	919	709	939	791	895	696	837	755	802	672
08:00	684	513	539	435	584	543	561	523	600	505	513	463	660	620	592	515
09:00	490	342	359	256	383	277	351	270	385	308	357	304	523	407	407	309
10:00	307	264	172	155	147	154	184	149	189	146	148	168	332	288	211	189
11:00	242	134	98	52	104	48	104	67	112	78	110	85	199	144	138	87
Lane	12860	12576	10343	9912	13584	12569	13776	12895	14540	13473	13843	13096	14429	13937	13339	12637
Day	25436		20255		26153		26671		28013		26939		28366		25976	
AM Peak	11:00	11:00	10:00	11:00	8:00	8:00	7:00	7:00	9:00	9:00	8:00	8:00	9:00	8:00	9:00	9:00
Vol.	957	1060	746	845	924	988	983	965	1068	1029	1028	1043	943	1037	895	878
PM Peak	12:00	12:00	16:00	12:00	17:00	15:00	17:00	15:00	17:00	16:00	17:00	15:00	17:00	15:00	17:00	15:00
Vol.	1018	1010	885	813	1301	1038	1252	1115	1333	1059	1191	1043	1227	1112	1141	1010

Comb. Total	25436		20255		26153		26671		28013		26939		28366		25976	

ADT	**ADT**	**25976**	AADT	25976
	AWDT	**27228**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
228TH AVE SE S/O
SE 10TH ST
LOC# 10 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 10

Date Start: 11-May-19
Date End: 17-May-19

	6-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	109	69	121	93	37	34	36	34	37	25	36	29	64	44	63	47
01:00	37	38	53	38	23	21	15	12	13	17	19	12	23	24	26	23
02:00	28	14	34	25	15	11	10	13	15	20	14	14	21	16	20	16
03:00	18	18	13	19	21	21	19	23	26	26	22	18	22	22	20	21
04:00	38	40	41	21	62	74	79	64	75	63	81	64	72	57	64	55
05:00	58	84	49	51	156	201	157	204	167	207	142	181	151	193	126	160
06:00	123	158	104	93	466	497	433	533	444	531	452	548	454	497	354	408
07:00	320	330	252	178	**1162**	1040	**1237**	**1115**	1008	928	1053	1042	**1008**	1045	863	811
08:00	647	648	462	461	987	**1078**	1047	1041	989	990	**1125**	**1154**	951	**1104**	887	925
09:00	897	900	620	655	980	930	1020	1002	**1317**	**1194**	1086	989	1004	925	**989**	**942**
10:00	956	1025	740	**916**	697	723	713	747	882	819	660	746	726	795	768	824
11:00	**968**	**1122**	**818**	872	828	712	714	796	716	769	833	799	844	883	817	850
12:00 PM	**1087**	**1140**	782	**917**	763	842	813	844	876	847	852	853	837	833	859	897
01:00	999	1024	881	826	741	762	699	730	846	845	765	817	771	865	815	838
02:00	1054	1048	767	825	878	896	922	935	837	911	910	915	965	986	905	931
03:00	1007	982	785	846	975	**1201**	1028	**1485**	1099	1242	1042	**1403**	1039	**1460**	996	**1231**
04:00	999	1040	**973**	893	1210	932	1270	1159	1202	**1325**	1248	1181	1179	1206	1154	1105
05:00	903	999	878	819	**1331**	1073	**1279**	1135	**1374**	1191	**1310**	1122	**1263**	1227	**1191**	1081
06:00	812	885	781	748	1270	1051	1189	1031	1266	1197	1260	1127	1006	1064	1083	1015
07:00	684	673	642	588	860	745	961	844	967	947	942	922	790	861	835	797
08:00	678	580	541	507	554	789	585	642	609	662	538	594	628	804	590	654
09:00	479	388	387	293	382	381	359	371	385	398	380	397	421	494	399	389
10:00	306	297	171	158	153	190	191	160	193	178	152	184	272	334	205	214
11:00	249	139	101	53	100	52	101	70	113	84	112	92	158	158	133	93
Lane	13456	13641	10996	10895	14651	14256	14877	14990	15456	15416	15034	15203	14669	15897	14163	14328
Day	27097		21891		28907		29867		30872		30237		30566		28491	
AM Peak	11:00	11:00	11:00	10:00	7:00	8:00	7:00	7:00	9:00	9:00	8:00	8:00	7:00	8:00	9:00	9:00
Vol.	968	1122	818	916	1162	1078	1237	1115	1317	1194	1125	1154	1008	1104	989	942
PM Peak	12:00	12:00	4:00	12:00	17:00	15:00	17:00	15:00	17:00	16:00	17:00	15:00	17:00	15:00	17:00	15:00
Vol.	1087	1140	973	917	1331	1201	1279	1485	1374	1325	1310	1403	1263	1460	1191	1231

Comb. Total	27097		21891		28907		29867		30872		30237		30566		28491	

ADT **ADT 28491** AADT 28491
AWDT 30090

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
2228TH AVE SE S/O
SE 20TH ST
LOC# 11 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 11

Date Start: 11-May-19
Date End: 17-May-19

	11-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	109	131	135	102	42	28	38	34	34	29	38	36	53	63	64	60
01:00	44	43	55	35	23	17	14	14	19	14	22	15	25	21	29	23
02:00	29	26	39	23	15	10	11	13	17	22	16	15	23	13	21	17
03:00	21	14	20	15	34	19	23	23	34	25	30	17	26	22	27	19
04:00	34	45	37	33	65	89	70	73	66	77	83	79	65	72	60	67
05:00	62	84	50	42	140	212	153	209	163	224	137	182	154	192	123	164
06:00	132	185	95	108	473	529	457	576	466	566	472	594	448	501	363	437
07:00	314	338	244	201	**1240**	1074	**1310**	**1195**	1065	1007	1145	1094	**1256**	1083	939	856
08:00	681	730	474	469	1000	**1144**	1042	1088	1009	1050	**1156**	**1207**	1019	**1194**	912	983
09:00	862	946	661	673	1066	1076	1133	1116	**1389**	**1283**	1139	1119	1065	1043	**1045**	**1037**
10:00	955	1054	721	923	712	737	696	766	891	878	673	762	748	848	771	853
11:00	**995**	**1135**	**779**	**945**	844	783	732	818	781	811	837	824	866	926	833	892
12:00 PM	**1131**	**1164**	819	888	789	807	839	849	889	881	895	864	886	868	893	903
01:00	1092	1096	871	882	754	840	724	752	943	933	810	837	884	859	868	886
02:00	1101	1062	818	855	939	908	968	919	875	909	963	946	1003	1095	952	956
03:00	1050	1059	828	860	1070	1222	1127	**1484**	1167	1211	1143	**1416**	1183	**1472**	1081	**1246**
04:00	1083	1105	**996**	**898**	1283	**1330**	1288	1243	1243	**1389**	1351	1303	1290	1271	1219	1220
05:00	919	1045	899	787	**1479**	1140	**1387**	1226	**1449**	1195	**1441**	1158	**1367**	1264	**1277**	1116
06:00	971	859	772	685	1358	1083	1244	1111	1314	1187	1317	1088	1164	1122	1163	1019
07:00	762	682	674	532	913	750	1034	814	959	901	975	865	970	824	898	767
08:00	665	683	530	493	583	721	627	602	615	635	534	598	732	750	612	640
09:00	541	424	323	320	382	375	396	404	406	394	381	398	571	501	429	402
10:00	386	317	226	148	216	172	243	143	239	162	202	171	381	343	270	208
11:00	268	185	84	109	91	106	87	107	106	110	111	119	215	169	137	129
Lane	14207	14412	11150	11026	15511	15172	15643	15579	16139	15893	15871	15707	16394	16516	14988	14901
Day	28619		22176		30683		31222		32032		31578		32910		29889	
AM Peak	11:00	11:00	11:00	11:00	7:00	8:00	7:00	7:00	9:00	9:00	8:00	8:00	7:00	8:00	9:00	9:00
Vol.	995	1135	779	945	1240	1144	1310	1195	1389	1283	1156	1207	1256	1194	1045	1037
PM Peak	12:00	12:00	16:00	16:00	17:00	16:00	17:00	15:00	17:00	16:00	17:00	15:00	17:00	15:00	17:00	15:00
Vol.	1131	1164	996	898	1479	1330	1387	1484	1449	1389	1441	1416	1367	1472	1277	1246

Comb. Total	28619		22176		30683		31222		32032		31578		32910		29889	

ADT **ADT 29889** AADT 29889
AWDT 31685

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
228TH AVE SE S/O
ISSAQUAH-PINE LAKE RD
LOC# 12 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Site Code: 12

Date Start: 16-May-19
Date End: 22-May-19

	16-May-19		Fri		Sat		Sun		Mon		Tue		Wed		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	32	17	36	25	71	51	65	52	39	33	25	25	28	30	42	33
01:00	15	10	18	12	35	29	35	20	22	9	14	15	8	11	21	15
02:00	9	9	8	7	11	9	20	19	14	5	2	7	7	4	10	9
03:00	14	17	14	16	17	13	15	19	14	23	15	22	10	20	14	19
04:00	48	57	37	53	31	27	26	24	35	61	37	69	48	63	37	51
05:00	81	170	77	157	31	55	28	38	64	190	95	184	77	172	65	138
06:00	238	501	214	428	83	161	43	103	235	461	239	508	273	480	189	377
07:00	502	836	**509**	764	209	241	174	136	**489**	767	**531**	785	508	807	417	619
08:00	**521**	**913**	481	**908**	302	452	241	277	466	**877**	463	**887**	505	**851**	426	738
09:00	484	890	502	853	414	568	280	473	466	875	457	863	**534**	814	448	**762**
10:00	356	563	428	625	545	655	346	555	407	493	406	554	432	650	417	585
11:00	486	506	498	577	**647**	**709**	**482**	**617**	432	522	442	507	445	580	**490**	574
12:00 PM	520	534	545	600	628	**700**	539	575	469	485	479	490	532	598	530	569
01:00	551	527	543	528	657	686	567	**586**	494	564	475	532	567	521	551	563
02:00	641	567	650	601	609	657	558	559	597	488	669	487	591	512	616	553
03:00	752	**678**	755	**662**	620	625	591	506	687	**624**	699	**683**	734	642	691	**631**
04:00	847	630	846	633	**660**	584	**600**	504	822	559	851	667	838	**669**	781	607
05:00	**959**	534	**1010**	594	549	635	545	505	**1020**	493	**998**	513	**1056**	527	**877**	543
06:00	921	543	797	522	510	452	427	343	941	461	943	514	997	495	791	476
07:00	561	369	494	396	401	303	382	269	509	276	558	373	546	398	493	341
08:00	352	236	429	333	314	231	307	252	329	232	384	250	367	362	355	271
09:00	275	170	351	247	301	183	177	137	209	202	266	201	301	273	269	202
10:00	138	91	250	156	243	163	108	90	125	56	143	84	150	85	165	104
11:00	92	54	153	87	171	93	55	46	67	40	80	54	68	50	98	61
Lane	9395	9422	9645	9784	8059	8282	6611	6705	8952	8796	9271	9274	9622	9614	8794	8840
Day	18817		19429		16341		13316		17748		18545		19236		17633	
AM Peak	8:00	8:00	7:00	8:00	11:00	11:00	11:00	11:00	7:00	8:00	7:00	8:00	9:00	8:00	11:00	9:00
Vol.	521	913	509	908	647	709	482	617	489	877	531	887	534	851	490	762
PM Peak	17:00	15:00	17:00	15:00	16:00	12:00	16:00	13:00	17:00	15:00	17:00	15:00	17:00	16:00	17:00	15:00
Vol.	959	678	1010	662	660	700	600	586	1020	624	998	683	1056	669	877	631

Comb. Total	18817		19429		16341		13316		17748		18545		19236		17633	

ADT	**ADT**	**17633**	AADT	17633
	AWDT	**18755**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
NE 8TH ST E/O
228TH AVE NE
LOC# 40 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 40

Date Start: 30-Apr-19
Date End: 06-May-19

	30-Apr-19		Wed		Thu		Fri		Sat		Sun		Mon		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	20	5	9	3	17	6	10	5	35	13	37	32	15	4	20	10
01:00	4	1	7	0	6	2	6	3	14	5	21	17	5	2	9	4
02:00	3	3	2	3	4	2	3	2	5	2	7	3	5	3	4	3
03:00	0	2	4	5	0	4	1	5	3	5	2	2	4	3	2	4
04:00	1	15	1	17	3	19	5	20	3	5	2	11	2	21	2	15
05:00	20	49	42	53	21	46	16	36	8	20	5	17	19	53	19	39
06:00	173	226	182	234	189	219	177	189	27	43	24	38	167	193	134	163
07:00	**342**	**542**	**335**	**552**	**333**	506	**344**	**551**	88	161	41	80	**368**	**549**	264	**420**
08:00	212	496	224	482	195	**524**	200	449	146	229	90	160	230	519	185	408
09:00	215	372	228	360	234	360	208	334	232	270	224	220	215	373	222	327
10:00	192	224	210	216	203	218	234	239	274	**314**	258	273	216	231	227	245
11:00	244	209	250	247	202	218	245	255	**351**	300	**328**	**289**	283	253	**272**	253
12:00 PM	280	239	298	228	288	284	283	250	**401**	**318**	378	**362**	264	225	313	272
01:00	286	228	314	240	307	224	313	221	373	309	323	279	269	244	312	249
02:00	444	430	497	**455**	467	431	509	453	384	254	355	297	483	455	448	396
03:00	484	419	455	434	515	**462**	546	**494**	379	281	354	271	516	442	464	**400**
04:00	539	**440**	474	363	538	434	526	369	320	306	325	301	542	**456**	466	381
05:00	**612**	362	**575**	375	**585**	409	488	364	350	264	**380**	290	**574**	350	**509**	345
06:00	525	360	546	323	530	348	**558**	359	290	228	296	216	519	299	466	305
07:00	429	300	401	241	395	321	389	296	271	168	250	205	398	259	362	256
08:00	313	188	295	183	314	154	290	186	218	142	208	144	294	178	276	168
09:00	154	78	173	87	183	84	225	88	182	90	111	65	143	80	167	82
10:00	77	39	63	42	64	36	136	74	112	79	59	35	62	41	82	49
11:00	23	10	19	5	30	10	58	30	67	49	22	10	28	17	35	19
Lane	5592	5237	5604	5148	5623	5321	5770	5272	4533	3855	4100	3617	5621	5250	5263	4814
Day	10829		10752		10944		11042		8388		7717		10871		10078	
AM Peak	7:00	7:00	7:00	7:00	7:00	8:00	7:00	7:00	11:00	10:00	11:00	11:00	7:00	7:00	11:00	7:00
Vol.	342	542	335	552	333	524	344	551	351	314	328	289	368	549	272	420
PM Peak	17:00	16:00	17:00	14:00	17:00	15:00	18:00	15:00	12:00	12:00	17:00	12:00	17:00	16:00	17:00	15:00
Vol.	612	440	575	455	585	462	558	494	401	318	380	362	574	456	509	400

Comb. Total	10829		10752		10944		11042		8388		7717		10871		10078	

ADT	**ADT**	**10078**	AADT	10078
	AWDT	**10888**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
SE 8TH ST E/O
228TH AVE SE
LOC# 46 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 46

Date Start: 11-May-19
Date End: 17-May-19

	11-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	51	15	37	29	12	5	15	2	13	8	18	6	16	4	23	10
01:00	17	11	15	7	6	1	1	1	4	0	5	1	5	1	8	3
02:00	11	6	11	5	2	2	1	3	5	2	2	2	1	2	5	3
03:00	6	4	2	6	5	9	2	6	3	6	7	4	3	4	4	6
04:00	10	11	11	7	10	31	9	28	7	22	6	15	9	12	9	18
05:00	8	31	11	16	22	84	24	77	15	64	14	65	14	74	15	59
06:00	11	52	15	46	87	233	69	255	62	262	72	272	66	244	55	195
07:00	52	133	32	89	**241**	**631**	**328**	**622**	188	**607**	**286**	**549**	**323**	**584**	207	**459**
08:00	93	243	100	173	195	450	168	433	159	429	163	519	167	461	149	387
09:00	193	**341**	141	224	189	380	196	418	**331**	398	201	384	190	372	206	360
10:00	262	329	**189**	243	172	247	131	224	206	228	151	222	162	226	182	246
11:00	**293**	338	183	**267**	208	210	169	256	170	182	220	234	231	281	**211**	253
12:00 PM	260	**297**	200	**256**	200	220	227	225	249	255	226	235	236	213	228	243
01:00	262	270	213	249	200	184	163	151	270	267	180	182	175	203	209	215
02:00	273	277	215	223	214	298	218	249	271	248	222	273	239	279	236	264
03:00	284	255	198	207	349	**303**	349	**298**	336	276	358	278	315	**328**	313	**278**
04:00	268	253	241	239	360	249	359	247	386	**325**	398	250	398	267	344	261
05:00	**287**	267	**250**	184	**480**	263	**473**	267	**505**	305	426	258	**415**	278	**405**	260
06:00	238	230	237	152	461	278	456	272	454	301	**446**	**281**	383	293	382	258
07:00	204	185	188	142	339	209	390	207	370	203	366	209	279	220	305	196
08:00	224	148	179	121	242	164	234	112	279	133	218	115	254	164	233	137
09:00	202	104	129	66	149	55	168	61	154	49	166	53	218	105	169	70
10:00	116	75	67	47	67	30	68	30	88	30	67	37	140	76	88	46
11:00	76	35	30	9	33	2	31	12	37	14	46	17	81	47	48	19
Lane	3701	3910	2894	3007	4243	4538	4249	4456	4562	4614	4264	4461	4320	4738	4033	4246
Day	7611		5901		8781		8705		9176		8725		9058		8280	
AM Peak	11:00	9:00	10:00	11:00	7:00	7:00	7:00	7:00	9:00	7:00	7:00	7:00	7:00	7:00	11:00	7:00
Vol.	293	341	189	267	241	631	328	622	331	607	286	549	323	584	211	459
PM Peak	17:00	12:00	17:00	12:00	17:00	15:00	17:00	15:00	17:00	16:00	18:00	18:00	17:00	15:00	17:00	15:00
Vol.	287	297	250	256	480	303	473	298	505	325	446	281	415	328	405	278

Comb. Total	7611		5901		8781		8705		9176		8725		9058		8280	

ADT	**ADT**	**8280**	AADT	8280
	AWDT	**8889**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
SE 20TH ST W/O
228TH AVE SE
LOC# 61 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 61

Date Start: 11-May-19
Date End: 17-May-19

	11-May-19		Sun		Mon		Tue		Wed		Thu		Fri		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	89	17	30	25	4	6	4	5	11	5	12	5	26	3	25	9
01:00	6	5	7	9	1	3	2	2	0	4	4	2	0	3	3	4
02:00	5	8	2	5	1	0	0	0	4	3	1	2	1	1	2	3
03:00	1	9	2	11	1	16	1	10	1	11	2	13	2	10	1	11
04:00	18	9	16	6	20	4	21	4	17	1	17	4	17	4	18	5
05:00	11	4	5	2	23	12	21	15	25	8	20	12	20	8	18	9
06:00	25	21	20	15	65	55	47	52	48	51	64	56	50	51	46	43
07:00	44	37	42	24	**209**	179	**222**	188	119	170	**204**	169	**211**	152	150	131
08:00	144	105	84	73	155	**222**	148	**234**	149	224	156	**229**	171	**244**	144	**190**
09:00	159	126	121	90	155	193	147	192	**263**	**229**	163	204	144	158	**165**	170
10:00	**170**	132	**138**	106	109	126	112	98	180	141	102	100	119	104	133	115
11:00	142	**167**	135	**124**	138	104	115	116	107	116	127	113	137	112	129	122
12:00 PM	153	191	85	**149**	103	153	120	141	131	142	120	168	129	129	120	153
01:00	197	**213**	**138**	124	117	101	124	104	162	171	130	130	115	199	140	149
02:00	154	185	108	137	143	130	145	126	119	117	150	147	**248**	142	152	141
03:00	177	162	122	118	210	196	195	**213**	173	175	179	197	197	**216**	179	182
04:00	**218**	181	127	109	220	168	232	188	221	**209**	209	198	216	205	206	180
05:00	161	162	133	130	**254**	**199**	**252**	173	241	188	207	**220**	236	206	**212**	**183**
06:00	118	139	96	109	226	178	243	140	**260**	167	**218**	168	193	170	193	153
07:00	112	118	89	93	122	139	143	169	163	145	160	139	174	133	138	134
08:00	101	122	68	79	92	138	66	119	102	113	111	104	101	161	92	119
09:00	93	89	49	28	76	70	60	69	48	65	53	65	83	97	66	69
10:00	59	117	34	88	22	87	17	81	14	76	16	88	66	133	33	96
11:00	95	37	84	10	82	10	72	11	59	18	54	7	42	36	70	18
Lane	2452	2356	1735	1664	2548	2489	2509	2450	2617	2549	2479	2540	2698	2677	2434	2389
Day	4808		3399		5037		4959		5166		5019		5375		4823	
AM Peak	10:00	11:00	10:00	11:00	7:00	8:00	7:00	8:00	9:00	9:00	7:00	8:00	7:00	8:00	9:00	8:00
Vol.	170	167	138	124	209	222	222	234	263	229	204	229	211	244	165	190
PM Peak	16:00	13:00	13:00	12:00	17:00	17:00	17:00	15:00	18:00	16:00	18:00	17:00	14:00	15:00	17:00	17:00
Vol.	218	213	138	149	254	199	252	213	260	209	218	220	248	216	212	183

Comb. Total	4808		3399		5037		4959		5166		5019		5375		4823	

ADT	**ADT**	**4823**	AADT	4823
	AWDT	**5111**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-PINE LAKE RD SE/O
228TH AVE SE
LOC# 14 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Site Code: 14

Date Start: 28-May-19
Date End: 03-June-19

	28-May-19		Wed		Thu		Fri		Sat		Sun		Mon		Week Average	
Start Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	29	19	30	22	34	21	35	29	80	63	52	76	38	20	43	36
01:00	8	12	11	8	5	13	14	4	23	34	29	21	9	11	14	15
02:00	12	12	9	13	9	10	10	9	13	17	16	21	3	9	10	13
03:00	10	14	13	10	13	14	13	16	16	13	20	17	9	18	13	15
04:00	14	21	16	21	20	19	21	29	15	15	13	17	26	28	18	21
05:00	46	85	53	84	51	84	57	70	30	30	26	30	57	77	46	66
06:00	165	246	157	247	176	234	155	215	42	86	42	46	166	251	129	189
07:00	**435**	580	322	463	**449**	535	**435**	**582**	135	124	89	123	**447**	**577**	330	426
08:00	420	**595**	386	571	389	**586**	390	529	252	249	223	241	411	567	353	477
09:00	429	581	452	**616**	445	553	413	490	349	397	312	282	416	528	402	**492**
10:00	311	465	**454**	478	391	472	387	383	467	583	**434**	413	311	330	394	446
11:00	388	379	352	401	391	379	384	380	**529**	**726**	414	**499**	408	424	**409**	455
12:00 PM	380	365	379	390	416	412	404	405	539	**929**	474	527	410	420	429	493
01:00	394	366	434	455	421	395	441	479	**558**	885	458	542	379	407	441	504
02:00	440	498	497	421	518	472	548	524	520	704	**481**	**593**	451	475	494	527
03:00	633	491	571	520	656	531	665	555	500	645	450	483	608	515	583	534
04:00	652	597	687	**585**	646	558	**737**	591	539	541	474	470	643	539	625	**554**
05:00	**741**	**625**	**712**	573	**681**	**561**	712	573	490	463	462	397	**726**	**581**	**646**	539
06:00	582	492	635	525	621	544	691	**611**	474	459	382	362	632	512	574	501
07:00	373	377	461	417	451	435	433	396	474	338	283	267	390	432	409	380
08:00	292	273	365	348	351	326	340	384	277	337	228	244	295	317	307	318
09:00	165	161	224	205	234	217	281	267	246	261	170	164	182	185	215	209
10:00	78	87	83	86	78	95	167	193	179	171	84	79	89	98	108	116
11:00	43	27	31	46	38	40	111	117	99	113	39	56	44	43	58	63
Lane	7040	7368	7334	7505	7484	7506	7844	7831	6846	8183	5655	5970	7150	7364	7050	7390
Day	14408		14839		14990		15675		15029		11625		14514		14440	
AM Peak	7:00	8:00	10:00	9:00	7:00	8:00	7:00	7:00	11:00	11:00	10:00	11:00	7:00	7:00	11:00	9:00
Vol.	435	595	454	616	449	586	435	582	529	726	434	499	447	577	409	492
PM Peak	17:00	17:00	17:00	16:00	17:00	17:00	16:00	18:00	13:00	12:00	14:00	14:00	17:00	17:00	17:00	16:00
Vol.	741	625	712	585	681	561	737	611	558	929	481	593	726	581	646	554

Comb. Total	14408		14839		14990		15675		15029		11625		14514		14440	

ADT	**ADT**	**14440**	AADT	14440
	AWDT	**14885**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-PINE LAKE RD S/O
SE 32ND WAY
LOC# 15 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Site Code: 15

Date Start: 16-May-19
Date End: 22-May-19

	16-May-19		Fri		Sat		Sun		Mon		Tue		Wed		Week Average	
Start Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	22	28	39	31	65	77	59	75	18	23	20	26	13	24	34	41
01:00	12	15	11	9	17	31	26	42	8	10	9	7	10	13	13	18
02:00	7	6	6	13	12	16	20	22	2	5	4	5	5	10	8	11
03:00	4	12	8	10	3	14	5	16	11	17	6	14	8	7	6	13
04:00	31	25	33	21	18	15	20	14	26	13	46	27	27	13	29	18
05:00	85	73	75	74	36	38	29	25	95	66	85	77	102	66	72	60
06:00	273	194	248	219	88	70	71	55	280	212	277	220	282	233	217	172
07:00	499	488	450	**490**	161	159	133	124	478	**481**	492	**497**	489	421	386	380
08:00	**658**	**524**	**630**	408	367	301	236	210	593	469	**615**	461	564	490	523	409
09:00	651	458	620	463	472	369	365	304	**594**	477	566	461	**632**	**512**	**557**	**435**
10:00	385	340	431	337	599	**513**	461	354	346	308	383	274	480	364	441	356
11:00	454	374	489	349	**614**	489	**521**	**444**	401	296	392	319	434	397	472	381
12:00 PM	469	388	459	389	**642**	**571**	522	517	427	354	447	341	460	395	489	422
01:00	462	389	462	421	639	541	**599**	469	375	375	384	413	533	419	493	432
02:00	504	423	529	449	581	506	531	536	466	404	515	399	483	437	516	451
03:00	707	550	**766**	544	545	567	439	540	**629**	496	687	517	638	550	630	538
04:00	**732**	551	703	584	534	536	538	**581**	618	548	687	605	746	633	**651**	577
05:00	681	**636**	734	**655**	540	469	441	439	624	**647**	**713**	**644**	**763**	**690**	642	**597**
06:00	566	617	606	533	486	405	370	363	517	552	509	619	543	657	514	535
07:00	490	475	486	429	359	339	276	320	317	369	469	437	486	481	412	407
08:00	269	264	377	365	288	287	242	225	240	266	341	323	327	342	298	296
09:00	190	216	217	275	188	295	173	182	174	169	207	225	256	259	201	232
10:00	63	123	146	203	120	234	75	121	65	104	77	107	99	130	92	146
11:00	50	56	72	125	95	165	55	50	32	45	43	65	49	70	57	82
Lane	8264	7225	8597	7396	7469	7007	6207	6028	7336	6706	7974	7083	8429	7613	7754	7008
Day	15489		15993		14476		12235		14042		15057		16042		14762	
AM Peak	8:00	8:00	8:00	7:00	11:00	10:00	11:00	11:00	9:00	7:00	8:00	7:00	9:00	9:00	9:00	9:00
Vol.	658	524	630	490	614	513	521	444	594	481	615	497	632	512	557	435
PM Peak	16:00	17:00	15:00	17:00	12:00	12:00	13:00	16:00	15:00	17:00	17:00	17:00	17:00	17:00	16:00	17:00
Vol.	732	636	766	655	642	571	599	581	629	647	713	644	763	690	651	597
Comb. Total	15489		15993		14476		12235		14042		15057		16042		14762	

ADT **ADT 14762** AADT 14762
AWDT 15741

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-PINE LAKE RD S/O
KLAHANIE BLVD SE
LOC# 16 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Site Code: 16

Date Start: 05-May-19
Date End: 11-May-19

	5-May-19		Mon		Tue		Wed		Thu		Fri		Sat		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	111	52	35	15	37	13	27	18	37	20	48	18	98	44	56	26
01:00	52	19	21	12	12	12	11	12	15	8	16	12	45	18	25	13
02:00	27	11	11	6	6	7	15	7	16	8	18	12	26	9	17	9
03:00	21	11	18	12	4	19	7	12	14	16	17	10	15	13	14	13
04:00	21	20	16	62	23	61	20	66	24	65	16	69	17	26	20	53
05:00	25	35	62	158	76	161	67	164	61	160	72	151	34	62	57	127
06:00	44	102	205	483	219	517	230	491	169	484	174	425	52	139	156	377
07:00	97	187	407	762	398	800	393	**803**	392	**798**	401	**770**	155	256	320	625
08:00	252	345	392	**779**	433	**823**	414	748	408	785	394	768	286	536	368	**683**
09:00	308	475	**445**	687	**460**	713	**488**	741	**430**	755	396	767	396	619	418	680
10:00	424	668	342	481	327	496	358	541	366	518	368	536	514	707	386	564
11:00	**481**	**684**	372	465	438	458	408	537	425	522	**437**	545	**582**	**778**	**449**	570
12:00 PM	566	**651**	464	422	449	460	475	488	471	527	469	545	618	**703**	502	542
01:00	**603**	597	404	439	441	487	488	519	487	487	509	537	628	676	509	535
02:00	592	582	525	488	555	527	530	534	496	535	574	518	593	639	552	546
03:00	599	570	619	647	607	661	594	630	675	671	680	**733**	**655**	645	633	651
04:00	555	508	755	684	740	**704**	821	**762**	796	**720**	740	729	588	640	714	**678**
05:00	525	486	**922**	**690**	**931**	688	**931**	677	**953**	702	**830**	695	591	563	**812**	643
06:00	544	383	901	532	896	674	907	614	848	688	738	634	569	531	772	579
07:00	452	317	544	428	582	505	583	505	614	513	516	516	471	480	537	466
08:00	369	237	399	297	423	359	480	365	457	365	482	373	472	372	440	338
09:00	245	146	263	157	384	185	382	185	379	188	394	266	472	257	360	198
10:00	146	88	144	69	152	99	168	79	203	101	299	148	293	169	201	108
11:00	71	53	65	55	81	48	80	50	99	48	194	106	184	97	111	65
Lane	7130	7227	8331	8830	8674	9477	8877	9548	8835	9684	8782	9883	8354	8979	8426	9090
Day	14357		17161		18151		18425		18519		18665		17333		17516	
AM Peak	11:00	11:00	9:00	8:00	9:00	8:00	9:00	7:00	9:00	7:00	11:00	7:00	11:00	11:00	11:00	8:00
Vol.	481	684	445	779	460	823	488	803	430	798	437	770	582	778	449	683
PM Peak	13:00	12:00	17:00	17:00	17:00	16:00	17:00	16:00	17:00	16:00	17:00	15:00	15:00	12:00	17:00	16:00
Vol.	603	651	922	690	931	704	931	762	953	720	830	733	655	703	812	678

Comb. Total	14357		17161		18151		18425		18519		18665		17333		17516	

ADT	**ADT**	**17516**	AADT	17516
	AWDT	**18184**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-PINE LAKE RD N/O
SE 48TH ST
LOC# 17 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 17

Date Start: 16-May-19
Date End: 22-May-19

	16-May-19		Fri		Sat		Sun		Mon		Tue		Wed		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	47	22	58	41	127	63	123	62	48	26	46	30	42	19	70	38
01:00	17	19	22	15	47	28	67	35	15	12	12	11	24	11	29	19
02:00	12	15	18	11	29	17	37	18	8	2	12	11	10	8	18	12
03:00	15	20	13	18	19	18	17	12	17	16	16	17	9	15	15	17
04:00	25	60	24	63	19	28	18	25	21	61	35	92	15	63	22	56
05:00	73	200	64	175	43	68	22	58	60	207	68	200	74	208	58	159
06:00	186	560	218	512	72	161	51	114	208	586	222	607	230	607	170	450
07:00	412	946	413	911	162	294	111	219	406	972	399	1011	414	**978**	331	762
08:00	**538**	**1023**	435	**985**	338	610	236	368	**456**	**1029**	**487**	**1036**	461	940	422	**856**
09:00	465	922	**477**	840	431	714	309	560	444	820	442	851	**484**	815	436	789
10:00	374	582	394	614	633	818	446	730	355	510	356	549	423	661	426	638
11:00	501	568	475	590	**673**	**885**	**604**	**772**	433	491	430	489	480	566	**514**	623
12:00 PM	558	562	579	597	774	**832**	673	709	486	510	508	514	538	548	588	610
01:00	546	583	580	564	781	755	736	**687**	511	511	509	506	564	596	604	600
02:00	603	546	632	587	774	729	750	662	586	494	600	565	633	551	654	591
03:00	784	683	774	773	**787**	680	750	580	693	634	750	673	715	681	750	672
04:00	908	**774**	943	787	771	685	**791**	649	896	**734**	925	**798**	992	766	889	**742**
05:00	1160	655	**1145**	**800**	652	706	659	559	**1147**	622	1034	680	1164	**783**	**994**	686
06:00	**1210**	631	936	714	650	623	591	424	1138	550	**1165**	566	**1195**	604	984	587
07:00	801	493	708	548	534	445	514	312	621	368	760	467	782	502	674	448
08:00	495	262	574	410	491	335	383	275	433	245	547	341	540	333	495	314
09:00	365	190	486	245	485	256	260	167	297	166	388	205	454	238	391	210
10:00	232	86	347	167	381	153	175	88	150	57	172	83	194	108	236	106
11:00	93	49	189	97	276	103	91	68	88	39	102	43	118	44	137	63
Lane	10420	10451	10504	11064	9949	10006	8414	8153	9517	9662	9985	10345	10555	10645	9906	10047
Day	20871		21568		19955		16567		19179		20330		21200		19953	
AM Peak	8:00	8:00	9:00	8:00	11:00	11:00	11:00	11:00	8:00	8:00	8:00	8:00	9:00	7:00	11:00	8:00
Vol.	538	1023	477	985	673	885	604	772	456	1029	487	1036	484	978	514	856
PM Peak	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME	TIME
Vol.	1210	774	1145	800	787	832	791	709	1147	734	1165	798	1195	783	994	742

Comb. Total	20871	21568	19955	16567	19179	20330	21200	19953

ADT	**ADT**	**19953**	AADT	19953
	AWDT	**20630**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-PINE LAKE RD S/O
SE 48TH ST
LOC# 18 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 18

Date Start: 05-May-19
Date End: 11-May-19

	29-Apr-19		Mon		Tue		Wed		Thu		Fri		Sat		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	142	66	49	20	45	22	36	14	46	20	61	20	143	59	75	32
01:00	64	25	30	16	16	13	18	12	19	11	27	18	59	21	33	17
02:00	37	12	16	7	11	12	19	11	22	11	18	15	37	17	23	12
03:00	26	11	19	19	5	23	9	18	17	23	22	17	16	15	16	18
04:00	24	28	22	77	30	77	22	76	26	81	19	79	21	35	23	65
05:00	32	52	70	229	75	234	76	233	72	221	76	196	38	78	63	178
06:00	44	135	226	623	239	685	242	669	186	646	180	608	51	176	167	506
07:00	110	247	458	**1161**	442	**1147**	445	**1093**	454	**1175**	443	1068	183	333	362	889
08:00	278	452	475	1142	503	1108	469	1076	481	1078	493	**1108**	327	710	432	**953**
09:00	340	620	484	1012	**527**	1020	**575**	1005	474	975	509	1013	495	867	486	930
10:00	530	**872**	427	603	418	638	471	738	464	669	449	685	695	921	493	732
11:00	**613**	855	**487**	565	527	634	529	624	**532**	620	**563**	665	**760**	**972**	**573**	705
12:00 PM	758	**811**	609	558	579	545	625	602	612	634	622	681	**888**	**891**	670	675
01:00	828	720	550	523	586	594	644	591	639	620	700	661	862	803	687	645
02:00	**837**	699	674	587	751	639	675	648	673	646	784	611	876	765	753	656
03:00	798	675	862	713	886	676	819	719	962	716	942	790	881	806	879	728
04:00	778	624	1072	**776**	1059	**846**	1172	**850**	1082	**767**	1063	**903**	793	750	1003	**788**
05:00	733	585	**1353**	741	**1340**	701	**1381**	740	**1353**	758	**1263**	794	805	702	**1175**	717
06:00	725	447	1353	555	1323	674	1329	636	1213	752	1096	729	745	632	1112	632
07:00	605	406	759	488	882	532	883	590	947	552	781	617	660	536	788	532
08:00	523	287	572	349	567	356	667	413	609	398	675	447	627	432	606	383
09:00	352	194	379	170	532	233	543	197	537	200	561	307	614	308	503	230
10:00	196	113	189	83	230	81	240	92	250	120	398	179	391	210	271	125
11:00	83	53	88	51	104	58	113	56	134	58	244	128	255	115	146	74
Lane	9456	8989	11223	11068	11677	11548	12002	11703	11804	11751	11989	12339	11222	11154	11339	11222
Day	18445		22291		23225		23705		23555		24328		22376		22561	
AM Peak	11:00	10:00	11:00	7:00	9:00	7:00	9:00	7:00	11:00	7:00	11:00	8:00	11:00	11:00	11:00	7:00
Vol.	613	872	487	1161	527	1147	575	1093	532	1175	563	1108	760	972	573	953
PM Peak	14:00	12:00	17:00	16:00	17:00	16:00	17:00	16:00	17:00	16:00	17:00	16:00	12:00	12:00	17:00	16:00
Vol.	837	811	1353	776	1340	846	1381	850	1353	767	1263	903	888	891	1175	788

Comb. Total	18445		22291		23225		23705		23555		24328		22376		22561	

ADT	**ADT**	**22561**	AADT	22561
	AWDT	**23421**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
SE 32ND WAY E/O
ISSAQUAH-PINE LAKE RD
LOC# 43 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 43

Date Start: 16-May-19
Date End: 22-May-19

	16-May-19		Fri		Sat		Sun		Mon		Tue		Wed		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	17	3	15	7	43	16	52	35	11	5	13	5	10	2	23	10
01:00	5	2	6	6	18	6	24	12	6	4	2	6	3	4	9	6
02:00	3	3	2	4	4	6	17	9	0	1	1	1	2	1	4	4
03:00	3	5	0	3	2	4	6	6	2	5	4	4	3	5	3	5
04:00	4	20	6	22	9	5	6	11	3	20	7	25	3	22	5	18
05:00	9	56	10	55	6	18	5	15	20	67	11	59	20	78	12	50
06:00	92	186	93	175	21	60	11	31	67	182	75	183	83	190	63	144
07:00	209	**417**	215	**374**	68	92	34	67	186	**407**	188	**436**	149	330	150	**303**
08:00	**226**	377	**227**	338	153	203	109	108	220	357	204	347	212	315	193	292
09:00	212	307	226	325	215	276	100	176	**249**	311	**246**	292	**286**	**361**	**219**	293
10:00	182	193	194	223	**300**	**341**	230	205	170	181	166	201	225	254	210	228
11:00	187	211	224	219	287	333	**233**	**232**	184	193	184	183	224	179	218	221
12:00 PM	242	208	243	254	307	320	266	249	206	183	220	229	202	231	241	239
01:00	231	210	246	210	**413**	314	293	**276**	217	213	256	186	279	247	276	237
02:00	314	200	345	230	335	256	292	235	293	216	308	253	264	201	307	227
03:00	421	304	433	302	330	**336**	305	222	364	279	419	292	392	253	381	284
04:00	432	**307**	403	299	300	303	**310**	274	411	**284**	444	**298**	425	295	389	**294**
05:00	**538**	285	**525**	**313**	300	248	293	198	**490**	223	**510**	279	**516**	**328**	**453**	268
06:00	487	265	383	238	265	210	211	164	438	230	474	255	484	252	392	231
07:00	346	245	251	213	222	158	188	122	281	144	340	184	328	235	279	186
08:00	242	106	227	195	168	118	148	108	217	77	245	153	256	128	215	126
09:00	155	62	172	100	169	81	117	63	131	51	177	60	216	81	162	71
10:00	77	29	140	65	124	65	65	36	65	28	73	25	91	44	91	42
11:00	29	16	90	36	127	52	32	20	29	10	47	17	30	12	55	23
Lane	4663	4017	4676	4206	4186	3821	3347	2874	4260	3671	4614	3973	4703	4048	4350	3801
Day	8680		8882		8007		6221		7931		8587		8751		8151	
AM Peak	8:00	7:00	8:00	7:00	10:00	10:00	11:00	11:00	9:00	7:00	9:00	7:00	9:00	9:00	9:00	7:00
Vol.	226	417	227	374	300	341	233	232	249	407	246	436	286	361	219	303
PM Peak	17:00	16:00	17:00	17:00	13:00	15:00	16:00	13:00	17:00	16:00	17:00	16:00	17:00	17:00	17:00	16:00
Vol.	538	307	525	313	413	336	310	276	490	284	510	298	516	328	453	294

Comb. Total	8680		8882		8007		6221		7931		8587		8751		8151	

ADT	**ADT**	**8151**	AADT	8151
	AWDT	**8566**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
SE KLAHANIE BLVD E/O
ISSAQUAH-PINE LAKE RD
LOC# 73 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 73

Date Start: 05-May-19
Date End: 11-May-19

	5-May-19		Mon		Tue		Wed		Thu		Fri		Sat		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	16	10	6	3	11	5	8	4	13	4	5	5	27	9	12	6
01:00	15	4	1	4	2	4	3	3	2	3	2	1	9	6	5	4
02:00	3	3	4	1	3	2	7	5	6	3	4	5	7	3	5	3
03:00	7	3	2	5	0	6	1	4	0	5	2	4	3	3	2	4
04:00	1	4	3	21	3	24	3	19	0	27	1	20	3	7	2	17
05:00	3	6	6	52	11	51	9	54	7	50	10	48	2	13	7	39
06:00	10	26	30	186	32	176	39	166	25	185	20	145	25	53	26	134
07:00	17	53	64	**321**	60	**336**	57	**311**	66	**319**	61	**305**	33	70	51	245
08:00	51	112	81	312	79	302	90	287	74	281	87	276	76	203	77	**253**
09:00	67	164	**97**	254	105	252	**115**	266	102	260	98	268	102	203	98	238
10:00	119	**205**	82	125	76	144	95	145	89	134	73	129	**180**	234	102	159
11:00	**129**	170	92	97	**133**	151	96	125	**113**	130	**131**	119	155	**239**	**121**	147
12:00 PM	139	**162**	128	107	118	116	130	116	129	101	139	130	**189**	174	139	129
01:00	169	145	128	119	147	129	136	128	104	112	129	112	189	**183**	143	133
02:00	137	150	145	110	140	109	127	129	136	138	147	97	153	160	141	128
03:00	164	140	181	151	209	147	142	126	208	209	205	169	172	162	183	158
04:00	**176**	120	247	156	248	**191**	253	150	232	**215**	238	168	186	172	226	**167**
05:00	146	132	346	**176**	307	189	**407**	**160**	**333**	187	**282**	**177**	153	144	**282**	166
06:00	158	105	**364**	152	**386**	159	348	149	301	209	250	143	164	145	282	152
07:00	141	89	207	147	195	155	199	118	241	147	187	146	131	105	186	130
08:00	95	66	142	73	157	84	151	96	149	90	145	69	115	61	136	77
09:00	65	30	75	39	111	44	114	34	103	48	103	65	120	45	99	44
10:00	29	24	43	20	37	18	30	12	49	24	98	47	74	30	51	25
11:00	16	12	20	11	28	10	28	9	32	5	49	33	42	17	31	14
Lane	1873	1935	2494	2642	2598	2804	2588	2616	2514	2886	2466	2681	2310	2441	2406	2572
Day	3808		5136		5402		5204		5400		5147		4751		4978	
AM Peak	11:00	10:00	9:00	7:00	11:00	7:00	9:00	7:00	11:00	7:00	11:00	7:00	10:00	11:00	11:00	8:00
Vol.	129	205	97	321	133	336	115	311	113	319	131	305	180	239	121	253
PM Peak	16:00	12:00	18:00	17:00	18:00	16:00	17:00	17:00	17:00	16:00	17:00	17:00	12:00	13:00	17:00	16:00
Vol.	176	162	364	176	386	191	407	160	333	215	282	177	189	183	282	167

Comb. Total	3808		5136		5402		5204		5400		5147		4751		4978	

ADT	**ADT**	**4978**	AADT	4978
	AWDT	**5258**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
SE 43RD WAY NE/O
E LAKE SAMMAMISH PKWY SE
LOC# 87 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 87

Date Start: 29-Apr-19
Date End: 05-May-19

	29-Apr-19		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	26	33	32	26	38	21	36	20	47	30	64	48	65	41	44	31
01:00	17	14	18	7	12	14	12	15	16	13	38	27	38	21	22	16
02:00	9	8	10	12	11	7	11	9	12	11	16	8	15	12	12	10
03:00	12	18	15	22	5	13	11	26	10	15	14	12	20	16	12	17
04:00	30	56	29	65	47	51	39	51	38	53	28	22	23	12	33	44
05:00	99	186	108	202	100	188	111	175	105	156	67	50	50	42	91	143
06:00	287	490	278	504	285	487	272	488	287	472	77	158	69	96	222	385
07:00	**459**	830	**482**	897	432	841	422	867	505	830	226	256	107	154	376	668
08:00	419	**1014**	447	**1022**	472	**931**	**567**	910	465	**931**	372	518	193	353	419	**811**
09:00	421	885	474	901	468	896	487	**950**	419	883	404	659	309	481	426	808
10:00	426	562	456	628	471	669	448	560	478	636	584	682	**453**	557	474	613
11:00	452	523	476	528	**487**	574	505	609	**553**	588	**614**	**725**	442	**560**	**504**	587
12:00 PM	541	533	530	540	568	563	516	595	536	577	**671**	**712**	589	604	564	589
01:00	502	454	560	532	584	562	551	528	592	531	635	678	**638**	**642**	580	561
02:00	625	494	650	542	654	566	648	559	650	574	657	650	593	593	640	568
03:00	762	**619**	762	**662**	782	633	789	**704**	848	**712**	634	559	629	509	744	**628**
04:00	955	586	973	612	901	**643**	886	609	847	605	622	537	597	523	826	588
05:00	**1099**	481	**1081**	546	**1085**	567	**1035**	479	**978**	558	574	485	616	431	**924**	507
06:00	913	441	941	505	949	472	948	505	812	567	509	404	505	338	797	462
07:00	491	319	625	365	608	375	640	371	588	407	397	275	416	287	538	343
08:00	361	270	431	259	413	318	438	295	450	323	367	228	376	242	405	276
09:00	244	182	285	235	294	171	299	254	363	253	323	193	214	141	289	204
10:00	118	84	142	111	164	107	147	117	228	181	201	147	135	71	162	117
11:00	59	35	82	23	75	42	68	47	142	63	129	72	53	39	87	46
Lane	9327	9117	9887	9746	9905	9711	9886	9743	9969	9969	8223	8105	7145	6765	9192	9022
Day	18444		19633		19616		19629		19938		16328		13910		18214	
AM Peak	7:00	8:00	7:00	8:00	11:00	8:00	8:00	9:00	11:00	8:00	11:00	11:00	10:00	1:00	11:00	8:00
Vol.	459	1014	482	1022	487	931	567	950	553	931	614	725	453	560	504	811
PM Peak	17:00	15:00	17:00	15:00	17:00	16:00	17:00	15:00	17:00	15:00	12:00	12:00	13:00	13:00	17:00	15:00
Vol.	1099	619	1081	662	1085	643	1035	704	978	712	671	712	638	642	924	628

Comb. Total	18444	19633	19616	19629	19938	16328	13910	18214

ADT	**ADT**	**18214**	AADT	18214
	AWDT	**19452**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
E LAKE SAMMAMISH PKWY SE S/O
SE 43RD ST/WAY
LOC# 32 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 32

Date Start: 29-Apr-19
Date End: 05-May-19

	29-Apr-19		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Start Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	53	39	61	35	77	33	68	31	91	37	120	81	124	64	85	46
01:00	32	19	36	10	36	24	36	21	33	22	69	42	60	46	43	26
02:00	25	14	26	20	23	15	26	16	29	26	41	13	41	29	30	19
03:00	22	36	28	37	20	34	27	45	27	33	26	28	26	23	25	34
04:00	67	102	65	123	91	103	73	112	65	105	39	53	33	27	62	89
05:00	205	342	218	372	223	342	224	327	199	303	92	106	56	77	174	267
06:00	531	853	520	898	492	901	484	867	506	830	118	273	90	172	392	685
07:00	739	1570	795	**1650**	785	1570	750	**1585**	776	1485	327	525	153	305	618	1241
08:00	**785**	**1695**	780	1649	814	**1628**	**913**	1585	765	**1571**	546	902	322	628	704	**1380**
09:00	751	1477	**825**	1529	842	1524	840	1534	745	1461	706	1185	505	842	745	1365
10:00	721	1025	787	1136	794	1075	752	1035	779	1083	931	1176	737	**1010**	786	1077
11:00	780	910	813	937	**857**	996	833	1034	**904**	1007	**1030**	**1219**	**777**	993	**856**	1014
12:00 PM	900	883	895	929	981	971	915	988	961	1040	**1167**	**1244**	1012	**1071**	976	1018
01:00	880	840	1024	923	1076	1020	943	929	1009	960	1088	1187	1092	1058	1016	988
02:00	1059	992	1103	1005	1100	1071	1099	1018	1137	1055	1163	1095	**1100**	1022	1109	1037
03:00	1319	1158	1310	1240	1352	1237	1374	**1301**	1434	**1281**	1137	988	1052	932	1283	**1162**
04:00	1691	**1167**	1683	**1250**	1633	**1273**	1653	1244	1529	1225	1097	978	1031	902	1474	1148
05:00	**1970**	980	**1790**	1093	**1884**	1139	**1824**	1026	**1741**	1122	1033	919	1045	766	**1612**	1006
06:00	1569	852	1639	899	1666	898	1668	973	1389	1015	918	746	885	612	1391	856
07:00	912	576	1097	634	1128	648	1116	646	1032	769	727	522	780	511	970	615
08:00	649	446	756	452	741	527	770	483	752	546	690	436	662	423	717	473
09:00	429	263	486	343	530	298	494	354	648	402	581	323	396	253	509	319
10:00	201	125	277	179	283	160	282	185	367	253	377	240	216	118	286	180
11:00	121	57	151	41	143	67	143	78	255	120	235	134	97	59	164	79
Lane	16411	16421	17165	17384	17571	17554	17307	17417	17173	17751	14258	14415	12292	11943	16025	16126
Day	32832		34549		35125		34724		34924		28673		24235		32152	
AM Peak	8:00	8:00	9:00	7:00	11:00	8:00	8:00	7:00	11:00	8:00	11:00	11:00	11:00	10:00	11:00	8:00
Vol.	785	1695	825	1650	857	1628	913	1585	904	1571	1030	1219	777	1010	856	1380
PM Peak	17:00	16:00	17:00	16:00	17:00	16:00	17:00	15:00	17:00	15:00	12:00	12:00	14:00	12:00	17:00	15:00
Vol.	1970	1167	1790	1250	1884	1273	1824	1301	1741	1281	1167	1244	1100	1071	1612	1162

Comb. Total	32832		34549		35125		34724		34924		28673		24235		32152	

ADT **ADT 32152** AADT 32152
AWDT 34431

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-FALL CITY RD NE/O
ISSAQUAH-PINE LAKE RD
LOC# 22 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 22

Date Start: 05-May-19
Date End: 11-May-19

	5-May-19		Mon		Tue		Wed		Thu		Fri		Sat		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	120	57	53	26	55	22	50	22	50	29	65	28	153	49	78	33
01:00	80	24	35	14	28	12	41	17	37	5	36	12	64	23	46	15
02:00	46	18	9	8	16	16	9	10	24	11	16	11	46	23	24	14
03:00	24	23	29	33	25	30	18	29	14	33	13	26	21	21	21	28
04:00	32	35	33	103	23	107	35	111	28	96	21	91	26	44	28	84
05:00	37	66	94	328	97	326	91	336	89	307	98	305	29	105	76	253
06:00	40	162	284	821	258	850	250	838	252	873	247	750	68	223	200	645
07:00	160	292	560	1132	557	1128	455	**1141**	530	**1155**	512	1076	221	396	428	903
08:00	416	436	**669**	**1146**	**681**	**1139**	592	1044	**649**	1153	589	**1113**	444	730	577	966
09:00	545	741	544	1017	585	1002	**706**	1109	556	1079	606	1049	602	932	592	**990**
10:00	786	**944**	513	688	516	699	649	815	503	684	569	770	781	995	617	799
11:00	**890**	894	643	643	628	620	651	663	629	683	**694**	726	**885**	**1016**	**717**	749
12:00 PM	942	**1106**	665	677	672	656	723	721	651	670	750	747	951	939	765	**788**
01:00	**976**	855	658	577	682	575	818	646	665	570	803	625	**1045**	**973**	807	689
02:00	948	770	877	646	899	649	822	659	904	687	949	706	1024	858	918	711
03:00	858	688	1176	707	1100	683	1101	761	1109	721	1169	758	935	802	1064	731
04:00	896	661	**1285**	**760**	**1293**	**830**	**1179**	744	**1201**	796	1202	**873**	873	827	**1133**	784
05:00	885	607	1161	708	1232	790	795	**776**	1142	**803**	**1287**	814	805	894	1044	770
06:00	765	462	951	709	979	705	1173	681	1183	706	1116	807	824	665	999	676
07:00	622	383	923	498	978	568	992	613	922	605	970	596	662	523	867	541
08:00	596	276	712	314	777	403	766	488	711	354	713	504	632	390	701	390
09:00	399	251	415	207	524	221	517	221	551	219	618	394	655	277	526	256
10:00	229	94	224	72	256	86	246	101	246	106	404	192	419	175	289	118
11:00	109	45	121	49	132	43	140	40	139	59	233	119	258	118	162	68
Lane	11401	9890	12634	11883	12993	12160	12819	12586	12785	12404	13680	13092	12423	11998	12676	12002
Day	21291		24517		25153		25405		25189		26772		24421		24678	
AM Peak	11:00	10:00	8:00	8:00	8:00	8:00	9:00	7:00	8:00	7:00	11:00	8:00	11:00	11:00	11:00	9:00
Vol.	890	944	669	1146	681	1139	706	1141	649	1155	694	1113	885	1016	717	990
PM Peak	13:00	12:00	16:00	16:00	16:00	16:00	16:00	17:00	16:00	17:00	17:00	16:00	13:00	13:00	16:00	12:00
Vol.	976	1106	1285	760	1293	830	1179	776	1201	803	1287	873	1045	973	1133	788

Comb. Total	21291		24517		25153		25405		25189		26772		24421		24678	

ADT	**ADT**	**24678**	AADT	24678
	AWDT	**25407**		

PRJ19-00008 Attachment 060

TRAFFIC COUNT CONSULTANTS, INC.

SAMMAMISH, WASHINGTON
ISSAQUAH-FALL CITY RD SW/O
ISSAQUAH-PINE LAKE RD
LOC# 23 V SAM19056TM

Traffic Data Gathering

Team@tc2inc.com
(253) 770-1407

Page 1

Site Code: 23

Date Start: 05-May-19
Date End: 11-May-19

	5-May-19		Mon		Tue		Wed		Thu		Fri		Sat		Week Average	
Start Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	148	74	61	32	55	29	55	30	57	32	75	31	149	57	86	41
01:00	74	34	33	16	30	19	28	17	38	10	49	18	72	29	46	20
02:00	39	22	18	12	17	16	19	19	26	18	23	19	53	29	28	19
03:00	28	24	21	47	28	52	18	36	17	46	31	35	19	27	23	38
04:00	19	37	29	138	34	143	33	145	36	127	17	135	17	66	26	113
05:00	39	81	85	413	94	431	110	423	89	415	116	364	35	129	81	322
06:00	54	220	250	916	249	994	226	989	219	970	228	870	72	289	185	750
07:00	143	380	347	1360	365	1369	382	**1397**	373	**1392**	380	1301	236	500	318	1100
08:00	375	637	428	**1362**	491	**1371**	451	1276	494	1382	480	1353	447	1030	452	1202
09:00	480	987	451	1305	500	1341	541	1331	486	1324	517	**1360**	657	1320	519	**1281**
10:00	679	**1235**	529	928	534	962	603	1068	562	952	601	982	929	**1365**	634	1070
11:00	**819**	1167	**651**	844	**652**	815	**684**	897	**686**	869	**739**	923	**1004**	1347	**748**	980
12:00 PM	924	**1258**	733	785	770	791	794	847	746	818	806	937	1071	**1207**	835	**949**
01:00	**984**	1026	726	711	781	740	838	778	767	751	897	794	**1107**	1176	871	854
02:00	969	984	861	721	915	776	832	819	864	741	961	776	1083	1050	926	838
03:00	887	887	1051	774	1087	757	1028	**844**	1123	800	1133	882	1103	1094	1059	863
04:00	945	825	1208	**843**	1176	**908**	1239	829	1197	**904**	1213	**987**	982	1044	1137	906
05:00	911	760	**1355**	824	**1373**	803	**1292**	828	**1344**	882	**1332**	930	936	1044	**1220**	867
06:00	811	576	1297	762	1330	806	1283	777	1305	787	1213	878	951	829	1170	774
07:00	697	514	919	560	1049	670	1019	678	1060	707	1008	735	785	656	934	646
08:00	596	360	749	406	734	465	831	523	791	451	780	543	687	488	738	462
09:00	404	280	477	228	540	277	592	305	611	259	621	387	685	316	561	293
10:00	252	131	261	114	326	106	286	141	311	159	451	199	438	242	332	156
11:00	118	66	126	53	148	48	170	53	171	70	267	164	275	119	182	82
Lane	11395	12565	12666	14154	13278	14689	13354	15050	13373	14866	13938	15603	13793	15453	13114	14626
Day	23960		26820		27967		28404		28239		29541		29246		27740	
AM Peak	11:00	10:00	11:00	8:00	11:00	8:00	11:00	7:00	1:00	7:00	11:00	9:00	11:00	10:00	11:00	9:00
Vol.	819	1235	651	1362	652	1371	684	1397	686	1392	739	1360	1004	1365	748	1281
PM Peak	13:00	12:00	17:00	16:00	17:00	16:00	17:00	15:00	17:00	16:00	17:00	16:00	13:00	12:00	17:00	12:00
Vol.	984	1258	1355	843	1373	908	1292	847	1344	904	1332	987	1107	1207	1220	949

Comb. Total	23960	26820	27967	28404	28239	29541	29246	27740

ADT	**ADT**	**27740**	AADT	27740
	AWDT	**28194**		

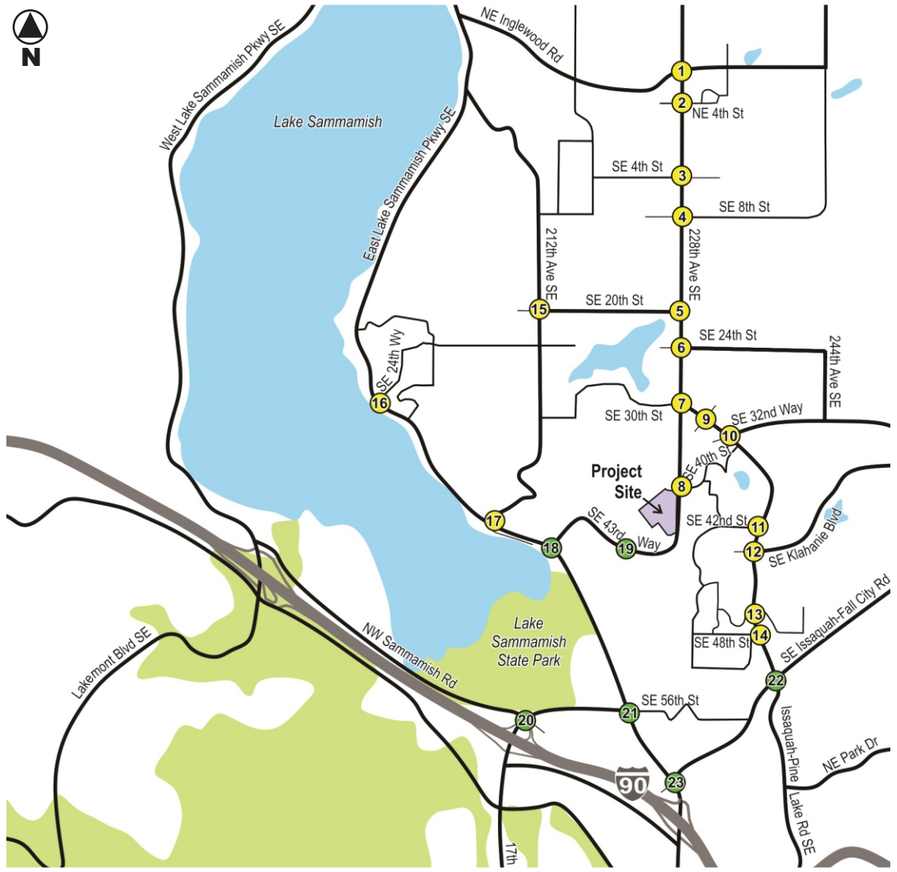
PRJ19-00008 Attachment 060

PRJ19-00008 Attachment 060

APPENDIX C

2024 BACKGROUND AND PIPELINE VOLUMES

September 1, 2020



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[52] [585] [279]		221 (124) [163]
(71) (785) (374)		238 (218) [207]
68 600 137		179 (303) [226]
[296] (225) 78	316	569 86
[282] (297) 162	(259)	(479) (125)
[341] (456) 281	[341]	[631] [164]

2 228th Ave NE/NE 4th St

[4] [906] [89]		195 (314) [157]
(5) (1214) (119)		4 (22) [11]
7 724 273		162 (686) [343]
[21] (16) 29	6	897 150
[4] (4) 6	(10)	(853) (66)
[13] (18) 21	[13]	[1122] [86]

3 228th Ave SE/SE 4th St

[96] [1099] [23]		86 (21) [28]
(129) (1472) (30)		13 (9) [9]
47 723 156		97 (47) [35]
[129] (99) 88	55	883 296
[2] (2) 47	(128)	(799) (12)
[128] (172) 77	[168]	[1051] [16]

4 228th Ave SE/SE 8th St

[94] [985] [140]		395 (212) [106]
(125) (1320) (187)		35 (78) [39]
50 736 134		304 (397) [198]
[100] (75) 34	55	821 264
[46] (49) 22	(90)	(797) (229)
[22] (29) 6	[118]	[1049] [301]

5 228th Ave SE/SE 20th St

[102] [1161] [19]		23 (15) [19]
(137) (1555) (26)		1 (1) [1]
95 1242 9		38 (30) [23]
[99] (75) 182	186	1035 18
[7] (7) 1	(112)	(1153) (29)
[219] (293) 108	[147]	[1517] [39]

6 228th Ave SE/SE 24th St

[19] [999] [332]		214 (241) [318]
(26) (1338) (445)		1 (6) [6]
9 1060 125		111 (116) [86]
[16] (12) 4	5	712 106
[5] (5) 2	(17)	(1146) (136)
[9] (11) 1	[22]	[1509] [179]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[38] [436] [499]		439 (347) [456]
(56) (584) (668)		100 (124) [118]
45 749 392		207 (192) [144]
[161] (122) 109	7	411 66
[101] (106) 109	(13)	(734) (179)
[15] (19) 17	[17]	[965] [236]

8 228th Ave SE/SE 40th St

[546] [33]		80 (19) [26]
(732) (44)		
1026 21		39 (18) [13]
	470	9
	(892)	(22)
	[1173]	[29]

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[7] [882] [54]		44 (26) [33]
(7) (900) (55)		1 (1) [1]
124 422 10		27 (21) [21]
[12] (10) 137	108	627 12
[1] (1) 1	(10)	(597) (27)
[13] (13) 71	[13]	[776] [34]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[6] [634] [277]		271 (131) [190]
(6) (646) (283)		1 (2) [2]
2 429 94		230 (153) [151]
[5] (4) 9	4	687 78
[1] (1) 1	(2)	(588) (161)
[1] (1) 1	[4]	[763] [209]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[18] [706]		
(23) (720)		
17 651		
[35] (24) 28	22	573
	(27)	(617)
[34] (35) 27	[35]	[802]

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[5] [655] [79]		99 (32) [45]
(5) (668) (80)		4 (1) [1]
4 652 22		326 (108) [106]
[2] (1) 15	1	482 55
[1] (1) 1	(13)	(608) (226)
[1] (1) 23	[17]	[790] [294]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[5] [725] [22]		21 (22) [32]
(5) (740) (22)		1 (1) [1]
1 1058 13		125 (55) [54]
[2] (1) 5	4	495 26
[1] (1) 1	(10)	(865) (102)
[9] (9) 15	[13]	[1124] [133]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[49] [777]		
(50) (793)		
15 1206		
[41] (28) 47	54	437
	(155)	(951)
[111] (113) 197	[201]	[1235]

15 212th Ave SE/SE 20th St

[9] [168] [221]		163 (73) [85]
(7) (142) (189)		30 (34) [40]
1 150 51		137 (107) [127]
[2] (2) 12	46	169 155
[36] (32) 24	(32)	(148) (96)
[36] (32) 45	[36]	[175] [113]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[574] [10]		13 (6) [9]
(597) (10)		
520 16		40 (43) [41]
	355	15
	(465)	(39)
	[645]	[55]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[11] [2] [145]		103 (240) [332]
(7) (2) (151)		371 (546) [758]
9 0 350		0 (2) [4]
[13] (13) 9	0	0 0
[653] (679) 633	(1)	(1) (1)
[0] (0) 0	[1]	[1] [1]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[44] [741]		473 (880) [1222]
(58) (993)		473 (749) [1041]
51 1166		
[46] (49) 49		
[765] (796) 953		

19 Providence Point Dr SE/ SE 43rd Way

[38] [1] [15]		1 (4) [2]
(51) (1) (20)		1045 (728) [543]
29 1 30		18 (19) [15]
[41] (32) 15	11	1 13
[1187] (903) 465	(16)	(1) (11)
[1] (1) 6	[12]	[1] [15]

20 NW Sammamish Rd/ 17th Ave NW

[287] [1669] [16]		16 (23) [27]
(253) (1467) (14)		58 (93) [106]
509 1301 11		106 (253) [287]
[403] (355) 122	334	1215 186
[165] (144) 32	(214)	(1144) (214)
[387] (341) 143	[244]	[1309] [244]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[708] [520] [42]		16 (42) [48]
(621) (457) (37)		186 (154) [175]
892 441 16		32 (80) [90]
[1145] (1000) 441	520	462 16
[154] (136) 64	(294)	(738) (37)
[483] (425) 196	[334]	[848] [42]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[488] [349] [55]		35 (54) [82]
(498) (342) (44)		784 (387) [431]
629 557 81		427 (303) [296]
[590] (447) 179	2	209 257
[539] (485) 121	(14)	(446) (528)
[10] (10) 5	[18]	[600] [686]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

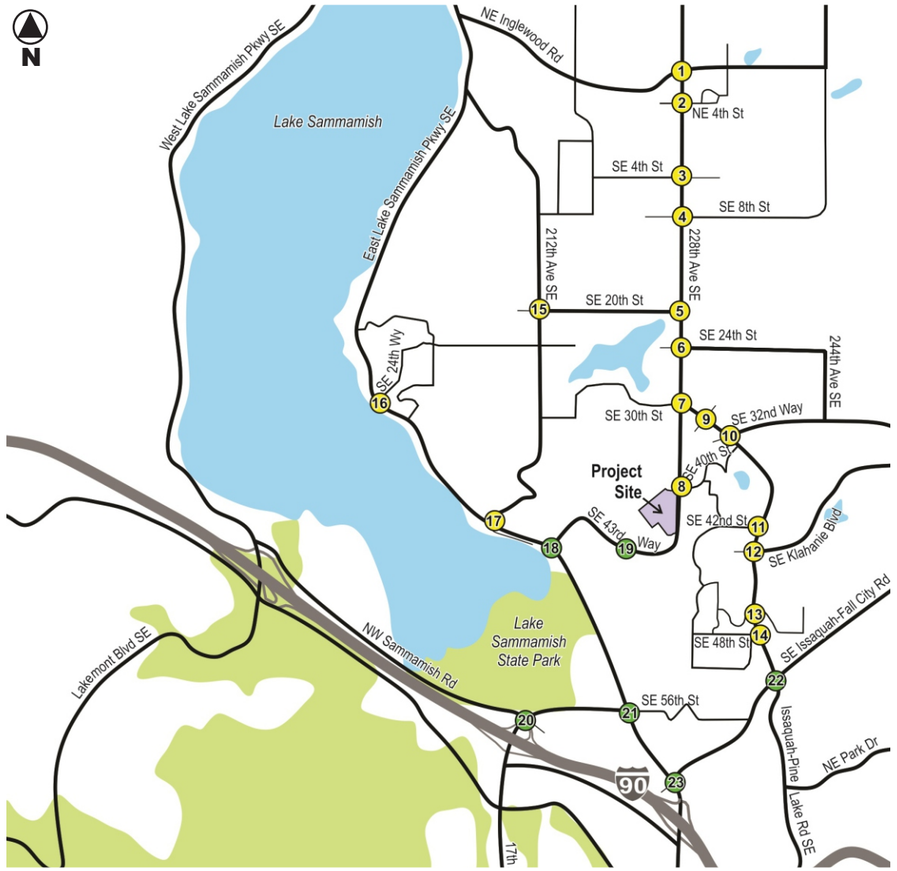
[21] [839] [265]		154 (126) [143]
(19) (738) (234)		37 (10) [11]
48 393 58		929 (560) [637]
[42] (37) 27	80	870 430
[37] (33) 16	(14)	(906) (911)
[85] (74) 42	[16]	[1039] [1035]

High School #4
Elementary #17

Figure C-1
2024 Background Volumes (Without Pipeline Trips)
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

08.15.20



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[0]	[3]	[0]
(0)	(2)	(0)
0	8	0

0	(0)	[0]
0	(0)	[0]
1	(1)	[1]

[0]	(0)	0
[0]	(0)	0
[1]	(1)	1

1	6	1
(1)	(3)	(1)
[1]	[3]	[1]

2 228th Ave NE/NE 4th St

[0]	[5]	[0]
(0)	(4)	(0)
0	10	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	8	0
(0)	(5)	(0)
[0]	[5]	[0]

3 228th Ave SE/SE 4th St

[0]	[5]	[0]
(0)	(4)	(0)
0	10	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[1]	(1)	4

3	8	0
(1)	(5)	(0)
[1]	[5]	[0]

4 228th Ave SE/SE 8th St

[0]	[6]	[0]
(0)	(5)	(0)
0	14	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	11	0
(0)	(6)	(0)
[0]	[6]	[0]

5 228th Ave SE/SE 20th St

[0]	[6]	[0]
(0)	(5)	(0)
0	14	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	11	0
(0)	(6)	(0)
[0]	[6]	[0]

6 228th Ave SE/SE 24th St

[0]	[6]	[0]
(0)	(5)	(0)
0	14	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	11	0
(0)	(6)	(0)
[0]	[6]	[0]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[0]	[0]	[6]
(0)	(0)	(5)
0	0	14

11	(6)	[6]
3	(2)	[2]
5	(3)	[2]

[0]	(0)	0
[2]	(2)	4
[0]	(0)	0

0	0	4
(0)	(0)	(4)
[0]	[0]	[2]

8 228th Ave SE/SE 40th St

[2]	[0]	
(3)	(0)	
5	0	

0	(0)	[0]
0	(0)	[0]

4	0	
(4)	(0)	
[2]	[0]	

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[0]	[10]	[0]
(0)	(9)	(0)
0	22	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	19	0
(0)	(11)	(0)
[0]	[10]	[0]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[0]	[10]	[0]
(0)	(9)	(0)
0	22	0

0	(0)	[0]
0	(0)	[0]
5	(3)	[3]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	19	4
(0)	(11)	(3)
[0]	[10]	[3]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[0]	[13]	
(0)	(12)	
0	27	

[0]	(0)	0
[6]	(23)	55

47	23	
(28)	(14)	
[7]	[13]	

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[0]	[19]	[0]
(0)	(35)	(0)
0	82	0

0	(0)	[0]
0	(0)	[0]
14	(6)	[4]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	70	12
(0)	(42)	(7)
[0]	[21]	[5]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[5]	[35]	[2]
(20)	(69)	(3)
35	117	4

5	(2)	[2]
0	(0)	[0]
0	(0)	[0]

[5]	(18)	40
[0]	(0)	0
[0]	(0)	0

0	133	0
(0)	(55)	(0)
[0]	[32]	[0]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[8]	[27]	
(42)	(27)	
42	75	

[7]	(20)	50
[0]	(0)	0

0	83	
(0)	(35)	
[0]	[25]	

15 212th Ave SE/SE 20th St

[0]	[0]	[0]
(0)	(0)	(0)
0	0	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[0]	[0]	
(0)	(0)	
0	0	

0	(0)	[0]
0	(0)	[0]

0	0	
(0)	(0)	
[0]	[0]	

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[0]	[0]	[0]
(0)	(0)	(0)
0	0	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[1]	(2)	2
[0]	(0)	0

0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[0]	[2]	
(0)	(3)	
0	5	

2	(2)	[1]
0	(0)	[0]

[1]	(2)	2
[0]	(0)	0

19 Providence Point Dr SE/ SE 43rd Way

[0]	[0]	[0]
(0)	(0)	(0)
0	0	0

0	(0)	[0]
5	(3)	[2]
0	(0)	[0]

[0]	(0)	0
[2]	(4)	4
[0]	(0)	0

0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

20 NW Sammamish Rd/ 17th Ave NW

[0]	[0]	[0]
(0)	(0)	(0)
0	0	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[2]	[0]	[0]
(2)	(1)	(0)
0	0	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[0]	[14]	[13]
(0)	(14)	(13)
0	40	35

40	(17)	[12]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

0	43	0
(0)	(18)	(0)
[0]	[13]	[0]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[0]	[0]	[0]
(0)	(1)	(0)
0	0	0

0	(0)	[0]
0	(0)	[0]
0	(0)	[0]

[0]	(0)	0
[0]	(0)	0
[0]	(0)	0

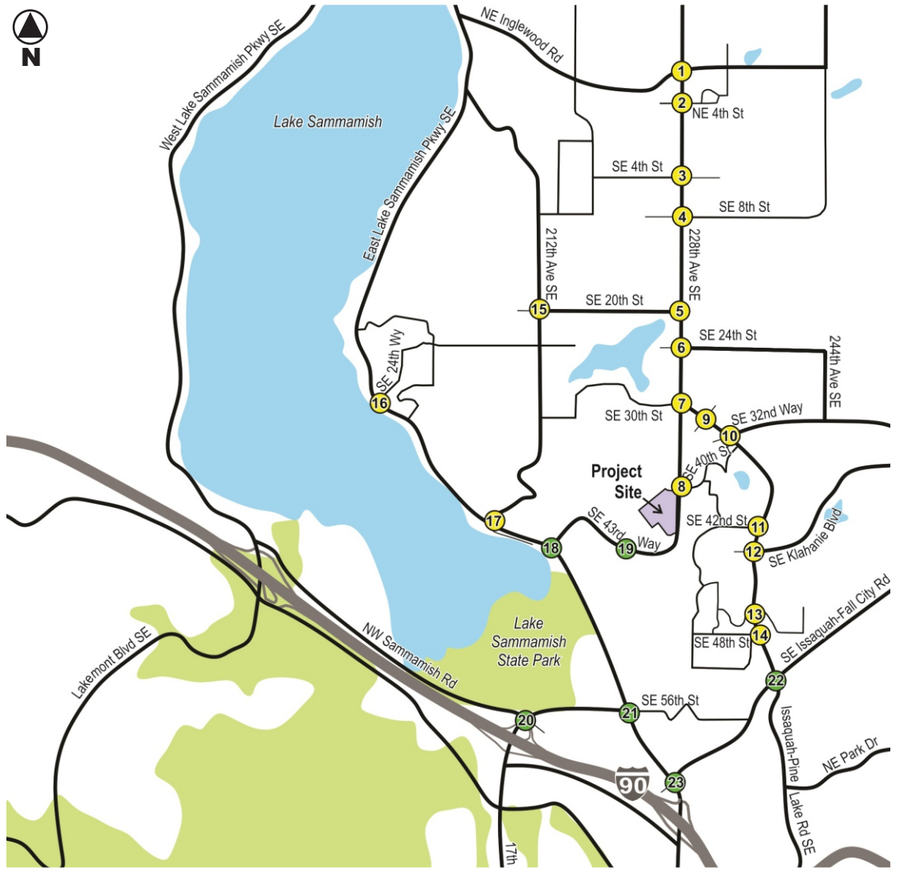
0	0	0
(0)	(0)	(0)
[0]	[0]	[0]

High School #4
Elementary #17

Figure C-2
Elementary School #16 Pipeline Trips
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

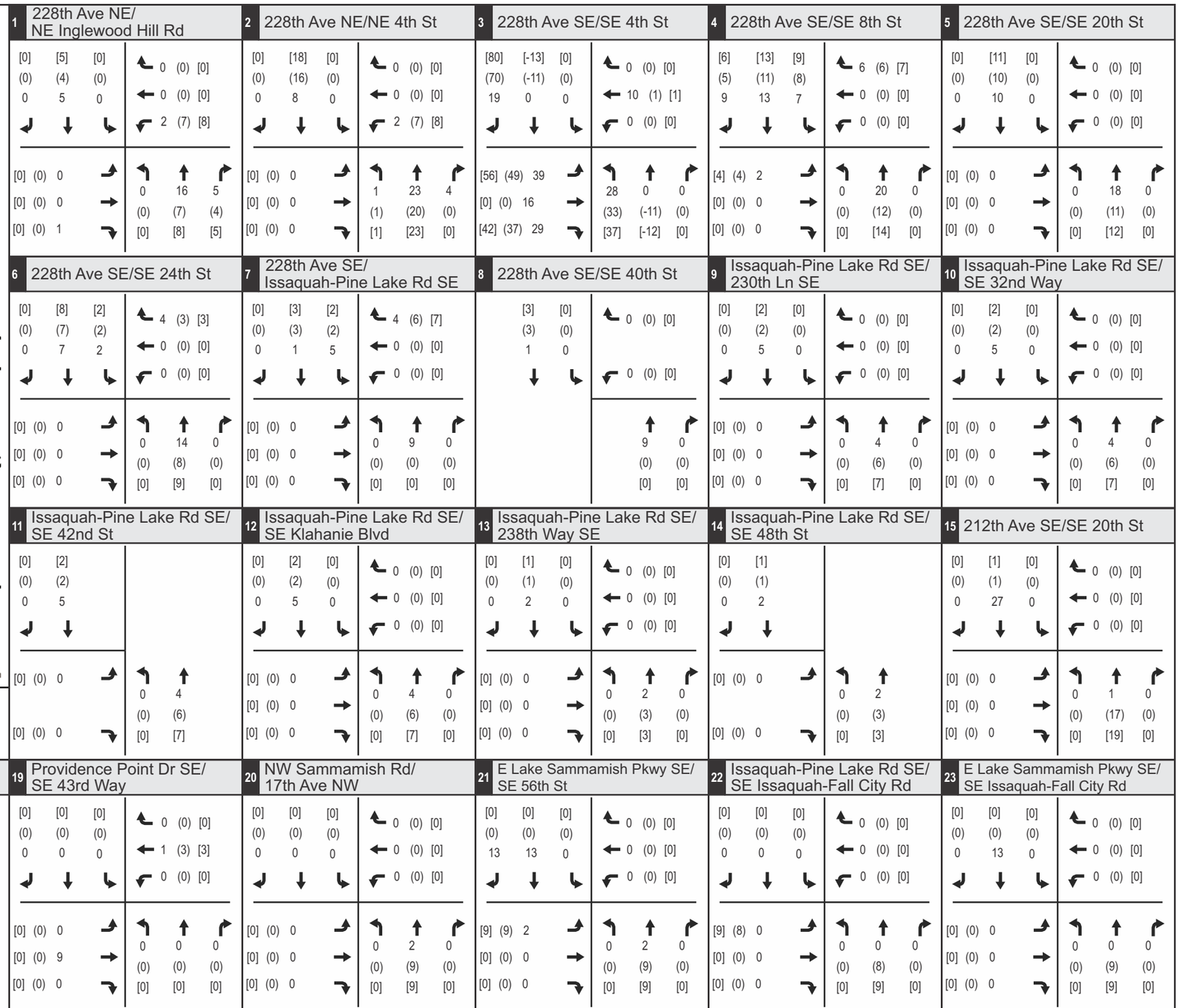
08.15.20



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

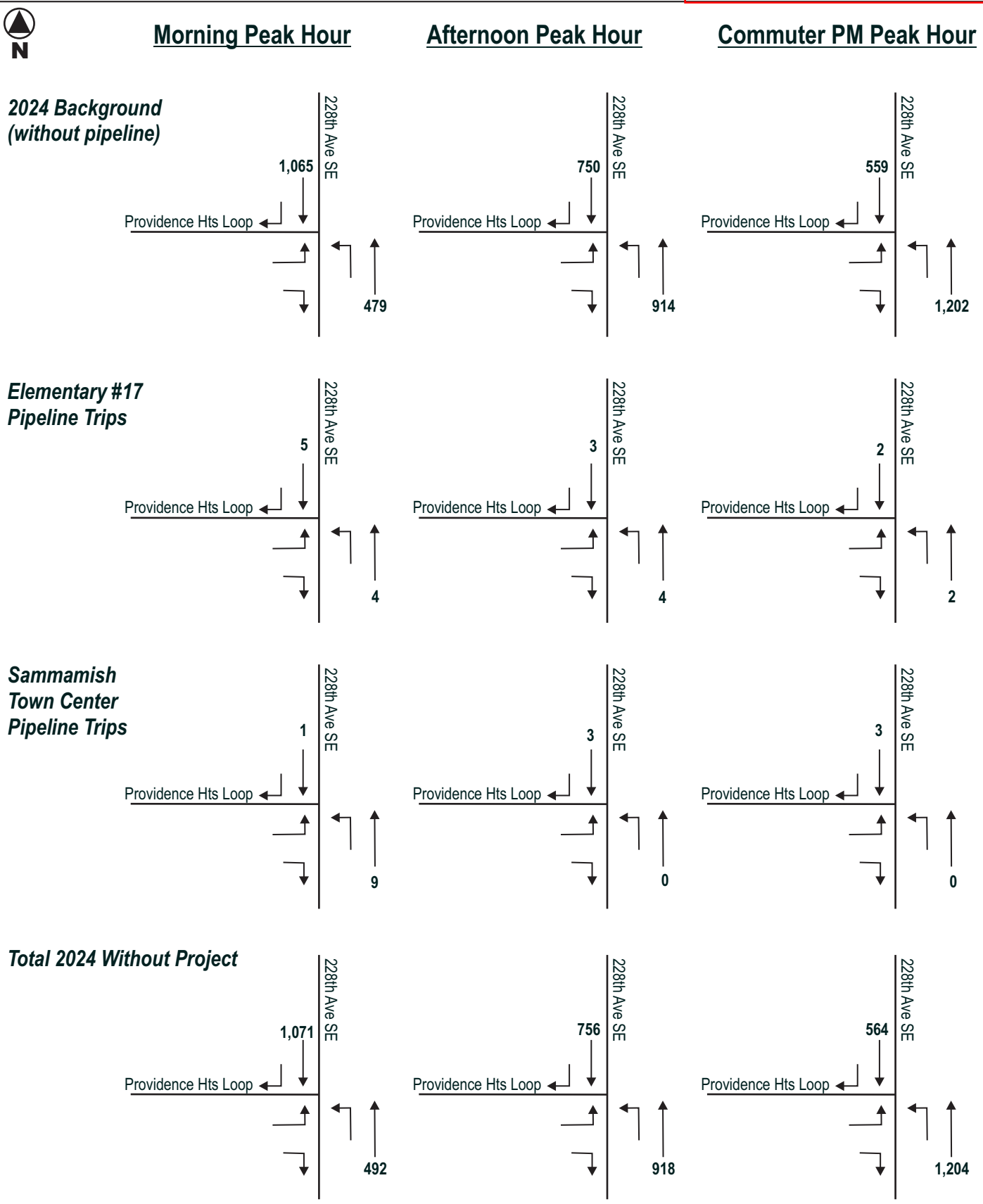


High School #4
Elementary #17

Figure C-3
Sammamish Town Center Pipeline Trips
Morning, Afternoon, and Commuter PM Peak Hours

heffron transportation inc

08.15.20



High School #4
Elementary #17

Figure C-4
Background Traffic Volumes at Site Access Driveway (Without Project)
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

09.01.20

PRJ19-00008 Attachment 060

heffron transportation inc

APPENDIX D

LEVEL OF SERVICE DEFINITIONS & REPORTS

September 1, 2020

Levels of service (LOS) are qualitative descriptions of traffic operating conditions. These levels of service are designated with letters ranging from LOS A, which is indicative of good operating conditions with little or no delay, to LOS F, which is indicative of stop-and-go conditions with frequent and lengthy delays. Levels of service for this analysis were developed using procedures presented in the *Highway Capacity Manual, Sixth Edition* (Transportation Research Board, 2016).

Signalized Intersections

Level of service for signalized intersections is defined in terms of average delay for all vehicles that travel through the intersection. Delay can be a cause of driver discomfort, frustration, inefficient fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average delay per vehicle in seconds. Delay is a complex measure and is dependent on a number of variables including: number and type of vehicles by movement, intersection lane geometry, signal phasing, the amount of green time allocated to each phase, transit stops and parking maneuvers. Table D-1 shows the level of service criteria for signalized intersections from the *Highway Capacity Manual, Sixth Edition.*

Table D-1. Level of Service for Signalized Intersections

Level of Service	Average Control Delay Per Vehicle
A	≤ 10 seconds
B	> 10 – 20 seconds
C	> 20 – 35 seconds
D	> 35 – 55 seconds
E	> 55 – 80 seconds
F	> 80 seconds

Source: Transportation Research Board, Highway Capacity Manual, Exhibit 19.8, 2016.

Unsignalized Intersections

For unsignalized intersections, level of service is based on the average delay per vehicle for each turning movement. The level of service for all-way stop or roundabout-controlled intersections is based upon the average delay for all vehicles that travel through the intersection. The level of service for a one- or two-way, stop-controlled intersection, delay is related to the availability of gaps in the main street's traffic flow, and the ability of a driver to enter or pass through those gaps. Table D-2 shows the level of service criteria for unsignalized intersections from the *Highway Capacity Manual, Sixth Edition.*

Table D-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay per Vehicle
A	0 – 10 seconds
B	> 10 – 15 seconds
C	> 15 – 25 seconds
D	> 25 – 35 seconds
E	> 35 – 50 seconds
F	> 50 seconds

Source: Transportation Research Board, Highway Capacity Manual, Exhibit 20.2, 2016.

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	133	231	147	196	182	260	468	71	113	493	56
Future Volume (vph)	64	133	231	147	196	182	260	468	71	113	493	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00		0.96	0.99		0.98	1.00	0.99		0.99	1.00	
Frt			0.850			0.850		0.980			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1783	1516	1694	1783	1516	1711	3332	0	1677	3293	0
Flt Permitted	0.317			0.423			0.950			0.950		
Satd. Flow (perm)	565	1783	1461	745	1783	1492	1703	3332	0	1659	3293	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			249			228		9			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1487			1545			1340			548	
Travel Time (s)		29.0			30.1			26.1			10.7	
Confl. Peds. (#/hr)	1		7	7		1	2		5	5		2
Confl. Bikes (#/hr)			2			1						1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	80	166	289	184	245	228	325	585	89	141	616	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	166	289	184	245	228	325	674	0	141	686	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4						
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	40.0	50.0	35.0	40.0	50.0	35.0	35.0	65.0		35.0	65.0	
Total Split (%)	21.1%	26.3%	18.4%	21.1%	26.3%	18.4%	18.4%	34.2%		18.4%	34.2%	
Maximum Green (s)	35.0	45.0	30.0	35.0	45.0	30.0	30.0	60.0		30.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		7			1			5			2	
Act Effct Green (s)	30.6	16.6	49.2	30.6	21.9	36.9	32.6	45.9		15.4	28.7	

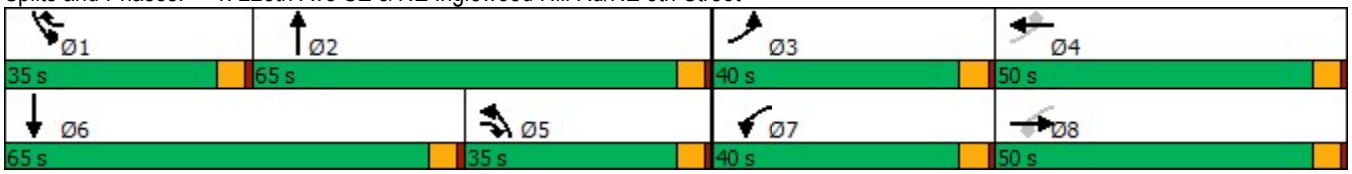
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.29	0.16	0.47	0.29	0.21	0.36	0.31	0.44		0.15	0.28	
v/c Ratio	0.30	0.58	0.34	0.53	0.65	0.34	0.61	0.46		0.57	0.75	
Control Delay	28.7	51.1	3.3	33.1	47.2	4.0	39.3	23.1		52.5	40.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.7	51.1	3.3	33.1	47.2	4.0	39.3	23.1		52.5	40.2	
LOS	C	D	A	C	D	A	D	C		D	D	
Approach Delay		21.9			28.3			28.4			42.3	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	37	102	8	91	147	0	179	154		87	212	
Queue Length 95th (ft)	70	172	30	145	228	28	309	240		152	278	
Internal Link Dist (ft)		1407			1465			1260			468	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	624	821	839	628	829	894	536	2039		526	2015	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.13	0.20	0.34	0.29	0.30	0.26	0.61	0.33		0.27	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 103.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 31.0 Intersection LOS: C
Intersection Capacity Utilization 59.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: 228th Ave SE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	24	5	17	133	3	160	7	5	737	123	224	595
Future Volume (vph)	24	5	17	133	3	160	7	5	737	123	224	595
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0	275	
Storage Lanes	0		0	0		1		1		0	2	
Taper Length (ft)	0			0				25			50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.97	0.95
Ped Bike Factor		0.99			0.99	0.99			1.00		0.99	1.00
Frt		0.950				0.850			0.979			0.998
Flt Protected		0.974			0.953			0.950			0.950	
Satd. Flow (prot)	0	1655	0	0	1750	1561	0	1711	3334	0	3286	3380
Flt Permitted		0.810			0.684			0.259			0.950	
Satd. Flow (perm)	0	1376	0	0	1250	1540	0	466	3334	0	3268	3380
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		20				239			16			1
Link Speed (mph)		25			25				35			35
Link Distance (ft)		322			749				1370			1340
Travel Time (s)		8.8			20.4				26.7			26.1
Confl. Peds. (#/hr)	1		4	4		1		7		9	9	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	36	7	25	199	4	239	10	7	1100	184	334	888
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	203	239	0	17	1284	0	334	897
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	NA
Protected Phases		8			4		5	5	2		1	6
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	24.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	65.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	45.1%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	60.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0		3.0	3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	Min
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			7.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			12.0
Pedestrian Calls (#/hr)	7	7		1	1	1			9			9
Act Effct Green (s)		23.5			23.5	22.4		63.5	43.7		17.0	58.1
Actuated g/C Ratio		0.25			0.25	0.24		0.68	0.47		0.18	0.63
v/c Ratio		0.19			0.64	0.43		0.04	0.81		0.56	0.42

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	6
Future Volume (vph)	6
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	7
Peak Hour Factor	0.67
Heavy Vehicles (%)	3%
Adj. Flow (vph)	9
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

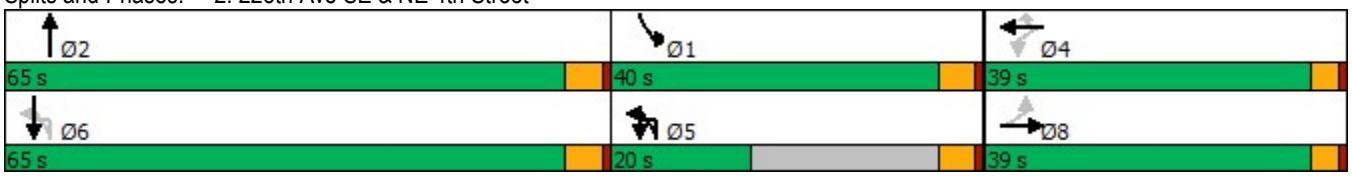
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Control Delay		25.1			44.4	7.2		6.4	26.8		41.9	14.6
Queue Delay		0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		25.1			44.4	7.2		6.4	26.8		41.9	14.6
LOS		C			D	A		A	C		D	B
Approach Delay		25.1			24.3				26.5			22.0
Approach LOS		C			C				C			C
Queue Length 50th (ft)		22			105	0		3	320		92	101
Queue Length 95th (ft)		47			161	7		9	348		131	280
Internal Link Dist (ft)		242			669				1290			1260
Turn Bay Length (ft)								125			275	
Base Capacity (vph)		606			540	785		888	2365		1420	2490
Starvation Cap Reductn		0			0	0		0	0		0	0
Spillback Cap Reductn		0			0	0		0	0		0	0
Storage Cap Reductn		0			0	0		0	0		0	0
Reduced v/c Ratio		0.11			0.38	0.30		0.02	0.54		0.24	0.36

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 92.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 24.3 Intersection LOS: C
Intersection Capacity Utilization 53.8% ICU Level of Service A
Analysis Period (min) 15
Description: FYA installed per Sammamish Current Projects list

Splits and Phases: 2: 228th Ave SE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBR
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	72	39	63	80	11	71	6	45	726	243	23	128
Future Volume (vph)	72	39	63	80	11	71	6	45	726	243	23	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11	11	11	11	11	11	11
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	175		300	30		0		190		170		380
Storage Lanes	1		0	1		0		1		1		1
Taper Length (ft)	25			25				50				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor		0.99		1.00						0.97		
Frt		0.907			0.870					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1661	1568	0	1728	1582	0	0	1745	3490	1561	0	1711
Flt Permitted	0.630			0.560				0.255				0.162
Satd. Flow (perm)	1101	1568	0	1014	1582	0	0	468	3490	1513	0	292
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		42			91					143		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)			3	3				5		7		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	92	50	81	103	14	91	8	58	931	312	29	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	131	0	103	105	0	0	66	931	312	0	193
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4			8			6	6		2	2	2
Detector Phase	3	8		7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0		11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0		41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%		23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-2.0	-2.0	-2.0		-2.0
Total Lost Time (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None		None	None	Min	Min	None	None

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	594	39
Future Volume (vph)	594	39
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	11	11
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.991	
Flt Protected		
Satd. Flow (prot)	3380	0
Flt Permitted		
Satd. Flow (perm)	3380	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.78	0.78
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	762	50
Shared Lane Traffic (%)		
Lane Group Flow (vph)	812	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Walk Time (s)		7.0							7.0	7.0		
Flash Dont Walk (s)		19.0							12.0	12.0		
Pedestrian Calls (#/hr)		3							7	7		
Act Effct Green (s)	25.0	14.3		25.0	14.6			45.6	31.5	31.5		44.7
Actuated g/C Ratio	0.30	0.17		0.30	0.18			0.55	0.38	0.38		0.54
v/c Ratio	0.23	0.43		0.26	0.30			0.17	0.70	0.47		0.50
Control Delay	23.8	29.0		24.1	12.9			9.8	26.2	14.1		14.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	23.8	29.0		24.1	12.9			9.8	26.2	14.1		14.6
LOS	C	C		C	B			A	C	B		B
Approach Delay		26.8			18.4				22.5			
Approach LOS		C			B				C			
Queue Length 50th (ft)	31	39		35	6			12	191	55		38
Queue Length 95th (ft)	76	97		83	40			37	334	137		93
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	175			30				190		170		380
Base Capacity (vph)	841	801		874	833			555	2377	1076		865
Starvation Cap Reductn	0	0		0	0			0	0	0		0
Spillback Cap Reductn	0	0		0	0			0	0	0		0
Storage Cap Reductn	0	0		0	0			0	0	0		0
Reduced v/c Ratio	0.11	0.16		0.12	0.13			0.12	0.39	0.29		0.22

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 82.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 20.4 Intersection LOS: C
Intersection Capacity Utilization 50.1% ICU Level of Service A
Analysis Period (min) 15
Description: FYA installed on 228th per Sammamish Project list

Splits and Phases: 3: 228th Ave SE & SE 4th Street

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Walk Time (s)	7.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	39.8	
Actuated g/C Ratio	0.48	
v/c Ratio	0.50	
Control Delay	17.1	
Queue Delay	0.0	
Total Delay	17.1	
LOS	B	
Approach Delay	16.6	
Approach LOS	B	
Queue Length 50th (ft)	137	
Queue Length 95th (ft)	234	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2904	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.28	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	28	18	5	250	29	325	17	45	675	217	1	110
Future Volume (vph)	28	18	5	250	29	325	17	45	675	217	1	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.98		0.99			1.00	0.99			1.00
Frt			0.850			0.850			0.963			
Flt Protected		0.970			0.957			0.950				0.950
Satd. Flow (prot)	0	1729	1515	0	1758	1561	0	1728	3300	0	0	1694
Flt Permitted		0.970			0.957			0.950				0.950
Satd. Flow (perm)	0	1729	1480	0	1741	1561	0	1726	3300	0	0	1688
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			309			29			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1774				959			
Travel Time (s)		5.5			34.6				16.3			
Confl. Peds. (#/hr)			5	5				1		4		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	32	20	6	284	33	369	19	51	767	247	1	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	6	0	317	369	0	70	1014	0	0	126
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	5	5	5						4			
Act Effct Green (s)		13.3	11.0		28.9	28.9		13.3	43.1			17.0

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	605	41
Future Volume (vph)	605	41
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.990	
Flt Protected		
Satd. Flow (prot)	3348	0
Flt Permitted		
Satd. Flow (perm)	3348	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.88	0.88
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	688	47
Shared Lane Traffic (%)		
Lane Group Flow (vph)	735	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)	51.8	

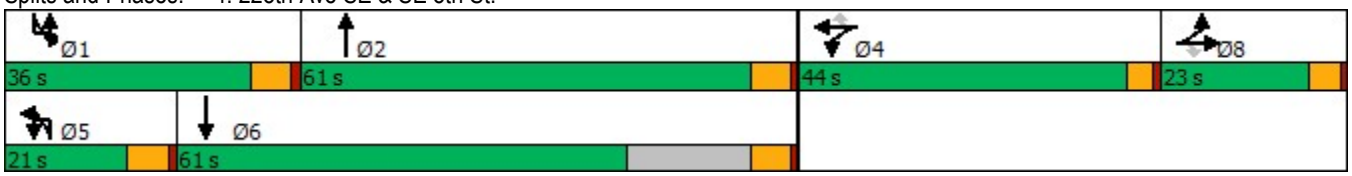
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.12	0.10		0.26	0.26		0.12	0.39			0.15
v/c Ratio		0.25	0.02		0.69	0.58		0.34	0.78			0.48
Control Delay		56.0	0.2		49.8	12.5		59.4	36.1			57.2
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		56.0	0.2		49.8	12.5		59.4	36.1			57.2
LOS		E	A		D	B		E	D			E
Approach Delay		50.3			29.7				37.6			
Approach LOS		D			C				D			
Queue Length 50th (ft)		35	0		203	33		47	317			83
Queue Length 95th (ft)		90	0		406	145		121	574			189
Internal Link Dist (ft)		203			1694				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		379	395		754	845		317	1963			562
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.14	0.02		0.42	0.44		0.22	0.52			0.22

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 110.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: 228th Ave SE & SE 8th St.



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.47	
v/c Ratio	0.47	
Control Delay	25.4	
Queue Delay	0.0	
Total Delay	25.4	
LOS	C	
Approach Delay	30.0	
Approach LOS	C	
Queue Length 50th (ft)	194	
Queue Length 95th (ft)	357	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	2319	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.32	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	150	1	89	31	1	19	15	153	851	15	1	7
Future Volume (vph)	150	1	89	31	1	19	15	153	851	15	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99			0.99				1.00			
Frt		0.851			0.857				0.997			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1694	1498	0	1745	1555	0	0	1694	3376	0	0	1719
Flt Permitted	0.742			0.645				0.117				0.224
Satd. Flow (perm)	1323	1498	0	1185	1555	0	0	209	3376	0	0	405
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					22				1			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			1086				1161			
Travel Time (s)		52.9			21.2				19.8			
Confl. Peds. (#/hr)								2		2		2
Confl. Bikes (#/hr)			1			1				2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	176	1	105	36	1	22	18	180	1001	18	1	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	106	0	36	23	0	0	198	1019	0	0	9
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							2			
Act Effct Green (s)	21.8	12.3		19.6	10.2			67.5	68.7			66.5

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1021	78
Future Volume (vph)	1021	78
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.989	
Flt Protected		
Satd. Flow (prot)	3393	0
Flt Permitted		
Satd. Flow (perm)	3393	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	3%	3%
Adj. Flow (vph)	1201	92
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1293	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	2	
Act Effct Green (s)	54.1	

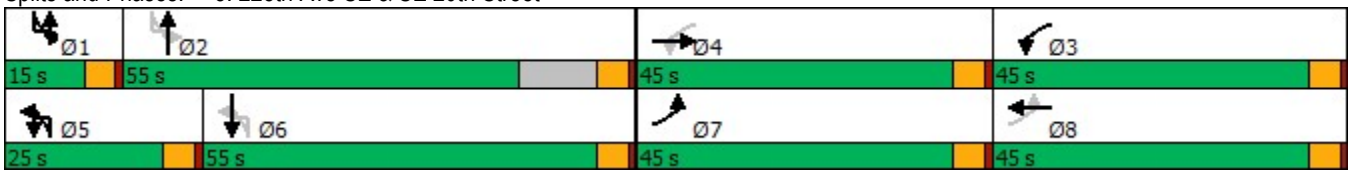
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.22	0.13		0.20	0.10			0.69	0.70			0.68
v/c Ratio	0.49	0.56		0.13	0.13			0.56	0.43			0.03
Control Delay	36.6	55.5		31.9	21.2			17.7	8.7			7.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	36.6	55.5		31.9	21.2			17.7	8.7			7.5
LOS	D	E		C	C			B	A			A
Approach Delay		43.7			27.7				10.2			
Approach LOS		D			C				B			
Queue Length 50th (ft)	93	64		18	1			35	117			2
Queue Length 95th (ft)	155	125		43	25			115	265			8
Internal Link Dist (ft)		2637			1006				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	754	627		879	663			500	2380			417
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.23	0.17		0.04	0.03			0.40	0.43			0.02

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 97.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 65.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: 228th Ave SE & SE 20th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.55	
v/c Ratio	0.69	
Control Delay	20.9	
Queue Delay	0.0	
Total Delay	20.9	
LOS	C	
Approach Delay	20.8	
Approach LOS	C	
Queue Length 50th (ft)	295	
Queue Length 95th (ft)	483	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1884	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.69	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	3	2	0	91	1	176	4	585	87	5	103	871
Future Volume (vph)	3	2	0	91	1	176	4	585	87	5	103	871
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		0.99				0.98			0.96			
Frt						0.850			0.850			0.999
Flt Protected		0.971			0.953		0.950				0.950	
Satd. Flow (prot)	0	1783	1837	0	1667	1487	1678	3355	1501	0	1678	3352
Flt Permitted		0.971			0.953		0.198				0.293	
Satd. Flow (perm)	0	1774	1837	0	1667	1455	350	3355	1446	0	517	3352
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)						202			100			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		301			736			1560				1161
Travel Time (s)		8.2			20.1			23.6				17.6
Confl. Peds. (#/hr)	4					4			4		4	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	3	2	0	105	1	202	5	672	100	6	118	1001
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	106	202	5	672	100	0	124	1009
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	D.P+P	D.P+P	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2	2	2	
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	4	4	4	4	4	4		0	4			0
Act Effct Green (s)		11.9			13.3	13.3	35.2	22.2	36.4		33.0	33.3
Actuated g/C Ratio		0.21			0.23	0.23	0.61	0.39	0.63		0.57	0.58

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	4%
Adj. Flow (vph)	8
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.01			0.28	0.41	0.01	0.52	0.10		0.24	0.52
Control Delay		26.2			26.0	7.9	9.8	17.5	1.4		9.6	13.0
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		26.2			26.0	7.9	9.8	17.5	1.4		9.6	13.0
LOS		C			C	A	A	B	A		A	B
Approach Delay		26.3			14.2			15.4				12.6
Approach LOS		C			B			B				B
Queue Length 50th (ft)		1			20	0	1	58	0		9	53
Queue Length 95th (ft)		13			119	56	9	271	13		86	414
Internal Link Dist (ft)		221			656			1480				1081
Turn Bay Length (ft)						300	220		320		350	
Base Capacity (vph)		1247			1393	1249	863	3089	1403		1197	3137
Starvation Cap Reductn		0			0	0	0	0	0		0	0
Spillback Cap Reductn		0			0	0	0	0	0		0	0
Storage Cap Reductn		0			0	0	0	0	0		0	0
Reduced v/c Ratio		0.00			0.08	0.16	0.01	0.22	0.07		0.10	0.32

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 57.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 13.8 Intersection LOS: B
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	90	90	14	170	82	361	1	6	338	54	322	616
Future Volume (vph)	90	90	14	170	82	361	1	6	338	54	322	616
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%				0%			0%
Storage Length (ft)	120		0	310		0		155		250	300	
Storage Lanes	1		0	1		1		1		1	1	
Taper Length (ft)	25			25				50			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.97	1.00
Ped Bike Factor		1.00		0.99						0.98	0.99	
Frt		0.979				0.850				0.850		
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1678	1722	0	1711	1801	1531	0	1631	3261	1459	3255	1766
Flt Permitted	0.950			0.950				0.197			0.950	
Satd. Flow (perm)	1678	1722	0	1699	1801	1531	0	338	3261	1429	3229	1766
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		4				285				130		
Link Speed (mph)		35			35				35			35
Link Distance (ft)		839			566				403			584
Travel Time (s)		16.3			11.0				7.9			11.4
Confl. Peds. (#/hr)			3	3						5	5	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	7%	4%	4%
Adj. Flow (vph)	100	100	16	189	91	401	1	7	376	60	358	684
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	116	0	189	91	401	0	8	376	60	358	684
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	D.P+P	NA	Perm	Prot	NA
Protected Phases	3	8		7	4	1	5	5	2		1	6
Permitted Phases						4	6	6		2		
Detector Phase	3	8		7	4	1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	11.0	38.0	38.0	11.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	36.0	56.0	56.0	31.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	21.4%	33.3%	33.3%	18.4%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	30.0	50.0	50.0	25.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6		0.0	-3.0	-3.0	-2.6	-3.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4		6.0	3.0	3.0	3.4	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0							10.0	10.0		4.0
Flash Dont Walk (s)		25.0							22.0	22.0		16.0
Pedestrian Calls (#/hr)		3							5	5		0
Act Effct Green (s)	9.7	12.4		17.4	17.4	40.5		52.4	35.7	35.7	17.2	54.8

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	37
Future Volume (vph)	37
Ideal Flow (vphpl)	1900
Grade (%)	
Storage Length (ft)	125
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1501
Flt Permitted	
Satd. Flow (perm)	1501
Right Turn on Red	Yes
Satd. Flow (RTOR)	130
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	4%
Adj. Flow (vph)	41
Shared Lane Traffic (%)	
Lane Group Flow (vph)	41
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	10.0
Minimum Split (s)	26.0
Total Split (s)	56.0
Total Split (%)	33.3%
Maximum Green (s)	50.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Recall Mode	None
Walk Time (s)	4.0
Flash Dont Walk (s)	16.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	51.7

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.10	0.13		0.18	0.18	0.41		0.53	0.36	0.36	0.17	0.56
v/c Ratio	0.61	0.53		0.63	0.29	0.50		0.03	0.32	0.10	0.63	0.70
Control Delay	61.3	48.2		48.9	37.2	7.8		16.1	27.4	0.3	44.3	24.6
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	48.2		48.9	37.2	7.8		16.1	27.4	0.3	44.3	24.6
LOS	E	D		D	D	A		B	C	A	D	C
Approach Delay		54.3			23.1				23.5			30.2
Approach LOS		D			C				C			C
Queue Length 50th (ft)	56	63		101	47	42		2	80	0	98	247
Queue Length 95th (ft)	146	139		233	105	120		14	198	0	202	#857
Internal Link Dist (ft)		759			486				323			504
Turn Bay Length (ft)	120			310				155		250	300	
Base Capacity (vph)	352	550		675	851	940		590	1986	921	943	984
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.28	0.21		0.28	0.11	0.43		0.01	0.19	0.07	0.38	0.70

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 98.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 29.1 Intersection LOS: C
Intersection Capacity Utilization 65.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd

Lane Group	SBR
Actuated g/C Ratio	0.53
v/c Ratio	0.05
Control Delay	0.1
Queue Delay	0.0
Total Delay	0.1
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	0
Internal Link Dist (ft)	
Turn Bay Length (ft)	125
Base Capacity (vph)	850
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.05

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	66	386	7	17	843
Future Volume (vph)	32	66	386	7	17	843
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.909		0.998			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1550	0	1762	0	1711	1801
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1550	0	1762	0	1711	1801
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.60	0.60	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	4%	4%	2%	2%
Adj. Flow (vph)	53	110	429	8	19	937
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	0	437	0	19	937
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	66	386	7	17	843
Future Vol, veh/h	32	66	386	7	17	843
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	60	60	90	90	90	90
Heavy Vehicles, %	6	6	4	4	2	2
Mvmt Flow	53	110	429	8	19	937

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1408	433	0	0	437	0
Stage 1	433	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	150	614	-	-	1123	-
Stage 1	646	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	147	614	-	-	1123	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	354	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.3	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	301	1123	-
HCM Lane V/C Ratio	-	-	0.543	0.017	-
HCM Control Delay (s)	-	-	30.3	8.3	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	3	0.1	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	0	58	22	1	36	89	515	10	8	347	102
Future Volume (vph)	113	0	58	22	1	36	89	515	10	8	347	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.82		0.84	0.99		1.00	1.00		1.00	0.99	
Frt		0.850			0.853			0.997			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1275	0	1745	1546	0	1694	3376	0	1601	3073	0
Flt Permitted	0.726			0.708			0.359			0.329		
Satd. Flow (perm)	1333	1275	0	1096	1546	0	638	3376	0	552	3073	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		448			47			2			38	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			545	
Travel Time (s)		5.5			10.3			5.6			10.6	
Confl. Peds. (#/hr)			134	134			5		6	6		5
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	147	0	75	29	1	47	116	669	13	10	451	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	75	0	29	48	0	116	682	0	10	583	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

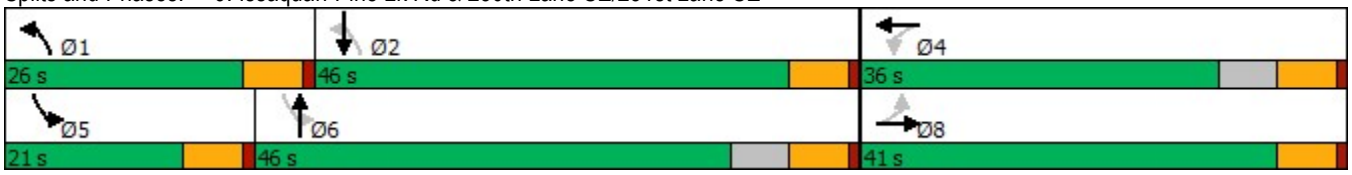
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	134	134		0	0			6			5	
Act Effct Green (s)	21.3	21.3		22.4	21.3		25.6	29.3		30.2	21.2	
Actuated g/C Ratio	0.33	0.33		0.35	0.33		0.40	0.45		0.47	0.33	
v/c Ratio	0.34	0.10		0.08	0.09		0.31	0.45		0.03	0.56	
Control Delay	21.2	0.3		17.8	7.1		13.0	14.2		9.1	21.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.2	0.3		17.8	7.1		13.0	14.2		9.1	21.3	
LOS	C	A		B	A		B	B		A	C	
Approach Delay		14.1			11.2			14.0			21.1	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	42	0		7	0		28	96		2	107	
Queue Length 95th (ft)	94	0		26	18		44	145		8	130	
Internal Link Dist (ft)		204			449			210			465	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	782	933		655	926		693	2392		565	2020	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.08		0.04	0.05		0.17	0.29		0.02	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 64.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 55.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	22	18	471	535	14
Future Volume (vph)	23	22	18	471	535	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1711	1531	1728	1818	1778	0
Flt Permitted	0.950		0.351			
Satd. Flow (perm)	1711	1531	638	1818	1778	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		24			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	3%	3%
Adj. Flow (vph)	25	24	20	518	588	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	24	20	518	603	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	0	0				
Act Effct Green (s)	9.7	9.7	22.6	27.5	26.5	
Actuated g/C Ratio	0.31	0.31	0.72	0.87	0.84	
v/c Ratio	0.05	0.05	0.03	0.33	0.40	
Control Delay	17.7	10.3	2.4	2.8	5.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

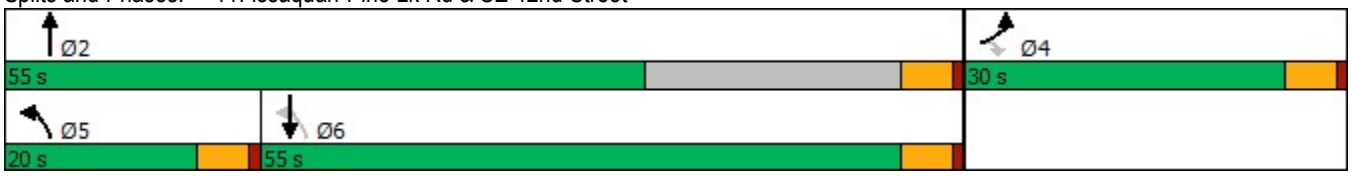
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	17.7	10.3	2.4	2.8	5.2	
LOS	B	B	A	A	A	
Approach Delay	14.1			2.8	5.2	
Approach LOS	B			A	A	
Queue Length 50th (ft)	2	0	1	0	0	
Queue Length 95th (ft)	27	18	6	94	224	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	1373	1234	1261	1818	1716	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.02	0.02	0.28	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 31.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 39.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	19	268	3	81	0	396	45	18	536	3
Future Volume (vph)	12	0	19	268	3	81	0	396	45	18	536	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		200	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97		0.98	0.97				0.98	1.00	1.00	
Frt		0.917			0.855				0.850		0.999	
Flt Protected		0.981		0.950						0.950		
Satd. Flow (prot)	0	1568	0	1728	1508	0	1783	1783	1516	1745	1835	0
Flt Permitted		0.921		0.735						0.350		
Satd. Flow (perm)	0	1467	0	1316	1508	0	1783	1783	1482	642	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			91				61			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			371			920	
Travel Time (s)		11.4			12.0			7.2			17.9	
Confl. Peds. (#/hr)	3		5	5		3	2		1	1		2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	13	0	21	301	3	91	0	445	51	20	602	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	301	94	0	0	445	51	20	605	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	5	5		3	3			1	1		2	
Act Effct Green (s)		28.6		28.6	28.6			35.8	35.8	42.2	39.8	
Actuated g/C Ratio		0.38		0.38	0.38			0.48	0.48	0.56	0.53	

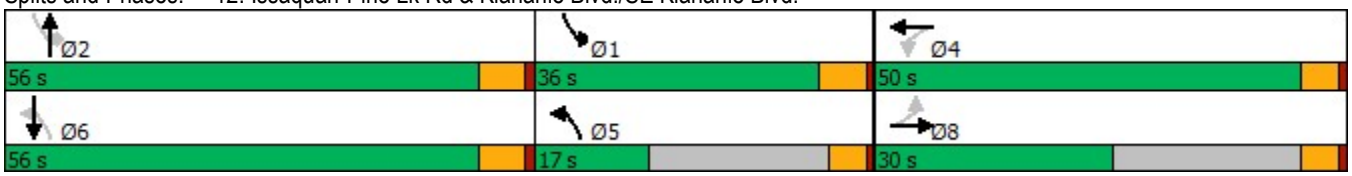
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.06		0.60	0.15			0.52	0.07	0.04	0.62	
Control Delay		1.1		26.8	5.6			19.3	4.2	10.2	16.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		1.1		26.8	5.6			19.3	4.2	10.2	16.3	
LOS		A		C	A			B	A	B	B	
Approach Delay		1.1			21.7			17.8			16.1	
Approach LOS		A			C			B			B	
Queue Length 50th (ft)		0		100	1			110	0	3	167	
Queue Length 95th (ft)		4		252	33			328	18	17	375	
Internal Link Dist (ft)		338			360			291			840	
Turn Bay Length (ft)				200					150	165		
Base Capacity (vph)		1024		899	1059			1328	1119	1093	1390	
Starvation Cap Reductn		0		0	0			0	0	0	0	
Spillback Cap Reductn		0		0	0			0	0	0	0	
Storage Cap Reductn		0		0	0			0	0	0	0	
Reduced v/c Ratio		0.03		0.33	0.09			0.34	0.05	0.02	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 74.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 17.8 Intersection LOS: B
Intersection Capacity Utilization 56.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	12	103	0	17	3	407	21	11	870	0
Future Volume (vph)	4	0	12	103	0	17	3	407	21	11	870	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		200	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.99							
Frt			0.850			0.850		0.993				
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1745	1561	0	1745	1561	1694	1771	0	1711	1801	0
Flt Permitted		0.632			0.755		0.159			0.435		
Satd. Flow (perm)	0	1161	1518	0	1368	1561	284	1771	0	783	1801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			18		4				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1458	
Travel Time (s)		8.8			7.1			14.1			28.4	
Confl. Peds. (#/hr)			4	4								
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	4	0	13	114	0	19	3	452	23	12	967	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	13	0	114	19	3	475	0	12	967	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		8.9	9.6		14.7	25.7	62.9	58.5		61.8	61.1	
Actuated g/C Ratio		0.10	0.11		0.17	0.29	0.72	0.67		0.71	0.70	
v/c Ratio		0.03	0.07		0.50	0.04	0.01	0.40		0.02	0.77	

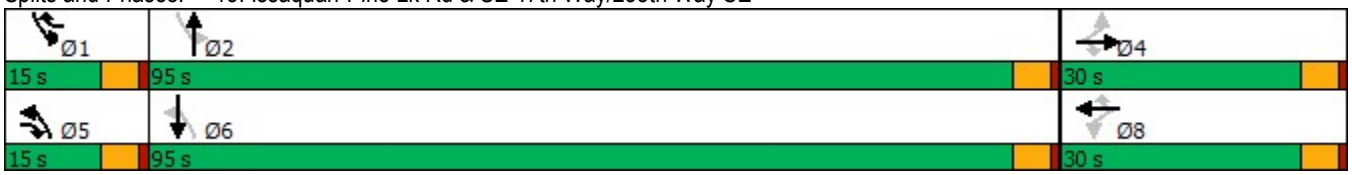
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		44.8	16.8		46.8	15.5	3.7	8.6		3.6	15.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		44.8	16.8		46.8	15.5	3.7	8.6		3.6	15.3	
LOS		D	B		D	B	A	A		A	B	
Approach Delay		23.3			42.3			8.5			15.1	
Approach LOS		C			D			A			B	
Queue Length 50th (ft)		2	0		42	0	0	113		1	222	
Queue Length 95th (ft)		14	16		153	21	3	216		7	702	
Internal Link Dist (ft)		243			181			645			1378	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		379	281		446	567	402	1605		701	1631	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.01	0.05		0.26	0.03	0.01	0.30		0.02	0.59	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 87.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 15.5 Intersection LOS: B
Intersection Capacity Utilization 65.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	162	44	359	991	12
Future Volume (vph)	39	162	44	359	991	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1728	1546	1678	1766	1797	0
Flt Permitted	0.950		0.114			
Satd. Flow (perm)	1728	1546	201	1766	1797	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		106			1	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%
Adj. Flow (vph)	44	184	50	408	1126	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	184	50	408	1140	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	12.9	23.6	91.2	93.2	84.6	
Actuated g/C Ratio	0.11	0.21	0.80	0.82	0.74	
v/c Ratio	0.23	0.46	0.20	0.28	0.86	
Control Delay	51.0	21.9	4.2	3.4	19.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

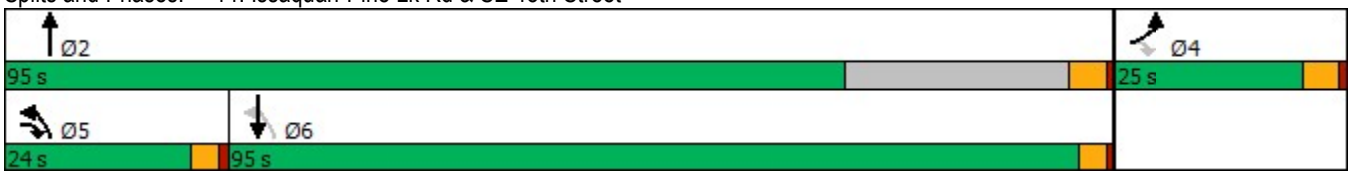
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	51.0	21.9	4.2	3.4	19.8	
LOS	D	C	A	A	B	
Approach Delay	27.5			3.5	19.8	
Approach LOS	C			A	B	
Queue Length 50th (ft)	31	51	5	55	496	
Queue Length 95th (ft)	68	117	15	111	955	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	322	584	441	1688	1468	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.32	0.11	0.24	0.78	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 114.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 16.7 Intersection LOS: B
Intersection Capacity Utilization 69.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	20	37	113	25	134	38	139	127	42	123	1
Future Volume (vph)	10	20	37	113	25	134	38	139	127	42	123	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.903			0.874			0.928			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1626	0	1728	1589	0	1694	1655	0	1728	1817	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1711	1626	0	1728	1589	0	1694	1655	0	1728	1817	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Adj. Flow (vph)	15	30	55	153	34	181	49	181	165	49	145	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	85	0	153	215	0	49	346	0	49	146	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.4% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	20	37	113	25	134	38	139	127	42	123	1
Future Vol, veh/h	10	20	37	113	25	134	38	139	127	42	123	1
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	1	1	1	3	3	3	1	1	1
Mvmt Flow	15	30	55	153	34	181	49	181	165	49	145	1
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.4	12	15.5	11.3
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	52%	0%	35%	0%	16%	0%	99%
Vol Right, %	0%	48%	0%	65%	0%	84%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	266	10	57	113	159	42	124
LT Vol	38	0	10	0	113	0	42	0
Through Vol	0	139	0	20	0	25	0	123
RT Vol	0	127	0	37	0	134	0	1
Lane Flow Rate	49	345	15	85	153	215	49	146
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.093	0.567	0.031	0.152	0.293	0.347	0.096	0.263
Departure Headway (Hd)	6.759	5.913	7.416	6.441	6.918	5.812	7.015	6.501
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	529	608	481	554	518	617	509	550
Service Time	4.515	3.669	5.195	4.22	4.679	3.572	4.783	4.268
HCM Lane V/C Ratio	0.093	0.567	0.031	0.153	0.295	0.348	0.096	0.265
HCM Control Delay	10.2	16.2	10.4	10.4	12.5	11.7	10.5	11.6
HCM Lane LOS	B	C	B	B	B	B	B	B
HCM 95th-tile Q	0.3	3.5	0.1	0.5	1.2	1.5	0.3	1

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	33	11	292	12	13	427
Future Volume (vph)	33	11	292	12	13	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.966		0.995			
Flt Protected	0.964					0.999
Satd. Flow (prot)	1677	0	1724	0	0	1799
Flt Permitted	0.964					0.999
Satd. Flow (perm)	1677	0	1724	0	0	1799
Link Speed (mph)	35		40			40
Link Distance (ft)	396		1034			334
Travel Time (s)	7.7		17.6			5.7
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.79	0.79	0.76	0.76	0.86	0.86
Heavy Vehicles (%)	2%	2%	6%	6%	2%	2%
Adj. Flow (vph)	42	14	384	16	15	497
Shared Lane Traffic (%)						
Lane Group Flow (vph)	56	0	400	0	0	512
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.0% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	11	292	12	13	427
Future Vol, veh/h	33	11	292	12	13	427
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	79	79	76	76	86	86
Heavy Vehicles, %	2	2	6	6	2	2
Mvmt Flow	42	14	384	16	15	497

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	919	392	0	0	400	0
Stage 1	392	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	301	657	-	-	1159	-
Stage 1	683	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	296	657	-	-	1159	-
Mov Cap-2 Maneuver	420	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	581	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	462	1159	-
HCM Lane V/C Ratio	-	-	0.121	0.013	-
HCM Control Delay (s)	-	-	13.9	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

PRJ19-00008 Attachment 060

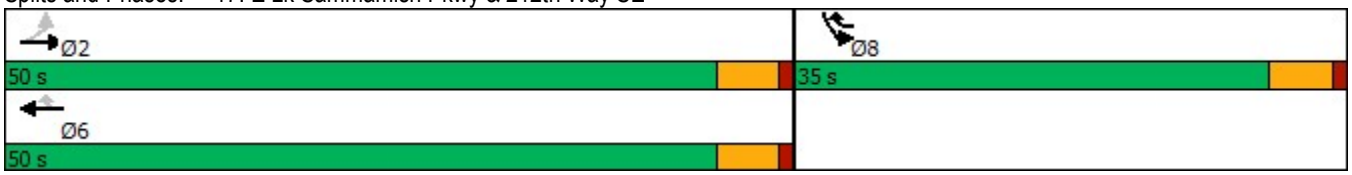
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	520	305	85	288	7
Future Volume (vph)	7	520	305	85	288	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			90	0	150
Storage Lanes	0			1	1	0
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850	0.997	
Flt Protected		0.999			0.954	
Satd. Flow (prot)	0	1817	1766	1501	1730	0
Flt Permitted		0.995			0.954	
Satd. Flow (perm)	0	1809	1766	1469	1730	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1036		414	
Travel Time (s)		13.3	20.2		9.4	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	4%	4%	1%	1%
Adj. Flow (vph)	8	565	332	92	313	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	573	332	92	321	0
Turn Type	Perm	NA	NA	pm+ov	Prot	
Protected Phases		2	6	8	8	
Permitted Phases	2			6		
Detector Phase	2	2	6	8	8	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0	22.0	21.0	21.0	
Total Split (s)	50.0	50.0	50.0	35.0	35.0	
Total Split (%)	58.8%	58.8%	58.8%	41.2%	41.2%	
Maximum Green (s)	45.0	45.0	45.0	30.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.5	-2.5	-2.5	-2.5	
Total Lost Time (s)		2.5	2.5	2.5	2.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Recall Mode	Min	Min	Min	None	None	
Walk Time (s)			7.0	5.0	5.0	
Flash Dont Walk (s)			10.0	11.0	11.0	
Pedestrian Calls (#/hr)			1	0	0	
Act Effct Green (s)		22.7	22.7	38.9	16.2	
Actuated g/C Ratio		0.51	0.51	0.88	0.37	
v/c Ratio		0.62	0.37	0.07	0.51	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay		11.7	8.4	0.2	15.3	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		11.7	8.4	0.2	15.3	
LOS		B	A	A	B	
Approach Delay		11.7	6.6		15.3	
Approach LOS		B	A		B	
Queue Length 50th (ft)		83	41	0	54	
Queue Length 95th (ft)		228	116	0	161	
Internal Link Dist (ft)		604	956		334	
Turn Bay Length (ft)				90		
Base Capacity (vph)		1696	1656	1431	1343	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.34	0.20	0.06	0.24	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 44.3
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 56.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 17: E Lk Sammamish Pkwy & 212th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	394	5	15	883	9	11
Future Volume (vph)	394	5	15	883	9	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	9	11	9	9
Grade (%)	5%			-5%	3%	
Storage Length (ft)		50	90		70	40
Storage Lanes		1	1		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3240	1450	1649	1864	1600	1432
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3240	1450	1649	1864	1600	1432
Link Speed (mph)	40			40	20	
Link Distance (ft)	1241			276	195	
Travel Time (s)	21.2			4.7	6.6	
Peak Hour Factor	0.96	0.96	0.90	0.90	0.78	0.78
Heavy Vehicles (%)	5%	5%	1%	1%	0%	0%
Adj. Flow (vph)	410	5	17	981	12	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	410	5	17	981	12	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 56.5% ICU Level of Service B
Analysis Period (min) 15
Description: No AM TMC to reference. Mirrored PHF and HV from n26

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	394	5	15	883	9	11
Future Vol, veh/h	394	5	15	883	9	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	50	90	-	-	40
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	5	-	-	-5	3	-
Peak Hour Factor	96	96	90	90	78	78
Heavy Vehicles, %	5	5	1	1	0	0
Mvmt Flow	410	5	17	981	12	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	410	0	1425	205
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	1015	-
Critical Hdwy	-	-	4.115	-	7.2	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2095	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1153	-	110	794
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	298	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1153	-	108	794
Mov Cap-2 Maneuver	-	-	-	-	222	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	294	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	222	794	-	-	1153	-
HCM Lane V/C Ratio	0.052	0.018	-	-	0.014	-
HCM Control Delay (s)	22.1	9.6	-	-	8.2	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	30	135	100	55	15	315	1145	175	10	985	240
Future Volume (vph)	115	30	135	100	55	15	315	1145	175	10	985	240
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98		1.00		1.00					0.97
Frt			0.850		0.968			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1716	1458	1646	1672	0	1630	3195	0	1599	3197	1383
Flt Permitted	0.589			0.736			0.950			0.950		
Satd. Flow (perm)	1009	1716	1435	1275	1672	0	1628	3195	0	1599	3197	1344
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					9			19				
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	1		2			1	2					2
Confl. Bikes (#/hr)			1									2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Adj. Flow (vph)	124	32	145	108	59	16	339	1231	188	11	1059	258
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	32	145	108	75	0	339	1419	0	11	1059	774
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	27.0	27.0
Total Split (s)	15.0	30.0	30.0	15.0	30.0		36.0	72.0		13.0	49.0	49.0
Total Split (%)	11.5%	23.1%	23.1%	11.5%	23.1%		27.7%	55.4%		10.0%	37.7%	37.7%
Maximum Green (s)	10.0	25.0	25.0	10.0	25.0		31.0	67.0		8.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		2	2		1			0			2	2
Act Effct Green (s)	27.8	17.4	17.4	24.7	16.7		30.5	83.6		5.6	52.7	53.7

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	480
Future Volume (vph)	480
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	No
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.93
Heavy Vehicles (%)	4%
Adj. Flow (vph)	516
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.21	0.13	0.13	0.19	0.13		0.23	0.64		0.04	0.41	0.41
v/c Ratio	0.45	0.14	0.76	0.40	0.34		0.89	0.69		0.16	0.82	1.39
Control Delay	44.5	48.4	77.5	43.8	47.2		72.7	19.2		54.1	35.4	213.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	1.4		0.0	0.0	0.0
Total Delay	44.5	48.4	77.5	43.8	47.2		72.7	20.6		54.1	35.4	213.8
LOS	D	D	E	D	D		E	C		D	D	F
Approach Delay		60.8			45.2			30.7			110.4	
Approach LOS		E			D			C			F	
Queue Length 50th (ft)	85	24	119	74	51		271	334		10	316	~890
Queue Length 95th (ft)	132	53	183	117	94		#440	619		m14	#607	#1193
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	275	330	275	276	328		406	2062		98	1296	555
Starvation Cap Reductn	0	0	0	0	0		0	420		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.45	0.10	0.53	0.39	0.23		0.83	0.86		0.11	0.82	1.39

Intersection Summary

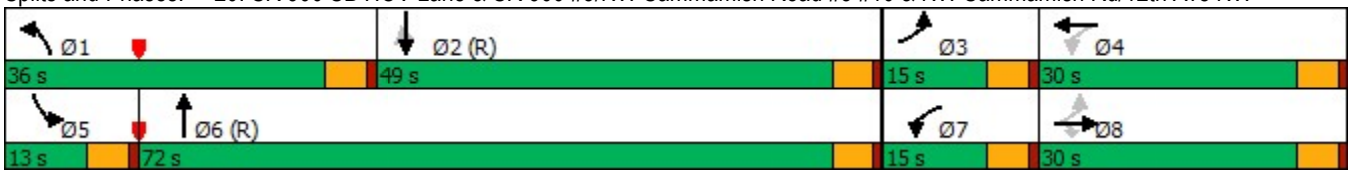
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.39
Intersection Signal Delay: 69.5 Intersection LOS: E
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	415	60	185	30	175	15	490	435	15	15	415	840
Future Volume (vph)	415	60	185	30	175	15	490	435	15	15	415	840
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	175		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00	1.00		1.00		0.99
Frt			0.850		0.988			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3027	1642	1385	1630	1692	0	3057	3133	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2999	1642	1362	1625	1692	0	3049	3133	0	1587	3182	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		3			3				225
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	6		2	2		6	2		2	2		2
Confl. Bikes (#/hr)			4			3			1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	432	63	193	31	182	16	510	453	16	16	432	875
Shared Lane Traffic (%)												
Lane Group Flow (vph)	432	63	193	31	198	0	510	469	0	16	432	875
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	13.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	23.0	48.0	35.0	13.0	38.0		35.0	55.0		14.0	34.0	23.0
Total Split (%)	17.7%	36.9%	26.9%	10.0%	29.2%		26.9%	42.3%		10.8%	26.2%	17.7%
Maximum Green (s)	18.0	43.0	30.0	8.0	33.0		30.0	50.0		9.0	29.0	18.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	Max	None	C-Max	None	None		C-Max	C-Max		None	None	Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		2			6			2			2	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	36.3	43.0	71.0	6.8	21.2		30.0	52.5		6.1	22.5	58.8
Actuated g/C Ratio	0.28	0.33	0.55	0.05	0.16		0.23	0.40		0.05	0.17	0.45
v/c Ratio	0.51	0.12	0.23	0.36	0.71		0.72	0.37		0.22	0.79	1.15
Control Delay	26.6	19.9	1.3	70.8	64.1		40.5	15.0		84.4	74.4	103.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		1.7	0.0		0.0	0.0	1.0
Total Delay	26.6	19.9	1.3	70.8	64.1		42.1	15.0		84.4	74.4	104.0
LOS	C	B	A	E	E		D	B		F	E	F
Approach Delay		18.9			65.0			29.1			94.1	
Approach LOS		B			E			C			F	
Queue Length 50th (ft)	34	9	0	26	159		169	101		13	193	~536
Queue Length 95th (ft)	#273	37	1	59	219		194	100		m22	256	#1160
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	175		215	150			400			230		800
Base Capacity (vph)	846	627	837	102	431		705	1267		110	709	764
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		79	0		0	0	112
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.51	0.10	0.23	0.30	0.46		0.81	0.37		0.15	0.61	1.34

Intersection Summary

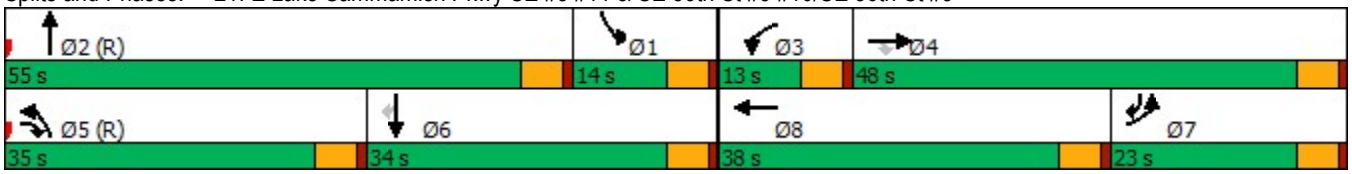
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 125 (96%), Referenced to phase 2:NBT and 5:NBL, Start of 1st Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 56.2 Intersection LOS: E
Intersection Capacity Utilization 98.2% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	114	5	402	739	33	2	197	242	76	525	593
Future Volume (vph)	169	114	5	402	739	33	2	197	242	76	525	593
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00							0.99
Frt		0.994			0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2470	2958	0	3118	3193	0	1502	1897	1344	1576	3151	1410
Flt Permitted	0.950			0.950			0.439			0.438		
Satd. Flow (perm)	2468	2958	0	3118	3193	0	694	1897	1344	726	3151	1392
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			2				255			394
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			707			402	
Travel Time (s)		14.0			39.6			13.8			7.8	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Adj. Flow (vph)	178	120	5	423	778	35	2	207	255	80	553	624
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	125	0	423	813	0	2	207	255	80	553	624
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			1			0	0		0	0
Act Effct Green (s)	13.7	28.4		21.3	35.9		35.8	30.5	30.5	44.7	43.1	43.1

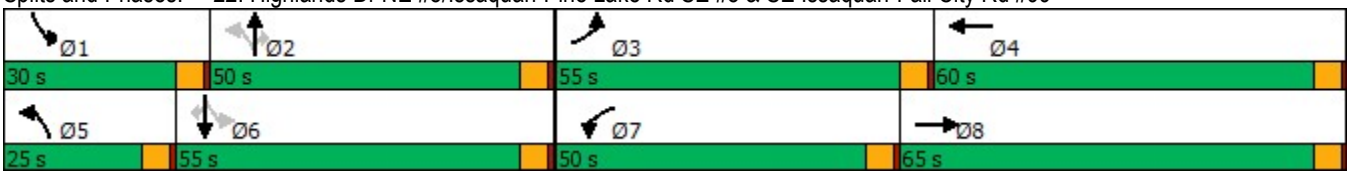
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.12	0.26		0.19	0.33		0.33	0.28	0.28	0.41	0.39	0.39
v/c Ratio	0.58	0.16		0.70	0.78		0.01	0.39	0.46	0.22	0.45	0.80
Control Delay	57.4	34.4		50.9	40.7		23.5	36.7	7.2	24.2	27.9	20.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	34.4		50.9	40.7		23.5	36.7	7.2	24.2	27.9	20.3
LOS	E	C		D	D		C	D	A	C	C	C
Approach Delay		47.9			44.2			20.4			23.9	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	74	36		149	282		1	98	0	35	144	141
Queue Length 95th (ft)	143	73		253	431		7	192	69	83	276	#449
Internal Link Dist (ft)		742			2244			627			322	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	1179	1695		1339	1678		435	815	723	497	1504	870
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.07		0.32	0.48		0.00	0.25	0.35	0.16	0.37	0.72

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 110.1
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 33.3 Intersection LOS: C
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	40	875	35	145	75	820	405	55	370	45
Future Volume (vph)	25	15	40	875	35	145	75	820	405	55	370	45
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor						0.99			0.99			
Frt			0.850			0.850			0.850		0.984	
Flt Protected		0.970		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1641	1438	1580	1590	1488	1576	3151	1410	1591	3131	0
Flt Permitted		0.970		0.950	0.956		0.407			0.144		
Satd. Flow (perm)	0	1641	1438	1580	1590	1469	675	3151	1392	241	3131	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			149			435		9	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	27	16	43	941	38	156	81	882	435	59	398	48
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	43	43	489	490	156	81	882	435	59	446	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.0	13.0	15.0	27.3	27.3	14.0	15.0	23.3		14.0	27.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0		14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%		10.8%	28.5%	
Maximum Green (s)	9.0	9.0	17.0	51.7	51.7	9.0	17.0	39.7		9.0	31.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		7.9	19.0	51.4	51.4	59.2	52.5	44.7	130.0	52.5	43.4	
Actuated g/C Ratio		0.06	0.15	0.40	0.40	0.46	0.40	0.34	1.00	0.40	0.33	

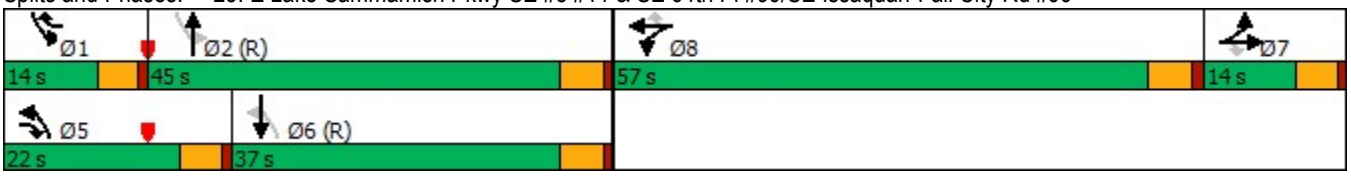
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43	0.16	0.78	0.78	0.21	0.24	0.81	0.31	0.35	0.42	
Control Delay		72.0	5.8	44.9	44.6	2.7	32.7	50.0	0.5	27.3	33.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		72.0	5.8	44.9	44.6	2.7	32.7	50.0	0.5	27.3	33.9	
LOS		E	A	D	D	A	C	D	A	C	C	
Approach Delay		38.9			39.0			33.6			33.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		36	0	375	376	2	51	312	0	30	153	
Queue Length 95th (ft)		76	18	529	531	29	m104	#495	0	m58	212	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		113	354	624	628	769	416	1083	1392	194	1051	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.38	0.12	0.78	0.78	0.20	0.19	0.81	0.31	0.30	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 35.6 Intersection LOS: D
Intersection Capacity Utilization 76.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	393	874	1	0	24
Future Volume (vph)	12	393	874	1	0	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	11	15	12	16
Grade (%)		6%	-7%		-6%	
Storage Length (ft)	80			130	0	0
Storage Lanes	1			1	0	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected	0.950					
Satd. Flow (prot)	1515	3255	1882	1820	0	1919
Flt Permitted	0.950					
Satd. Flow (perm)	1515	3255	1882	1820	0	1919
Link Speed (mph)		40	40		30	
Link Distance (ft)		276	324		123	
Travel Time (s)		4.7	5.5		2.8	
Peak Hour Factor	0.96	0.96	0.90	0.90	0.78	0.78
Heavy Vehicles (%)	4%	4%	1%	1%	0%	0%
Adj. Flow (vph)	13	409	971	1	0	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	409	971	1	0	31
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 56.0% ICU Level of Service B
Analysis Period (min) 15
Description: 11/1/2018 7:15 peak reference
Jennifer provided estimated volumes

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	393	874	1	0	24
Future Vol, veh/h	12	393	874	1	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	130	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	6	-7	-	-6	-
Peak Hour Factor	96	96	90	90	78	78
Heavy Vehicles, %	4	4	1	1	0	0
Mvmt Flow	13	409	971	1	0	31

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	972	0	-	0	-	971
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.16	-	-	-	-	5.6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.238	-	-	-	-	3.3
Pot Cap-1 Maneuver	697	-	-	-	0	364
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	697	-	-	-	-	364
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	697	-	-	-	364
HCM Lane V/C Ratio	0.018	-	-	-	0.085
HCM Control Delay (s)	10.3	-	-	-	15.8
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	244	375	249	179	102	213	394	103	307	645	58
Future Volume (vph)	185	244	375	249	179	102	213	394	103	307	645	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.91			0.93		0.97			1.00	
Frt			0.850			0.850		0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3260	0	1710	3363	0
Flt Permitted	0.428			0.186			0.097			0.207		
Satd. Flow (perm)	786	1837	1420	342	1837	1444	176	3260	0	373	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			88			134		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	243	321	493	328	236	134	280	518	136	404	849	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	321	493	328	236	134	280	654	0	404	925	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4	6			2		
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	68.3	36.2	63.9	68.3	48.8	81.1	81.8	49.4		81.8	54.5	

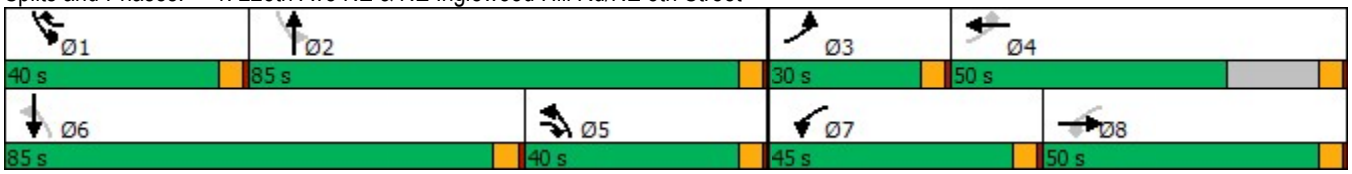
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.42	0.22	0.39	0.42	0.30	0.50	0.50	0.30		0.50	0.33	
v/c Ratio	0.54	0.79	0.78	0.78	0.43	0.17	0.80	0.65		0.89	0.82	
Control Delay	37.1	78.3	29.5	52.2	52.4	4.3	77.0	52.4		54.5	58.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	37.1	78.3	29.5	52.2	52.4	4.3	77.0	52.4		54.5	58.6	
LOS	D	E	C	D	D	A	E	D		D	E	
Approach Delay		46.1			43.1			59.8			57.4	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	171	333	222	248	207	0	225	326		295	486	
Queue Length 95th (ft)	245	453	290	344	297	20	314	364		382	553	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	511	568	742	536	754	870	479	1773		517	1823	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.48	0.57	0.66	0.61	0.31	0.15	0.58	0.37		0.78	0.51	

Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 163
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 52.5 Intersection LOS: D
Intersection Capacity Utilization 72.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	13	3	15	564	18	258	8	8	701	54	5	98
Future Volume (vph)	13	3	15	564	18	258	8	8	701	54	5	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.934				0.850			0.989			
Flt Protected		0.979			0.954			0.950				0.950
Satd. Flow (prot)	0	1664	0	0	1735	1546	0	1728	3410	0	0	3351
Flt Permitted		0.719			0.739			0.110				0.950
Satd. Flow (perm)	0	1222	0	0	1336	1496	0	200	3410	0	0	3321
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		17				163			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	15	3	17	648	21	297	9	9	806	62	6	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	669	297	0	18	868	0	0	119
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		37.4			37.4	36.4		40.3	27.7			9.2
Actuated g/C Ratio		0.45			0.45	0.44		0.49	0.34			0.11

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	998	4
Future Volume (vph)	998	4
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1147	5
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1152	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	36.3	
Actuated g/C Ratio	0.44	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.06			1.10	0.39		0.08	0.76			0.32
Control Delay		11.2			93.7	10.1		12.7	28.6			37.7
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		11.2			93.7	10.1		12.7	28.6			37.7
LOS		B			F	B		B	C			D
Approach Delay		11.2			68.0				28.3			
Approach LOS		B			E				C			
Queue Length 50th (ft)		5			~377	39		4	201			28
Queue Length 95th (ft)		25			#701	117		14	266			58
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		564			607	752		866	2597			1522
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.06			1.10	0.39		0.02	0.33			0.08

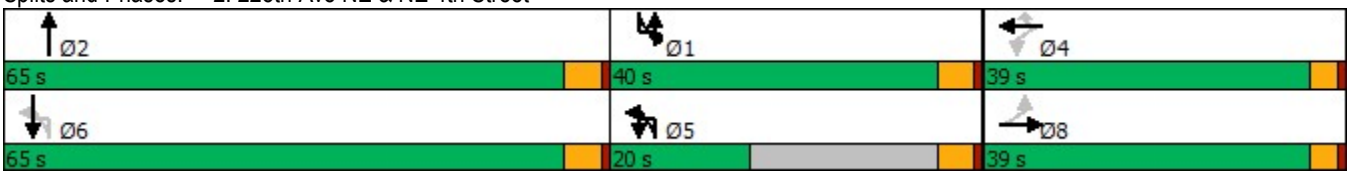
Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 82.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 38.9 Intersection LOS: D
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 228th Ave NE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
v/c Ratio	0.76	
Control Delay	23.6	
Queue Delay	0.0	
Total Delay	23.6	
LOS	C	
Approach Delay	24.9	
Approach LOS	C	
Queue Length 50th (ft)	227	
Queue Length 95th (ft)	351	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2627	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.44	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	81	2	141	39	7	17	4	105	657	10	58	25
Future Volume (vph)	81	2	141	39	7	17	4	105	657	10	58	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11	11	11	11	11	11	11
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	175		300	300		0		190		170		380
Storage Lanes	1		0	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.98		1.00	0.99					0.97		
Frt		0.852			0.893					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1744	1536	0	1711	1592	0	0	1745	3490	1561	0	1728
Flt Permitted	0.739			0.496				0.075				0.306
Satd. Flow (perm)	1355	1536	0	889	1592	0	0	138	3490	1507	0	556
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		162			20					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	93	2	162	45	8	20	5	121	755	11	67	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	164	0	45	28	0	0	126	755	11	0	96
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4			8			6	6		2	2	2
Detector Phase	3	8		7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0		11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0		41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%		23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0		6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None		None	None	Min	Min	None	None

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1210	106
Future Volume (vph)	1210	106
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	11	11
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3386	0
Flt Permitted		
Satd. Flow (perm)	3386	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1391	122
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1513	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	

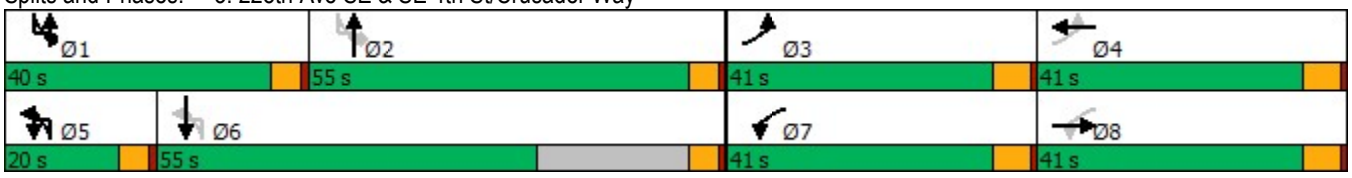
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Walk Time (s)		7.0							7.0	7.0		
Flash Dont Walk (s)		19.0							12.0	12.0		
Pedestrian Calls (#/hr)		3							8	8		
Act Effct Green (s)	19.9	9.3		13.9	7.9			62.7	54.8	52.8		58.6
Actuated g/C Ratio	0.21	0.10		0.15	0.08			0.67	0.59	0.56		0.63
v/c Ratio	0.27	0.55		0.25	0.18			0.49	0.37	0.01		0.23
Control Delay	30.0	14.0		32.7	24.2			20.1	12.8	0.0		8.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	30.0	14.0		32.7	24.2			20.1	12.8	0.0		8.8
LOS	C	B		C	C			C	B	A		A
Approach Delay		19.8			29.4				13.7			
Approach LOS		B			C				B			
Queue Length 50th (ft)	44	1		21	5			20	111	0		17
Queue Length 95th (ft)	84	52		50	30			95	237	0		55
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	175			300				190		170		380
Base Capacity (vph)	733	686		660	620			395	2045	901		826
Starvation Cap Reductn	0	0		0	0			0	0	0		0
Spillback Cap Reductn	0	0		0	0			0	0	0		0
Storage Cap Reductn	0	0		0	0			0	0	0		0
Reduced v/c Ratio	0.13	0.24		0.07	0.05			0.32	0.37	0.01		0.12

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 93.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 19.2 Intersection LOS: B
Intersection Capacity Utilization 74.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Walk Time (s)	7.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	53.1	
Actuated g/C Ratio	0.57	
v/c Ratio	0.79	
Control Delay	22.5	
Queue Delay	0.0	
Total Delay	22.5	
LOS	C	
Approach Delay	21.7	
Approach LOS	C	
Queue Length 50th (ft)	331	
Queue Length 95th (ft)	#739	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2662	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.57	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	62	40	24	326	64	174	17	74	655	188	9	154
Future Volume (vph)	62	40	24	326	64	174	17	74	655	188	9	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			
Frt			0.850			0.850			0.967			
Flt Protected		0.971			0.960			0.950				0.950
Satd. Flow (prot)	0	1748	1530	0	1781	1577	0	1745	3336	0	0	1710
Flt Permitted		0.971			0.960			0.950				0.082
Satd. Flow (perm)	0	1748	1448	0	1728	1554	0	1742	3336	0	0	148
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			25			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	78	51	30	413	81	220	22	94	829	238	11	195
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	30	0	494	220	0	116	1067	0	0	206
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		D.P+P	D.P+P
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4					2	2
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		20.2	18.2		42.3	42.3		15.8	57.4			77.7

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1085	103
Future Volume (vph)	1085	103
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.987	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.79	0.79
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1373	130
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1503	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	62.9	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.13	0.12		0.28	0.28		0.10	0.38			0.51
v/c Ratio		0.55	0.11		0.99	0.42		0.64	0.83			0.71
Control Delay		71.7	0.8		93.0	21.5		83.4	49.7			48.5
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		71.7	0.8		93.0	21.5		83.4	49.7			48.5
LOS		E	A		F	C		F	D			D
Approach Delay		58.3			71.0				53.0			
Approach LOS		E			E				D			
Queue Length 50th (ft)		121	0		~538	70		114	519			143
Queue Length 95th (ft)		178	0		#677	123		169	550			194
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		270	312		497	530		209	1302			417
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.48	0.10		0.99	0.42		0.56	0.82			0.49

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 151.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 70.0 Intersection LOS: E
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.

Lane Group	SBT	SBR
Actuated g/C Ratio	0.42	
v/c Ratio	1.07	
Control Delay	87.2	
Queue Delay	0.0	
Total Delay	87.2	
LOS	F	
Approach Delay	82.5	
Approach LOS	F	
Queue Length 50th (ft)	~932	
Queue Length 95th (ft)	796	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1639	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.92	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	62	6	241	25	1	12	23	92	948	24	5	21
Future Volume (vph)	62	6	241	25	1	12	23	92	948	24	5	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.854			0.860				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1547	0	1646	1490	0	0	1728	3437	0	0	1753
Flt Permitted	0.748			0.311				0.071				0.158
Satd. Flow (perm)	1374	1547	0	539	1490	0	0	129	3437	0	0	292
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					14				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	73	7	284	29	1	14	27	108	1115	28	6	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	291	0	29	15	0	0	135	1143	0	0	31
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	29.7	24.4		29.5	13.9			65.1	62.4			62.1

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1278	113
Future Volume (vph)	1278	113
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3455	0
Flt Permitted		
Satd. Flow (perm)	3455	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1504	133
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1637	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	54.2	

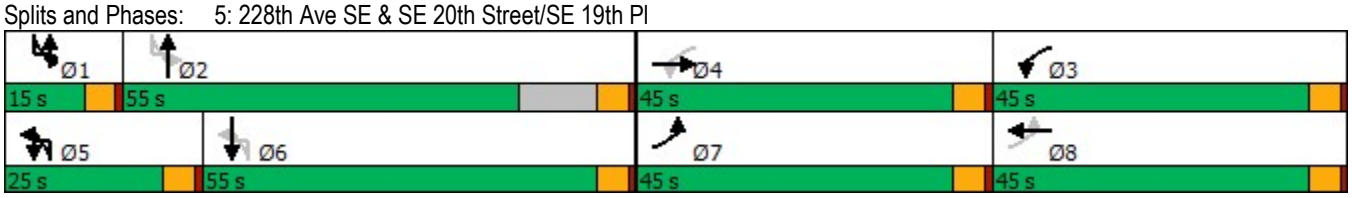
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.28	0.23		0.28	0.13			0.62	0.59			0.59
v/c Ratio	0.15	0.81		0.14	0.07			0.54	0.56			0.13
Control Delay	25.8	56.7		28.7	19.8			26.9	17.8			12.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	25.8	56.7		28.7	19.8			26.9	17.8			12.3
LOS	C	E		C	B			C	B			B
Approach Delay		50.5			25.7				18.7			
Approach LOS		D			C				B			
Queue Length 50th (ft)	34	193		14	1			42	287			9
Queue Length 95th (ft)	67	287		35	17			109	402			25
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	738	602		766	589			435	2117			322
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.10	0.48		0.04	0.03			0.31	0.54			0.10

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 104.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 30.4 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.52	
v/c Ratio	0.92	
Control Delay	35.5	
Queue Delay	0.0	
Total Delay	35.5	
LOS	D	
Approach Delay	35.1	
Approach LOS	D	
Queue Length 50th (ft)	561	
Queue Length 95th (ft)	#858	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1787	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.92	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	10	4	9	95	5	198	14	942	112	4	366	1100
Future Volume (vph)	10	4	9	95	5	198	14	942	112	4	366	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.966			0.955		0.950				0.950	
Satd. Flow (prot)	0	1774	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.966			0.955		0.152				0.950	
Satd. Flow (perm)	0	1772	1536	0	1747	1539	276	3455	1501	0	1724	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			233			132			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	12	5	11	112	6	233	16	1108	132	5	431	1294
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	11	0	118	233	16	1108	132	0	436	1319
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.6	11.6		15.1	15.1	79.0	42.0	57.8		35.5	75.4
Actuated g/C Ratio		0.11	0.11		0.14	0.14	0.73	0.39	0.53		0.33	0.70

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	25
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.09	0.04		0.48	0.56	0.05	0.83	0.15		0.77	0.55
Control Delay		52.1	0.3		55.3	12.3	8.1	36.8	1.6		47.6	13.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		52.1	0.3		55.3	12.3	8.1	36.8	1.6		47.6	13.2
LOS		D	A		E	B	A	D	A		D	B
Approach Delay		31.8			26.8			32.7				21.7
Approach LOS		C			C			C				C
Queue Length 50th (ft)		11	0		74	0	3	346	0		265	187
Queue Length 95th (ft)		39	0		177	63	16	580	12		#746	549
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		582	570		738	783	535	2510	1269		568	2793
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.03	0.02		0.16	0.30	0.03	0.44	0.10		0.77	0.47

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 108.1
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 77.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	87	16	158	102	285	11	603	147	549	480	42
Future Volume (vph)	100	87	16	158	102	285	11	603	147	549	480	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.976				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1734	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.284			0.950		
Satd. Flow (perm)	1694	1734	0	1724	1819	1546	516	3455	1525	3348	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				135			166			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	118	102	19	186	120	335	13	709	173	646	565	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	121	0	186	120	335	13	709	173	646	565	49
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	11.7	13.2		18.6	17.5	52.2	56.6	29.4	29.4	28.8	58.1	54.9
Actuated g/C Ratio	0.11	0.12		0.18	0.17	0.49	0.53	0.28	0.28	0.27	0.55	0.52

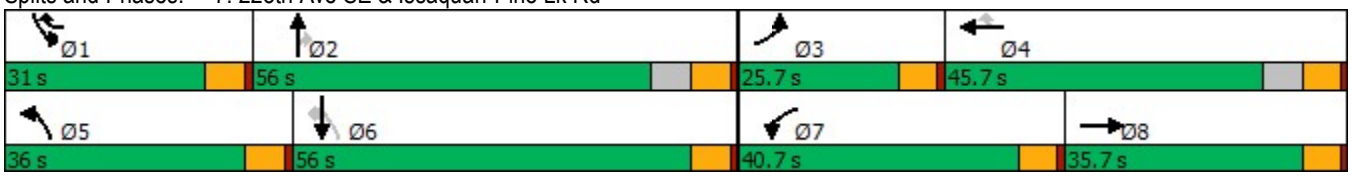
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.63	0.55		0.61	0.40	0.40	0.04	0.74	0.32	0.71	0.57	0.06
Control Delay	64.5	53.0		52.1	44.7	12.5	15.5	41.1	7.6	43.0	22.9	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	53.0		52.1	44.7	12.5	15.5	41.1	7.6	43.0	22.9	0.1
LOS	E	D		D	D	B	B	D	A	D	C	A
Approach Delay		58.7			30.0			34.3			32.3	
Approach LOS		E			C			C			C	
Queue Length 50th (ft)	73	72		110	70	74	3	214	3	190	198	0
Queue Length 95th (ft)	165	148		231	141	174	18	364	51	#422	540	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	333	520		639	806	830	643	1973	942	910	1007	849
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.23		0.29	0.15	0.40	0.02	0.36	0.18	0.71	0.56	0.06

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 105.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 34.5 Intersection LOS: C
Intersection Capacity Utilization 59.5% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	16	733	18	36	602
Future Volume (vph)	15	16	733	18	36	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.930		0.997			
Flt Protected	0.977				0.950	
Satd. Flow (prot)	1620	0	1813	0	1728	1818
Flt Permitted	0.977				0.950	
Satd. Flow (perm)	1620	0	1813	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.65	0.65	0.81	0.81	0.77	0.77
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	23	25	905	22	47	782
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	927	0	47	782
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 49.7% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	16	733	18	36	602
Future Vol, veh/h	15	16	733	18	36	602
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	65	81	81	77	77
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	23	25	905	22	47	782

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1792	916	0	0	927	0
Stage 1	916	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	88	329	-	-	742	-
Stage 1	388	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	82	329	-	-	742	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	380	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	46	0	0.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	134	742	-
HCM Lane V/C Ratio	-	-	0.356	0.063	-
HCM Control Delay (s)	-	-	46	10.2	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	1.5	0.2	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1	11	17	1	21	8	491	22	45	740	6
Future Volume (vph)	8	1	11	17	1	21	8	491	22	45	740	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		0.99	1.00	
Frt		0.861			0.856			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1545	0	1745	1553	0	1711	3395	0	1728	3451	0
Flt Permitted				0.870			0.292			0.423		
Satd. Flow (perm)	1837	1545	0	1577	1553	0	526	3395	0	764	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			25			5			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	9	1	13	20	1	25	9	578	26	53	871	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	14	0	20	26	0	9	604	0	53	878	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

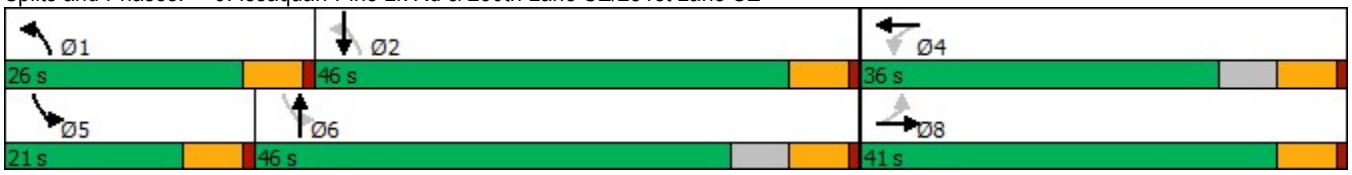
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	9.2	9.2		11.3	9.9		24.4	24.6		23.7	30.8	
Actuated g/C Ratio	0.24	0.24		0.29	0.26		0.64	0.64		0.62	0.80	
v/c Ratio	0.02	0.04		0.04	0.06		0.02	0.28		0.08	0.32	
Control Delay	17.2	10.7		16.3	9.0		6.2	9.8		5.6	7.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.2	10.7		16.3	9.0		6.2	9.8		5.6	7.1	
LOS	B	B		B	A		A	A		A	A	
Approach Delay		13.2			12.2			9.8			7.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)	1	0		2	0		0	26		0	0	
Queue Length 95th (ft)	13	12		21	16		8	151		26	223	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1545	1302		1337	1310		1209	3099		1128	3046	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.01	0.02		0.01	0.19		0.05	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 38.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 50.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	29	22	507	592	15
Future Volume (vph)	20	29	22	507	592	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1813	0
Flt Permitted	0.950		0.264			
Satd. Flow (perm)	1745	1526	480	1818	1813	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	24	35	26	604	705	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	35	26	604	723	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	12.0	12.0	31.1	36.3	33.7	
Actuated g/C Ratio	0.26	0.26	0.69	0.80	0.74	
v/c Ratio	0.05	0.08	0.04	0.42	0.54	

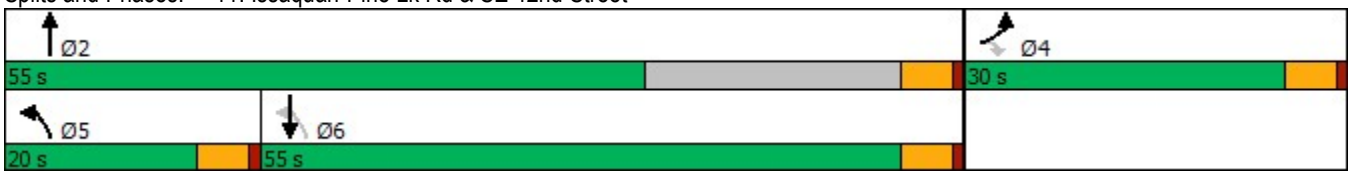
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	23.4	10.4	4.1	5.2	10.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.4	10.4	4.1	5.2	10.2	
LOS	C	B	A	A	B	
Approach Delay	15.7			5.2	10.2	
Approach LOS	B			A	B	
Queue Length 50th (ft)	4	0	2	59	78	
Queue Length 95th (ft)	28	21	12	206	385	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	1181	1044	1039	1733	1592	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.03	0.03	0.35	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 45.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 43.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	89	1	26	11	500	186	66	549	4
Future Volume (vph)	1	1	1	89	1	26	11	500	186	66	549	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.955			0.855				0.850		0.999	
Flt Protected		0.984		0.950			0.950			0.950		
Satd. Flow (prot)	0	1726	0	1711	1499	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.952		0.756			0.307			0.285		
Satd. Flow (perm)	0	1666	0	1361	1499	0	558	1818	1546	534	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			30				105			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1	1	1	103	1	30	13	581	216	77	638	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	103	31	0	13	581	216	77	643	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		15.4		15.4	15.4		51.6	38.8	38.8	49.1	46.3	
Actuated g/C Ratio		0.22		0.22	0.22		0.73	0.55	0.55	0.70	0.66	

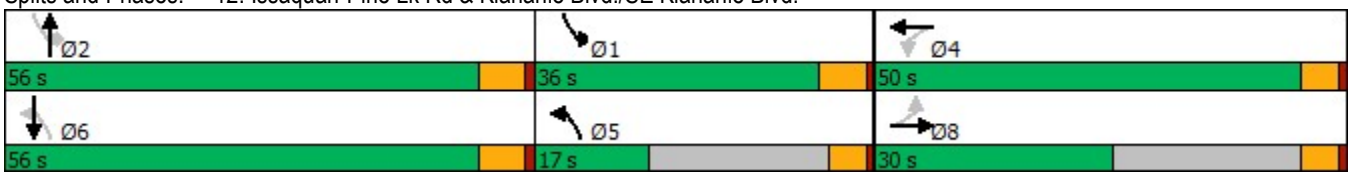
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.35	0.09		0.02	0.58	0.24	0.14	0.52	
Control Delay		23.0		29.8	11.3		3.6	14.5	5.8	5.1	10.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		23.0		29.8	11.3		3.6	14.5	5.8	5.1	10.0	
LOS		C		C	B		A	B	A	A	B	
Approach Delay		23.0			25.5			12.0			9.5	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		1		37	0		1	164	23	8	100	
Queue Length 95th (ft)		8		92	22		6	278	58	23	346	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		1147		937	1041		1124	1411	1223	1112	1458	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.11	0.03		0.01	0.41	0.18	0.07	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 70.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 55.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	7	45	1	18	8	711	84	18	608	4
Future Volume (vph)	1	1	7	45	1	18	8	711	84	18	608	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.984			0.999	
Flt Protected		0.976			0.953		0.950			0.950		
Satd. Flow (prot)	0	1793	1561	0	1750	1561	1728	1789	0	1711	1799	0
Flt Permitted		0.866			0.730		0.327			0.211		
Satd. Flow (perm)	0	1591	1561	0	1341	1561	595	1789	0	380	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			20		9			1	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	1	1	8	51	1	20	9	808	95	20	691	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	8	0	52	20	9	903	0	20	696	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		8.0	9.3		9.8	17.2	56.5	54.4		55.7	56.2	
Actuated g/C Ratio		0.11	0.13		0.13	0.24	0.78	0.75		0.77	0.77	
v/c Ratio		0.01	0.04		0.29	0.05	0.02	0.67		0.05	0.50	
Control Delay		38.5	9.1		40.3	13.2	2.4	11.2		2.5	7.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

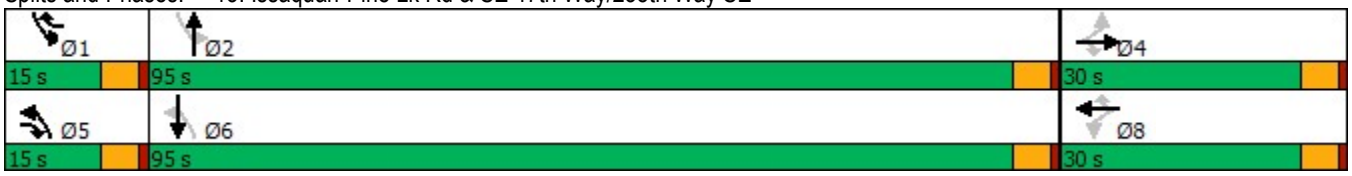
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		38.5	9.1		40.3	13.2	2.4	11.2		2.5	7.1	
LOS		D	A		D	B	A	B		A	A	
Approach Delay		15.0			32.7			11.2			7.0	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		1	0		24	0	1	264		2	88	
Queue Length 95th (ft)		8	8		69	19	4	456		6	282	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		652	336		550	505	669	1738		532	1747	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.00	0.02		0.09	0.04	0.01	0.52		0.04	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 72.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 10.3 Intersection LOS: B
Intersection Capacity Utilization 60.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	93	127	782	652	41
Future Volume (vph)	23	93	127	782	652	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1786	0
Flt Permitted	0.950		0.201			
Satd. Flow (perm)	1745	1561	366	1818	1786	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		107			4	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	26	107	146	899	749	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	107	146	899	796	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	9.3	18.0	43.6	47.2	36.2	
Actuated g/C Ratio	0.16	0.30	0.73	0.79	0.60	
v/c Ratio	0.10	0.20	0.34	0.63	0.74	
Control Delay	28.9	6.0	4.5	6.5	14.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

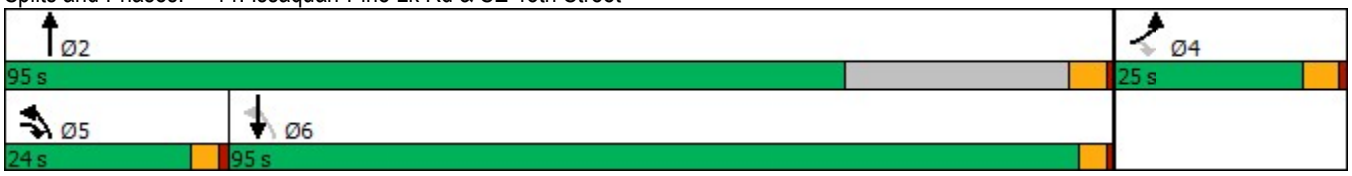
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	28.9	6.0	4.5	6.5	14.2	
LOS	C	A	A	A	B	
Approach Delay	10.4			6.2	14.2	
Approach LOS	B			A	B	
Queue Length 50th (ft)	8	0	11	131	195	
Queue Length 95th (ft)	33	33	23	233	334	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	664	905	805	1818	1786	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.12	0.18	0.49	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 59.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 58.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	26	26	88	28	60	26	122	79	155	117	6
Future Volume (vph)	2	26	26	88	28	60	26	122	79	155	117	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.897			0.941			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1647	0	1745	1728	0	1745	1822	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1647	0	1745	1728	0	1745	1822	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	38	38	114	36	78	36	169	110	196	148	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	76	0	114	114	0	36	279	0	196	156	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.1% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	26	26	88	28	60	26	122	79	155	117	6
Future Vol, veh/h	2	26	26	88	28	60	26	122	79	155	117	6
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	38	38	114	36	78	36	169	110	196	148	8
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.1	10.9	12.5	11.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	61%	0%	50%	0%	32%	0%	95%
Vol Right, %	0%	39%	0%	50%	0%	68%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	201	2	52	88	88	155	123
LT Vol	26	0	2	0	88	0	155	0
Through Vol	0	122	0	26	0	28	0	117
RT Vol	0	79	0	26	0	60	0	6
Lane Flow Rate	36	279	3	75	114	114	196	156
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.065	0.441	0.006	0.134	0.221	0.189	0.348	0.253
Departure Headway (Hd)	6.468	5.684	7.258	6.392	6.953	5.961	6.391	5.85
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	553	634	492	559	515	601	563	613
Service Time	4.212	3.427	5.016	4.149	4.702	3.709	4.134	3.593
HCM Lane V/C Ratio	0.065	0.44	0.006	0.134	0.221	0.19	0.348	0.254
HCM Control Delay	9.7	12.9	10.1	10.1	11.7	10.1	12.5	10.6
HCM Lane LOS	A	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	2.3	0	0.5	0.8	0.7	1.5	1

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	5	382	32	8	491
Future Volume (vph)	35	5	382	32	8	491
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.983		0.990			
Flt Protected	0.958					0.999
Satd. Flow (prot)	1696	0	1800	0	0	1817
Flt Permitted	0.958					0.999
Satd. Flow (perm)	1696	0	1800	0	0	1817
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.45	0.45	0.73	0.73	0.74	0.74
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	78	11	523	44	11	664
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	567	0	0	675
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.2% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	5	382	32	8	491
Future Vol, veh/h	35	5	382	32	8	491
Conflicting Peds, #/hr	0	0	0	1	1	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	45	45	73	73	74	74
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	78	11	523	44	11	664

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1232	546	0	0	568	0
Stage 1	546	-	-	-	-	-
Stage 2	686	-	-	-	-	-
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	196	538	-	-	1009	-
Stage 1	580	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	192	538	-	-	1008	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	492	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	347	1008	-
HCM Lane V/C Ratio	-	-	0.256	0.011	-
HCM Control Delay (s)	-	-	18.9	8.6	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	558	0	2	449	197	1	1	1	124	2	6
Future Volume (vph)	11	558	0	2	449	197	1	1	1	124	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.955			0.994	
Flt Protected		0.999						0.984			0.955	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1726	0	0	1743	0
Flt Permitted		0.989			0.998			0.899			0.955	
Satd. Flow (perm)	0	1781	0	0	1815	1513	0	1577	0	0	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								1			3	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	13	672	0	2	541	237	1	1	1	149	2	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	685	0	0	543	237	0	3	0	0	158	0
Turn Type	Perm	NA		Perm	NA	pm+ov	D.Pm	NA		Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		23.5			23.5	35.5		9.3			9.3	
Actuated g/C Ratio		0.58			0.58	0.87		0.23			0.23	
v/c Ratio		0.67			0.52	0.18		0.01			0.40	

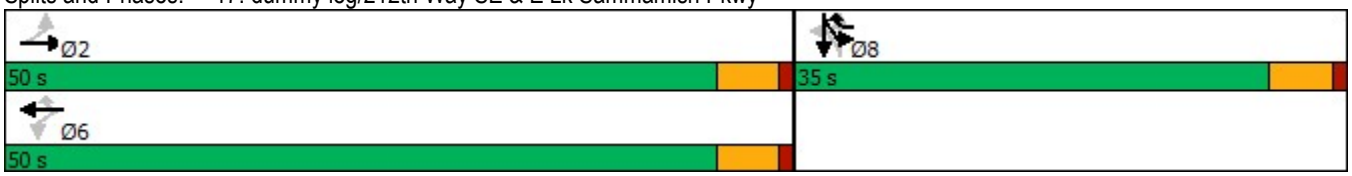
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		10.1			7.6	0.5		13.5			17.9	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		10.1			7.6	0.5		13.5			17.9	
LOS		B			A	A		B			B	
Approach Delay		10.1			5.4			13.5			17.9	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)		79			55	0		0			27	
Queue Length 95th (ft)		191			135	0		5			82	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1707			1739	1490		1232			1362	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.40			0.31	0.16		0.00			0.12	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 40.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	768	1	16	640	13	9
Future Volume (vph)	768	1	16	640	13	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	9	11	9	9
Grade (%)	5%			-5%	3%	
Storage Length (ft)		50	90		70	40
Storage Lanes		1	1		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3402	1522	1649	1864	1600	1432
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3402	1522	1649	1864	1600	1432
Link Speed (mph)	40			40	20	
Link Distance (ft)	1238			276	195	
Travel Time (s)	21.1			4.7	6.6	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Adj. Flow (vph)	960	1	20	800	16	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	960	1	20	800	16	11
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.7% ICU Level of Service A
Analysis Period (min) 15
Description: Jennifer provided estimated volumes

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	768	1	16	640	13	9
Future Vol, veh/h	768	1	16	640	13	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	50	90	-	-	40
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	5	-	-	-5	3	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	960	1	20	800	16	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	960	0	1800	480
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	840	-
Critical Hdwy	-	-	4.115	-	7.2	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2095	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	720	-	60	516
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	371	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	720	-	58	516
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	361	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	21.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	172	516	-	-	720	-
HCM Lane V/C Ratio	0.094	0.022	-	-	0.028	-
HCM Control Delay (s)	28.1	12.1	-	-	10.1	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	136	321	238	88	22	202	1078	202	13	1242	140
Future Volume (vph)	334	136	321	238	88	22	202	1078	202	13	1242	140
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3202	0	1646	3292	1424
Flt Permitted	0.674			0.410			0.950			0.950		
Satd. Flow (perm)	1174	1750	1467	718	1691	0	1644	3202	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			22				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	393	160	378	280	104	26	238	1268	238	15	1461	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	160	378	280	130	0	238	1506	0	15	1461	445
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.0	78.2		5.9	56.0	56.0

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	238
Future Volume (vph)	238
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	280
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.12	0.51	1.45	0.79	0.35		0.92	0.84		0.22	1.11	0.71
Control Delay	125.6	58.6	262.1	55.1	47.0		99.1	17.3		71.8	97.9	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.7		0.0	0.0	0.0
Total Delay	125.6	58.6	262.1	55.1	47.0		99.1	17.9		71.8	97.9	31.3
LOS	F	E	F	E	D		F	B		E	F	C
Approach Delay		169.5			52.5			29.0			82.3	
Approach LOS		F			D			C			F	
Queue Length 50th (ft)	~360	133	~467	204	95		193	105		13	~801	222
Queue Length 95th (ft)	#563	196	#620	#276	149		#331	612		m21	#886	338
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	352	312	261	355	368		270	1797		94	1316	628
Starvation Cap Reductn	0	0	0	0	0		0	82		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.12	0.51	1.45	0.79	0.35		0.88	0.88		0.16	1.11	0.71

Intersection Summary

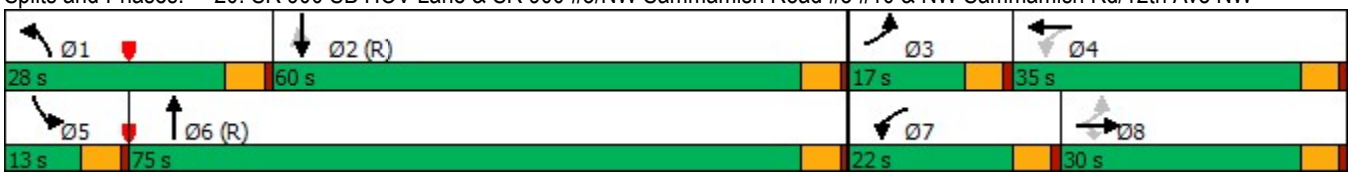
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.45
Intersection Signal Delay: 77.5 Intersection LOS: E
Intersection Capacity Utilization 94.0% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	942	128	400	75	145	40	277	695	35	35	431	585
Future Volume (vph)	942	128	400	75	145	40	277	695	35	35	431	585
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.99		0.99	1.00		1.00		0.97
Frt			0.850		0.968			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1659	0	3087	3156	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2992	1692	1384	1624	1659	0	3049	3156	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		9			4				212
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1108	151	471	88	171	47	326	818	41	41	507	688
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1108	151	471	88	218	0	326	859	0	41	507	688
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

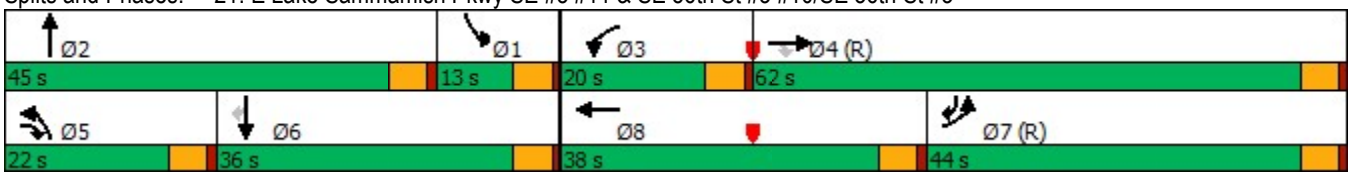
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	45.9	60.7	77.4	11.3	26.1		16.7	42.6		7.4	31.3	77.2
Actuated g/C Ratio	0.33	0.43	0.55	0.08	0.19		0.12	0.30		0.05	0.22	0.55
v/c Ratio	1.09	0.21	0.56	0.66	0.69		0.89	0.89		0.49	0.71	0.79
Control Delay	97.8	26.4	13.8	85.0	61.4		73.0	52.1		68.3	44.0	31.6
Queue Delay	0.0	0.0	0.3	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	97.8	26.4	14.2	85.0	61.4		73.0	52.1		68.3	44.0	31.6
LOS	F	C	B	F	E		E	D		E	D	C
Approach Delay		68.8			68.2			57.9			37.9	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	~645	85	154	79	170		160	425		37	216	493
Queue Length 95th (ft)	#713	132	231	127	241		#215	#487		m62	220	642
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	1021	733	846	176	397		374	963		90	710	870
Starvation Cap Reductn	0	0	77	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.09	0.21	0.61	0.50	0.55		0.87	0.89		0.46	0.71	0.79

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 57.3 Intersection LOS: E
Intersection Capacity Utilization 97.8% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	421	457	9	285	365	51	13	420	497	41	322	469
Future Volume (vph)	421	457	9	285	365	51	13	420	497	41	322	469
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3178	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.523			0.210		
Satd. Flow (perm)	2641	3205	0	3149	3178	0	875	2010	1402	352	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8				578			508
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	490	531	10	331	424	59	15	488	578	48	374	545
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	541	0	331	483	0	15	488	578	48	374	545
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	28.0	33.9		18.5	24.4		50.4	46.1	46.1	55.0	51.8	51.8
Actuated g/C Ratio	0.23	0.27		0.15	0.20		0.41	0.37	0.37	0.45	0.42	0.42

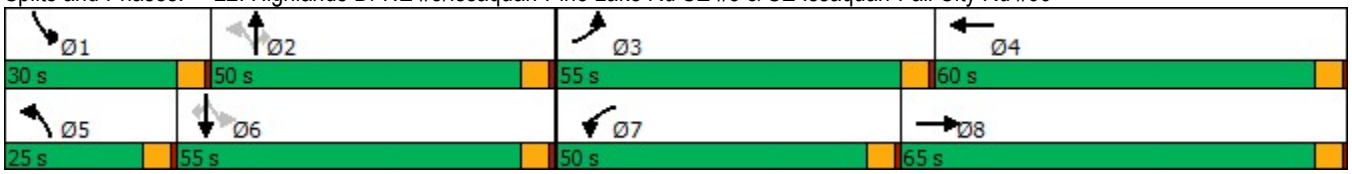
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.81	0.62		0.70	0.76		0.04	0.65	0.65	0.21	0.28	0.62
Control Delay	57.5	42.7		60.1	55.6		23.9	40.9	6.9	25.3	27.8	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	42.7		60.1	55.6		23.9	40.9	6.9	25.3	27.8	7.6
LOS	E	D		E	E		C	D	A	C	C	A
Approach Delay		49.7			57.5			22.5			16.3	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	226	200		131	192		6	273	0	21	94	16
Queue Length 95th (ft)	319	271		199	272		24	460	66	55	186	109
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	1107	1596		1176	1455		513	751	885	416	1388	898
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.34		0.28	0.33		0.03	0.65	0.65	0.12	0.27	0.61

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 123.5
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 35.5 Intersection LOS: D
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	31	70	528	9	119	13	854	858	220	695	18
Future Volume (vph)	35	31	70	528	9	119	13	854	858	220	695	18
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98	1.00				1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.237			0.124		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	400	3214	1438	208	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			140			805		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	41	36	82	621	11	140	15	1005	1009	259	818	21
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	77	82	317	315	140	15	1005	1009	259	839	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.1	15.4	39.3	39.3	55.9	70.0	53.4	140.0	70.0	64.1	

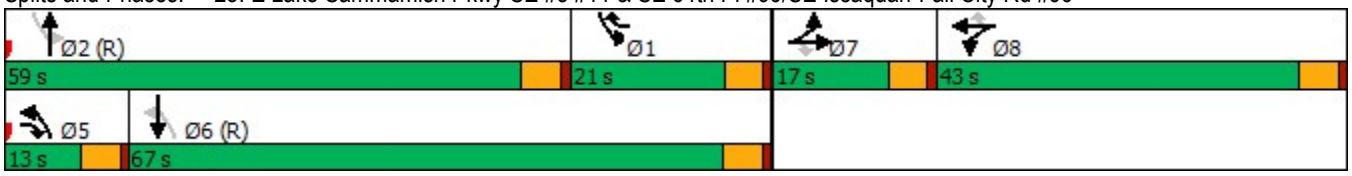
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.65	0.33	0.71	0.70	0.21	0.06	0.82	0.70	0.99	0.58	
Control Delay		87.1	6.7	55.7	55.3	3.3	22.7	45.9	5.8	89.9	22.2	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	
Total Delay		87.1	6.7	55.7	55.3	3.3	22.7	47.2	5.8	89.9	22.2	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		45.6			46.1			26.4			38.2	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		69	0	275	273	0	10	513	59	168	253	
Queue Length 95th (ft)		118	16	372	369	27	m10	546	95	m#296	198	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	274	447	449	675	276	1225	1438	262	1451	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.55	0.30	0.71	0.70	0.21	0.05	0.88	0.70	0.99	0.58	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 34.1 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	751	614	3	0	42
Future Volume (vph)	26	751	614	3	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	11	15	12	16
Grade (%)		6%	-7%		-6%	
Storage Length (ft)	80			130	0	0
Storage Lanes	1			1	0	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected	0.950					
Satd. Flow (prot)	1545	3319	1864	1803	0	1881
Flt Permitted	0.950					
Satd. Flow (perm)	1545	3319	1864	1803	0	1881
Link Speed (mph)		40	40		30	
Link Distance (ft)		276	327		123	
Travel Time (s)		4.7	5.6		2.8	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	33	939	768	4	0	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	939	768	4	0	53
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.3% ICU Level of Service A
Analysis Period (min) 15
Description: Jennifer provided estimated volumes

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	751	614	3	0	42
Future Vol, veh/h	26	751	614	3	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	130	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	6	-7	-	-6	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	939	768	4	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	772	0	-	0	-	768
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.13	-	-	-	-	5.63
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.219	-	-	-	-	3.319
Pot Cap-1 Maneuver	841	-	-	-	0	455
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	841	-	-	-	-	455
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	841	-	-	-	455
HCM Lane V/C Ratio	0.039	-	-	-	0.115
HCM Control Delay (s)	9.5	-	-	-	13.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	232	280	186	170	134	280	519	135	229	481	43
Future Volume (vph)	243	232	280	186	170	134	280	519	135	229	481	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97		0.91			0.93	0.98	0.97		0.96	1.00	
Frt			0.850			0.850		0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3261	0	1710	3363	0
Flt Permitted	0.344			0.251			0.950			0.950		
Satd. Flow (perm)	615	1837	1420	461	1837	1444	1699	3261	0	1650	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207			134		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	286	273	329	219	200	158	329	611	159	269	566	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	273	329	219	200	158	329	770	0	269	617	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4						
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	44.4	26.9	68.1	44.4	23.8	54.4	41.2	43.1		31.0	32.9	

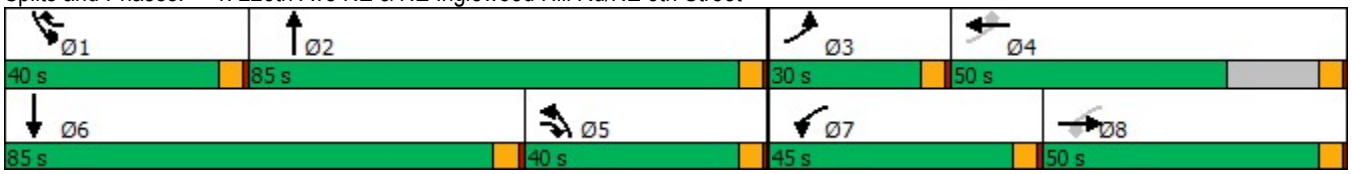
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.34	0.21	0.52	0.34	0.18	0.42	0.32	0.33		0.24	0.25	
v/c Ratio	0.73	0.72	0.37	0.67	0.60	0.22	0.60	0.71		0.66	0.73	
Control Delay	44.2	62.0	5.1	41.5	58.9	6.4	47.5	43.9		56.9	51.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	44.2	62.0	5.1	41.5	58.9	6.4	47.5	43.9		56.9	51.1	
LOS	D	E	A	D	E	A	D	D		E	D	
Approach Delay		35.2			37.9			44.9			52.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	175	208	30	128	152	11	231	293		195	240	
Queue Length 95th (ft)	290	356	69	220	263	50	420	434		365	365	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	461	684	883	607	908	787	544	2133		501	2195	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.62	0.40	0.37	0.36	0.22	0.20	0.60	0.36		0.54	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 130.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 43.3 Intersection LOS: D
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	17	3	11	282	9	129	8	11	922	71	5	73
Future Volume (vph)	17	3	11	282	9	129	8	11	922	71	5	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.952				0.850			0.989			
Flt Protected		0.973			0.954			0.950				0.950
Satd. Flow (prot)	0	1690	0	0	1735	1546	0	1728	3410	0	0	3351
Flt Permitted		0.845			0.747			0.276				0.950
Satd. Flow (perm)	0	1463	0	0	1351	1496	0	502	3410	0	0	3327
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		11				132			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
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
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	17	3	11	288	9	132	8	11	941	72	5	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	0	0	297	132	0	19	1013	0	0	79
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		27.2			27.2	26.1		39.0	29.1			8.5
Actuated g/C Ratio		0.39			0.39	0.37		0.56	0.42			0.12

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	745	3
Future Volume (vph)	745	3
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	760	3
Shared Lane Traffic (%)		
Lane Group Flow (vph)	763	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	34.6	
Actuated g/C Ratio	0.49	

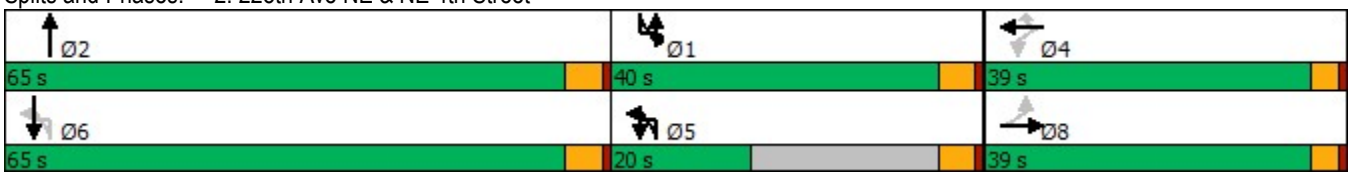
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.05			0.57	0.21		0.04	0.71			0.19
Control Delay		12.4			24.1	4.6		9.7	21.8			35.2
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		12.4			24.1	4.6		9.7	21.8			35.2
LOS		B			C	A		A	C			D
Approach Delay		12.4			18.1				21.6			
Approach LOS		B			B				C			
Queue Length 50th (ft)		6			104	0		4	194			17
Queue Length 95th (ft)		25			217	35		15	330			44
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		858			788	906		1145	2896			1955
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.04			0.38	0.15		0.02	0.35			0.04

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 69.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 62.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: 228th Ave NE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
v/c Ratio	0.45	
Control Delay	14.6	
Queue Delay	0.0	
Total Delay	14.6	
LOS	B	
Approach Delay	16.5	
Approach LOS	B	
Queue Length 50th (ft)	95	
Queue Length 95th (ft)	253	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2930	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.26	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	106	2	105	29	7	23	4	138	864	13	58	19
Future Volume (vph)	106	2	105	29	7	23	4	138	864	13	58	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11	11	11	11	11	11	11
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	175		300	300		0		190		170		380
Storage Lanes	1		0	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.98		1.00	0.99					0.97		
Frt		0.853			0.885					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1744	1538	0	1711	1577	0	0	1745	3490	1561	0	1728
Flt Permitted	0.738			0.687				0.150				0.211
Satd. Flow (perm)	1354	1538	0	1231	1577	0	0	276	3490	1507	0	384
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		107			23					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
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
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	108	2	107	30	7	23	4	141	882	13	59	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	109	0	30	30	0	0	145	882	13	0	78
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4			8			6	6		2	2	2
Detector Phase	3	8		7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0		11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0		41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%		23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0		35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0		6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None		None	None	Min	Min	None	None

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	903	79
Future Volume (vph)	903	79
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	11	11
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3385	0
Flt Permitted		
Satd. Flow (perm)	3385	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	921	81
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1002	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	

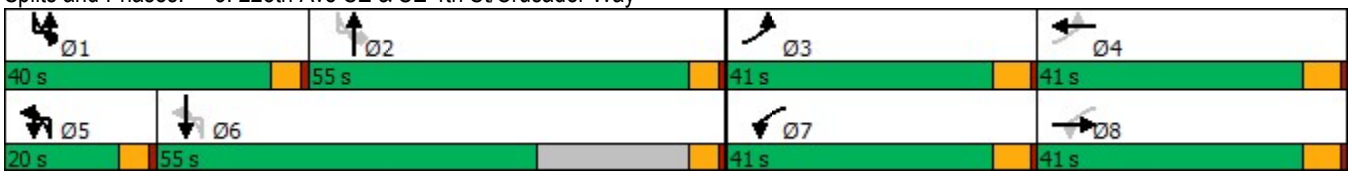
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Walk Time (s)		7.0							7.0	7.0		
Flash Dont Walk (s)		19.0							12.0	12.0		
Pedestrian Calls (#/hr)		3							8	8		
Act Effct Green (s)	17.3	9.7		12.4	7.6			35.7	30.7	28.4		32.8
Actuated g/C Ratio	0.27	0.15		0.19	0.12			0.55	0.47	0.44		0.51
v/c Ratio	0.25	0.34		0.11	0.15			0.40	0.53	0.02		0.24
Control Delay	20.1	10.4		21.4	18.9			11.3	15.9	0.1		10.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	20.1	10.4		21.4	18.9			11.3	15.9	0.1		10.6
LOS	C	B		C	B			B	B	A		B
Approach Delay		15.2			20.2				15.1			
Approach LOS		B			C				B			
Queue Length 50th (ft)	30	1		8	3			22	130	0		13
Queue Length 95th (ft)	86	44		34	29			77	293	0		48
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	175			300				190		170		380
Base Capacity (vph)	1162	979		1050	971			601	2836	1224		1075
Starvation Cap Reductn	0	0		0	0			0	0	0		0
Spillback Cap Reductn	0	0		0	0			0	0	0		0
Storage Cap Reductn	0	0		0	0			0	0	0		0
Reduced v/c Ratio	0.09	0.11		0.03	0.03			0.24	0.31	0.01		0.07

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 64.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 60.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Walk Time (s)	7.0	
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	26.6	
Actuated g/C Ratio	0.41	
v/c Ratio	0.72	
Control Delay	20.6	
Queue Delay	0.0	
Total Delay	20.6	
LOS	C	
Approach Delay	19.9	
Approach LOS	B	
Queue Length 50th (ft)	161	
Queue Length 95th (ft)	371	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	3165	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.32	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	82	38	18	163	32	87	17	97	862	247	9	115
Future Volume (vph)	82	38	18	163	32	87	17	97	862	247	9	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			0.99
Frt			0.850			0.850			0.967			
Flt Protected		0.967			0.960			0.950				0.950
Satd. Flow (prot)	0	1741	1530	0	1781	1577	0	1745	3336	0	0	1710
Flt Permitted		0.967			0.960			0.950				0.950
Satd. Flow (perm)	0	1741	1448	0	1728	1554	0	1739	3336	0	0	1701
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			25			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	92	43	20	183	36	98	19	109	969	278	10	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	20	0	219	98	0	128	1247	0	0	139
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		18.3	16.3		22.5	22.5		15.7	59.0			17.6

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	810	77
Future Volume (vph)	810	77
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.987	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.89	0.89
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	910	87
Shared Lane Traffic (%)		
Lane Group Flow (vph)	997	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	61.3	

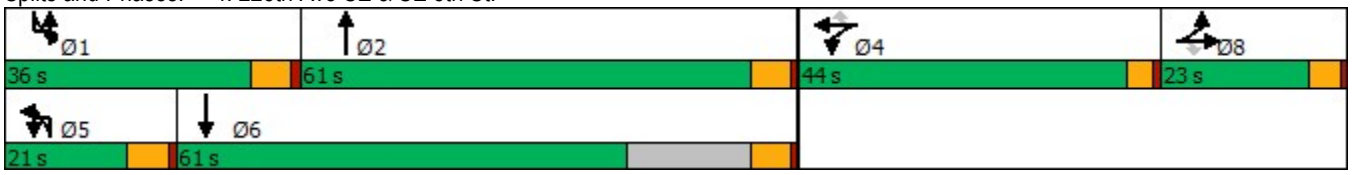
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.14	0.13		0.18	0.18		0.12	0.46			0.14
v/c Ratio		0.54	0.07		0.70	0.26		0.60	0.80			0.59
Control Delay		61.3	0.4		63.4	4.3		68.4	36.5			64.6
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		61.3	0.4		63.4	4.3		68.4	36.5			64.6
LOS		E	A		E	A		E	D			E
Approach Delay		53.5			45.1				39.5			
Approach LOS		D			D				D			
Queue Length 50th (ft)		105	0		169	0		99	445			108
Queue Length 95th (ft)		192	0		284	20		194	#761			197
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		309	340		594	606		249	1550			441
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.44	0.06		0.37	0.16		0.51	0.80			0.32

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 128
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 38.3 Intersection LOS: D
Intersection Capacity Utilization 70.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.48	
v/c Ratio	0.62	
Control Delay	28.6	
Queue Delay	0.0	
Total Delay	28.6	
LOS	C	
Approach Delay	33.0	
Approach LOS	C	
Queue Length 50th (ft)	316	
Queue Length 95th (ft)	478	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1954	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.51	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	81	6	180	19	1	16	23	121	1247	32	5	16
Future Volume (vph)	81	6	180	19	1	16	23	121	1247	32	5	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.855			0.858				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1549	0	1646	1487	0	0	1728	3437	0	0	1753
Flt Permitted	0.746			0.471				0.162				0.119
Satd. Flow (perm)	1370	1549	0	816	1487	0	0	295	3437	0	0	220
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					17				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	85	6	189	20	1	17	24	127	1313	34	5	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	195	0	20	18	0	0	151	1347	0	0	22
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	20.3	16.4		21.6	13.1			56.2	55.9			54.4

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	954	84
Future Volume (vph)	954	84
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3455	0
Flt Permitted		
Satd. Flow (perm)	3455	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1004	88
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1092	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	45.4	

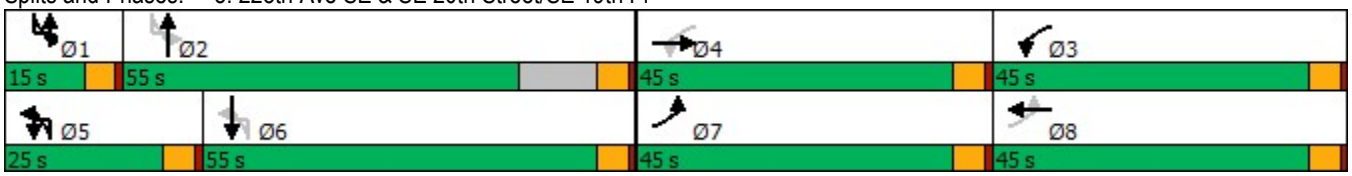
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.24	0.19		0.25	0.15			0.65	0.65			0.63
v/c Ratio	0.22	0.66		0.08	0.07			0.40	0.60			0.09
Control Delay	26.7	46.0		26.6	18.4			9.6	13.1			8.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	26.7	46.0		26.6	18.4			9.6	13.1			8.6
LOS	C	D		C	B			A	B			A
Approach Delay		40.1			22.7				12.8			
Approach LOS		D			C				B			
Queue Length 50th (ft)	34	89		7	0			21	142			3
Queue Length 95th (ft)	83	210		29	22			69	453			16
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	901	751		954	730			594	2628			329
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.09	0.26		0.02	0.02			0.25	0.51			0.07

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 86.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



Lane Group	SBT	SBR
Actuated g/C Ratio	0.53	
v/c Ratio	0.60	
Control Delay	17.9	
Queue Delay	0.0	
Total Delay	17.9	
LOS	B	
Approach Delay	17.8	
Approach LOS	B	
Queue Length 50th (ft)	179	
Queue Length 95th (ft)	399	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	2224	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.49	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	13	4	7	71	5	261	18	1240	147	4	273	821
Future Volume (vph)	13	4	7	71	5	261	18	1240	147	4	273	821
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.963			0.955		0.950				0.950	
Satd. Flow (prot)	0	1769	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.963			0.955		0.287				0.950	
Satd. Flow (perm)	0	1766	1536	0	1747	1539	522	3455	1501	0	1725	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			272			151			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	14	4	7	74	5	272	19	1292	153	4	284	855
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	7	0	79	272	19	1292	153	0	288	872
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.7	11.7		13.1	13.1	86.9	54.0	67.9		31.8	81.6
Actuated g/C Ratio		0.10	0.10		0.11	0.11	0.76	0.47	0.59		0.28	0.71

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	16
Future Volume (vph)	16
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	17
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.10	0.03		0.40	0.65	0.04	0.79	0.16		0.60	0.36
Control Delay		55.6	0.3		59.7	14.5	7.1	32.4	1.5		47.2	10.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		55.6	0.3		59.7	14.5	7.1	32.4	1.5		47.2	10.1
LOS		E	A		E	B	A	C	A		D	B
Approach Delay		40.1			24.7			28.8				19.3
Approach LOS		D			C			C				B
Queue Length 50th (ft)		13	0		56	0	3	418	1		182	134
Queue Length 95th (ft)		43	0		136	92	19	790	16		#476	337
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		549	544		698	776	662	2374	1329		536	2669
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.03	0.01		0.11	0.35	0.03	0.54	0.12		0.54	0.33

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 114.4
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 24.8 Intersection LOS: C
Intersection Capacity Utilization 84.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	83	12	118	97	375	14	793	194	410	358	31
Future Volume (vph)	132	83	12	118	97	375	14	793	194	410	358	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.980				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1742	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.437			0.950		
Satd. Flow (perm)	1694	1742	0	1724	1819	1546	795	3455	1525	3349	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				97			167			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	139	87	13	124	102	395	15	835	204	432	377	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	100	0	124	102	395	15	835	204	432	377	33
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	13.1	13.3		14.8	12.3	39.2	52.3	33.0	33.0	20.8	54.0	50.7
Actuated g/C Ratio	0.13	0.14		0.15	0.13	0.40	0.53	0.34	0.34	0.21	0.55	0.52

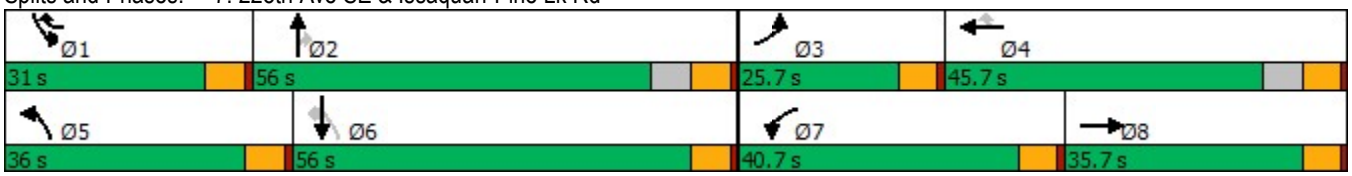
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.62	0.42		0.48	0.45	0.59	0.03	0.72	0.33	0.61	0.38	0.04
Control Delay	58.1	46.4		50.2	49.9	22.1	13.2	34.4	8.9	42.5	17.1	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.1	46.4		50.2	49.9	22.1	13.2	34.4	8.9	42.5	17.1	0.1
LOS	E	D		D	D	C	B	C	A	D	B	A
Approach Delay		53.2			32.3			29.1			29.4	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	78	53		67	58	136	4	222	15	118	104	0
Queue Length 95th (ft)	204	133		180	139	309	19	445	86	262	325	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	371	580		712	897	806	745	2197	1030	1014	1108	921
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.17		0.17	0.11	0.49	0.02	0.38	0.20	0.43	0.34	0.04

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 98.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 32.0 Intersection LOS: C
Intersection Capacity Utilization 64.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	21	964	24	27	449
Future Volume (vph)	11	21	964	24	27	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.911		0.997			
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1597	0	1813	0	1728	1818
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1597	0	1813	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.73	0.73	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	15	29	1059	26	31	516
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	0	1085	0	31	516
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 62.2% ICU Level of Service B
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	21	964	24	27	449
Future Vol, veh/h	11	21	964	24	27	449
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	87	87
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	15	29	1059	26	31	516

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1650	1072	0	0	1085	0
Stage 1	1072	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	108	267	-	-	647	-
Stage 1	327	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	103	267	-	-	647	-
Mov Cap-2 Maneuver	103	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.7	0	0.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	173	647	-
HCM Lane V/C Ratio	-	-	0.253	0.048	-
HCM Control Delay (s)	-	-	32.7	10.8	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1	0.2	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	11	17	0	27	11	638	28	44	725	6
Future Volume (vph)	10	0	11	17	0	27	11	638	28	44	725	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		0.99	1.00	
Frt		0.850			0.850			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1522	0	1745	1541	0	1711	3395	0	1728	3451	0
Flt Permitted				0.909			0.347			0.378		
Satd. Flow (perm)	1837	1522	0	1648	1541	0	625	3395	0	684	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		346			384			5			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	10	0	11	18	0	28	11	665	29	46	755	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	11	0	18	28	0	11	694	0	46	761	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

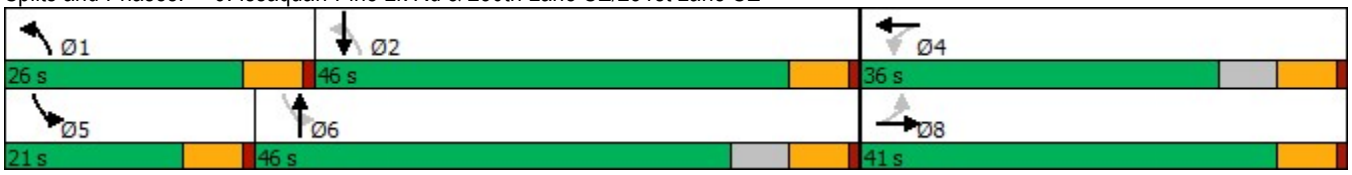
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	9.3	9.3		11.6	10.1		22.9	27.8		23.6	29.7	
Actuated g/C Ratio	0.25	0.25		0.31	0.27		0.62	0.75		0.64	0.80	
v/c Ratio	0.02	0.02		0.03	0.04		0.02	0.27		0.07	0.27	
Control Delay	16.7	0.1		15.8	0.1		6.3	8.7		5.5	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.7	0.1		15.8	0.1		6.3	8.7		5.5	6.7	
LOS	B	A		B	A		A	A		A	A	
Approach Delay		8.0			6.2			8.7			6.7	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)	1	0		1	0		0	0		0	0	
Queue Length 95th (ft)	14	0		20	0		10	189		25	203	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1537	1330		1390	1352		1302	3095		1152	3029	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.01	0.02		0.01	0.22		0.04	0.25	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 36.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 7.6 Intersection LOS: A
Intersection Capacity Utilization 50.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	28	29	659	580	15
Future Volume (vph)	29	28	29	659	580	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1813	0
Flt Permitted	0.950		0.316			
Satd. Flow (perm)	1745	1526	575	1818	1813	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		30			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	31	30	31	701	617	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	30	31	701	633	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	12.3	12.3	29.1	34.3	31.7	
Actuated g/C Ratio	0.28	0.28	0.67	0.79	0.73	
v/c Ratio	0.06	0.07	0.05	0.49	0.48	

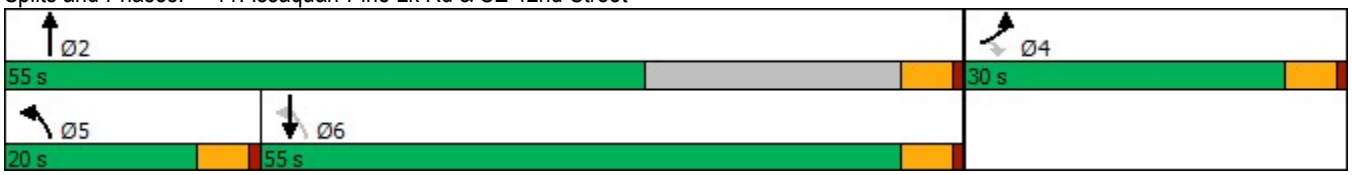
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	21.4	10.2	4.3	6.2	9.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.4	10.2	4.3	6.2	9.8	
LOS	C	B	A	A	A	
Approach Delay	15.9			6.1	9.8	
Approach LOS	B			A	A	
Queue Length 50th (ft)	6	0	2	76	64	
Queue Length 95th (ft)	35	21	15	297	361	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	1192	1052	1101	1745	1629	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.03	0.03	0.40	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 43.3
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 46.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	1	87	0	37	14	649	242	65	538	4
Future Volume (vph)	2	0	1	87	0	37	14	649	242	65	538	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.955			0.850				0.850		0.999	
Flt Protected		0.968		0.950			0.950			0.950		
Satd. Flow (prot)	0	1698	0	1711	1489	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.885		0.756			0.383			0.283		
Satd. Flow (perm)	0	1545	0	1361	1489	0	696	1818	1546	530	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			472				105			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	0	1	90	0	38	14	669	249	67	555	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	90	38	0	14	669	249	67	559	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		13.7		15.0	15.0		62.1	51.9	51.9	58.5	57.4	
Actuated g/C Ratio		0.18		0.19	0.19		0.80	0.67	0.67	0.75	0.74	

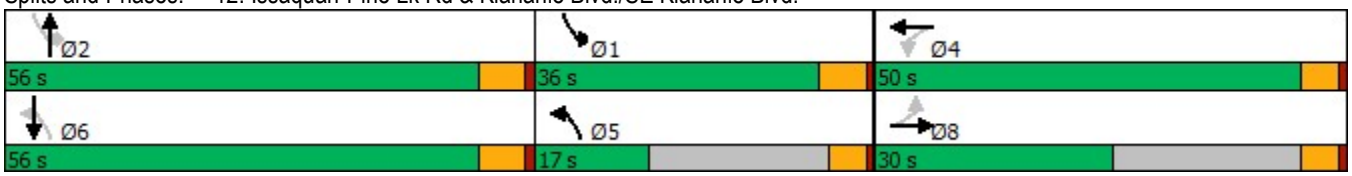
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.34	0.06		0.02	0.55	0.23	0.12	0.40	
Control Delay		0.0		34.3	0.2		3.3	12.9	5.6	4.3	9.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		0.0		34.3	0.2		3.3	12.9	5.6	4.3	9.8	
LOS		A		C	A		A	B	A	A	A	
Approach Delay					24.2			10.8			9.2	
Approach LOS					C			B			A	
Queue Length 50th (ft)		0		41	0		1	198	30	7	77	
Queue Length 95th (ft)		0		88	0		7	373	77	22	379	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		998		857	1112		1047	1288	1126	1056	1432	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.11	0.03		0.01	0.52	0.22	0.06	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 77.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 58.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	7	44	0	26	11	924	109	18	596	4
Future Volume (vph)	2	0	7	44	0	26	11	924	109	18	596	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.984			0.999	
Flt Protected		0.950			0.950		0.950			0.950		
Satd. Flow (prot)	0	1745	1561	0	1745	1561	1728	1789	0	1711	1799	0
Flt Permitted		0.728			0.757		0.392			0.176		
Satd. Flow (perm)	0	1337	1561	0	1390	1561	713	1789	0	317	1799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			26		9				
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	2	0	7	44	0	26	11	933	110	18	602	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	7	0	44	26	11	1043	0	18	606	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		7.9	9.4		9.6	16.9	73.5	71.4		72.7	73.3	
Actuated g/C Ratio		0.09	0.11		0.11	0.19	0.82	0.80		0.81	0.82	
v/c Ratio		0.02	0.04		0.29	0.08	0.02	0.73		0.05	0.41	
Control Delay		48.0	8.1		50.6	15.2	1.8	11.5		2.1	5.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

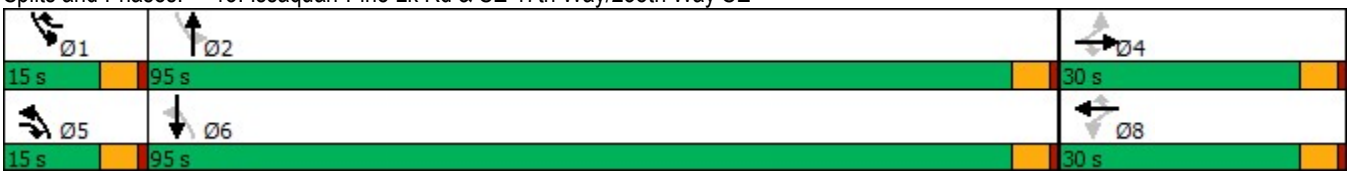
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		48.0	8.1		50.6	15.2	1.8	11.5		2.1	5.1	
LOS		D	A		D	B	A	B		A	A	
Approach Delay		17.0			37.5			11.4			5.0	
Approach LOS		B			D			B			A	
Queue Length 50th (ft)		1	0		25	0	1	364		1	71	
Queue Length 95th (ft)		10	8		71	26	4	626		5	220	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		446	277		463	414	739	1634		462	1642	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.00	0.03		0.10	0.06	0.01	0.64		0.04	0.37	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 89.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 10.2 Intersection LOS: B
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	91	165	1015	639	40
Future Volume (vph)	34	91	165	1015	639	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1786	0
Flt Permitted	0.950		0.249			
Satd. Flow (perm)	1745	1561	453	1818	1786	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		93			4	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	35	93	168	1036	652	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	93	168	1036	693	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	10.1	19.1	41.7	45.4	33.7	
Actuated g/C Ratio	0.17	0.33	0.71	0.77	0.57	
v/c Ratio	0.12	0.16	0.34	0.74	0.67	
Control Delay	28.4	6.1	4.5	9.4	13.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

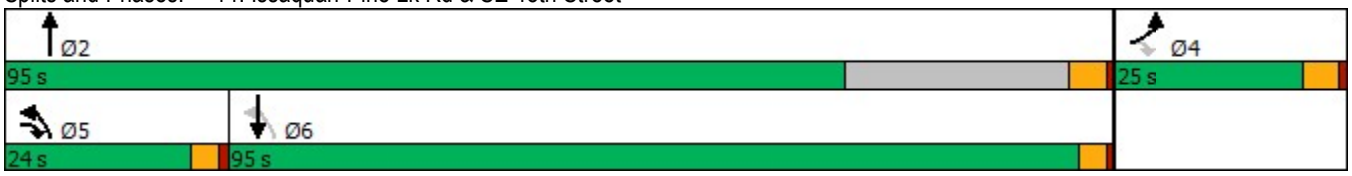
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	28.4	6.1	4.5	9.4	13.1	
LOS	C	A	A	A	B	
Approach Delay	12.2			8.7	13.1	
Approach LOS	B			A	B	
Queue Length 50th (ft)	10	0	14	193	163	
Queue Length 95th (ft)	44	34	29	377	294	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	695	946	855	1818	1786	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.10	0.20	0.57	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 58.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	30	30	104	33	70	30	144	93	182	138	7
Future Volume (vph)	2	30	30	104	33	70	30	144	93	182	138	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.898			0.941			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1649	0	1745	1728	0	1745	1824	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1649	0	1745	1728	0	1745	1824	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	38	38	121	38	81	37	178	115	204	155	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	76	0	121	119	0	37	293	0	204	163	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 46.1% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	30	30	104	33	70	30	144	93	182	138	7
Future Vol, veh/h	2	30	30	104	33	70	30	144	93	182	138	7
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	38	38	121	38	81	37	178	115	204	155	8
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.3	11.2	13.2	12.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	61%	0%	50%	0%	32%	0%	95%
Vol Right, %	0%	39%	0%	50%	0%	68%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	237	2	60	104	103	182	145
LT Vol	30	0	2	0	104	0	182	0
Through Vol	0	144	0	30	0	33	0	138
RT Vol	0	93	0	30	0	70	0	7
Lane Flow Rate	37	293	3	77	121	120	204	163
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.067	0.469	0.005	0.139	0.237	0.202	0.368	0.268
Departure Headway (Hd)	6.553	5.768	7.385	6.518	7.049	6.057	6.473	5.932
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	623	483	548	509	592	554	604
Service Time	4.304	3.518	5.152	4.283	4.802	3.809	4.223	3.682
HCM Lane V/C Ratio	0.068	0.47	0.006	0.141	0.238	0.203	0.368	0.27
HCM Control Delay	9.8	13.6	10.2	10.3	12	10.3	13	10.9
HCM Lane LOS	A	B	B	B	B	B	B	B
HCM 95th-tile Q	0.2	2.5	0	0.5	0.9	0.7	1.7	1.1

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	7	530	45	8	472
Future Volume (vph)	34	7	530	45	8	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.977		0.989			
Flt Protected	0.960					0.999
Satd. Flow (prot)	1689	0	1798	0	0	1817
Flt Permitted	0.960					0.999
Satd. Flow (perm)	1689	0	1798	0	0	1817
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.51	0.51	0.82	0.82	0.83	0.83
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	67	14	646	55	10	569
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	701	0	0	579
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.2% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	7	530	45	8	472
Future Vol, veh/h	34	7	530	45	8	472
Conflicting Peds, #/hr	0	0	0	1	1	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	51	51	82	82	83	83
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	67	14	646	55	10	569

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1264	675	0	0	702	0
Stage 1	675	-	-	-	-	-
Stage 2	589	-	-	-	-	-
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	187	454	-	-	900	-
Stage 1	506	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	184	454	-	-	899	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	545	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	340	899	-
HCM Lane V/C Ratio	-	-	0.236	0.011	-
HCM Control Delay (s)	-	-	18.8	9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	537	0	3	623	273	0	0	0	119	2	9
Future Volume (vph)	11	537	0	3	623	273	0	0	0	119	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850					0.990	
Flt Protected		0.999									0.956	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1837	0	0	1738	0
Flt Permitted		0.986			0.998						0.956	
Satd. Flow (perm)	0	1775	0	0	1815	1513	0	1837	0	0	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											5	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	12	577	0	3	670	294	0	0	0	128	2	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	589	0	0	673	294	0	0	0	0	140	0
Turn Type	Perm	NA		Perm	NA	pm+ov				Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		21.5			21.5	32.7					8.5	
Actuated g/C Ratio		0.57			0.57	0.86					0.22	
v/c Ratio		0.59			0.66	0.22					0.36	

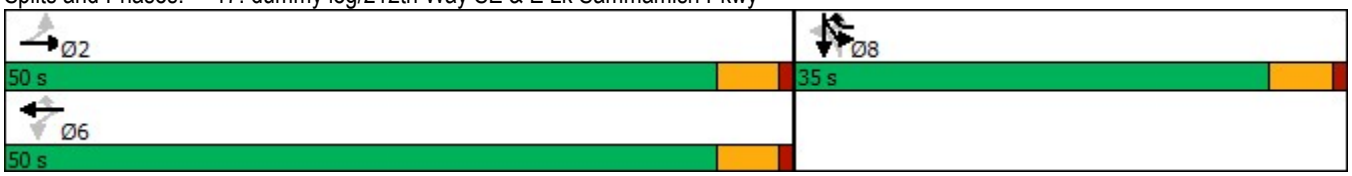
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		8.4			9.6	0.6					16.4	
Queue Delay		0.0			0.0	0.0					0.0	
Total Delay		8.4			9.6	0.6					16.4	
LOS		A			A	A					B	
Approach Delay		8.4			6.9						16.4	
Approach LOS		A			A						B	
Queue Length 50th (ft)		58			71	0					22	
Queue Length 95th (ft)		168			203	0					75	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1723			1761	1488					1423	
Starvation Cap Reductn		0			0	0					0	
Spillback Cap Reductn		0			0	0					0	
Storage Cap Reductn		0			0	0					0	
Reduced v/c Ratio		0.34			0.38	0.20					0.10	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 38
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 52.4% ICU Level of Service A
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



PRJ19-00008 Attachment 060

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1010	1	12	477	10	12
Future Volume (vph)	1010	1	12	477	10	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	9	11	9	9
Grade (%)	5%			-5%	3%	
Storage Length (ft)		50	90		70	40
Storage Lanes		1	1		0	1
Taper Length (ft)			50		50	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3402	1522	1649	1864	1600	1432
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3402	1522	1649	1864	1600	1432
Link Speed (mph)	40			40	20	
Link Distance (ft)	1237			276	195	
Travel Time (s)	21.1			4.7	6.6	
Confl. Peds. (#/hr)		5	5		5	
Confl. Bikes (#/hr)		10				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	1%	0%	0%
Adj. Flow (vph)	1122	1	13	530	11	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1122	1	13	530	11	13
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.9% ICU Level of Service A
Analysis Period (min) 15
Description: 3/22/2017 count 4:45 peak
Jennifer provided estimated volumes

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1010	1	12	477	10	12
Future Vol, veh/h	1010	1	12	477	10	12
Conflicting Peds, #/hr	0	5	5	0	5	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	50	90	-	-	40
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	5	-	-	-5	3	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	1122	1	13	530	11	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1127	0	1688	566
Stage 1	-	-	-	-	1127	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	-	-	4.115	-	7.2	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.2095	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	622	-	72	451
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	524	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	620	-	70	450
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	511	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	170	450	-	-	620	-
HCM Lane V/C Ratio	0.065	0.03	-	-	0.022	-
HCM Control Delay (s)	27.7	13.2	-	-	10.9	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	155	365	270	100	25	230	1225	230	15	1411	159
Future Volume (vph)	380	155	365	270	100	25	230	1225	230	15	1411	159
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3202	0	1646	3292	1424
Flt Permitted	0.674			0.408			0.950			0.950		
Satd. Flow (perm)	1174	1750	1467	714	1691	0	1644	3202	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			22				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	396	161	380	281	104	26	240	1276	240	16	1470	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	396	161	380	281	130	0	240	1516	0	16	1470	447
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.1	78.1		6.0	55.9	55.9

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	270
Future Volume (vph)	270
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	281
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.12	0.52	1.46	0.79	0.35		0.93	0.84		0.23	1.12	0.71
Control Delay	128.3	58.7	265.2	55.5	47.0		100.0	17.8		72.9	100.9	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.7		0.0	0.0	0.0
Total Delay	128.3	58.7	265.2	55.5	47.0		100.0	18.5		72.9	100.9	31.5
LOS	F	E	F	E	D		F	B		E	F	C
Approach Delay		171.9			52.8			29.7			84.6	
Approach LOS		F			D			C			F	
Queue Length 50th (ft)	~367	134	~471	204	95		196	107		14	~810	224
Queue Length 95th (ft)	#624	211	#677	#325	160		#367	#864		m24	#988	238
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	352	312	261	354	368		270	1796		94	1315	628
Starvation Cap Reductn	0	0	0	0	0		0	80		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.13	0.52	1.46	0.79	0.35		0.89	0.88		0.17	1.12	0.71

Intersection Summary

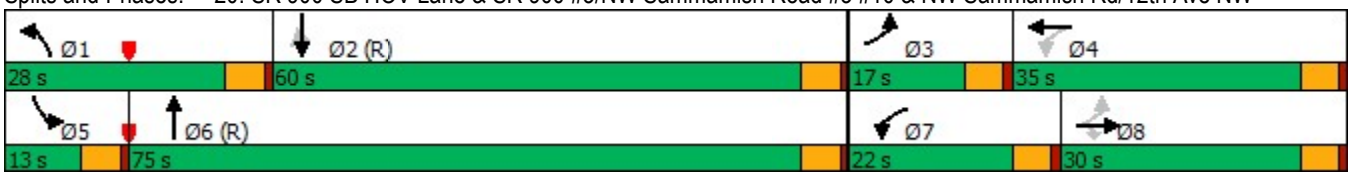
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.46
Intersection Signal Delay: 79.1 Intersection LOS: E
Intersection Capacity Utilization 104.3% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1070	145	455	85	165	45	315	790	40	40	490	665
Future Volume (vph)	1070	145	455	85	165	45	315	790	40	40	490	665
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.99		0.99	1.00		1.00		0.97
Frt			0.850		0.968			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1659	0	3087	3156	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2992	1692	1384	1624	1659	0	3049	3156	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164		9			4				211
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
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 (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1115	151	474	89	172	47	328	823	42	42	510	693
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1115	151	474	89	219	0	328	865	0	42	510	693
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	45.9	60.6	77.3	11.4	26.1		16.8	42.6		7.4	31.2	77.1
Actuated g/C Ratio	0.33	0.43	0.55	0.08	0.19		0.12	0.30		0.05	0.22	0.55
v/c Ratio	1.09	0.21	0.56	0.66	0.69		0.89	0.90		0.51	0.72	0.80
Control Delay	100.3	26.5	14.1	85.0	61.6		73.6	52.8		69.2	44.3	32.0
Queue Delay	0.0	0.0	0.3	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	100.3	26.5	14.4	85.0	61.6		73.6	52.8		69.2	44.3	32.0
LOS	F	C	B	F	E		E	D		E	D	C
Approach Delay		70.5			68.4			58.5			38.3	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	~652	85	157	80	171		161	428		38	218	497
Queue Length 95th (ft)	#788	142	266	137	260		#242	#549		m63	244	#745
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	1021	732	845	176	397		374	963		90	709	870
Starvation Cap Reductn	0	0	76	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.09	0.21	0.62	0.51	0.55		0.88	0.90		0.47	0.72	0.80

Intersection Summary

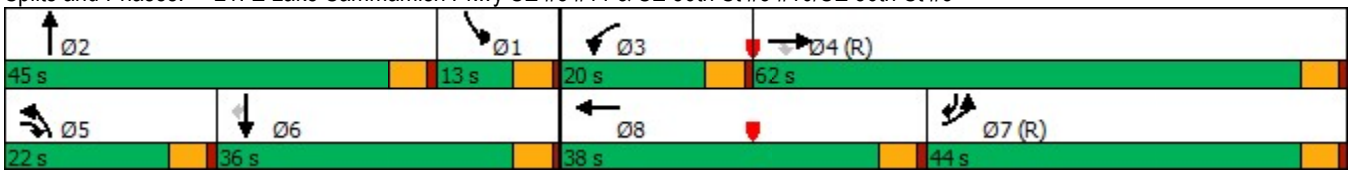
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 58.2 Intersection LOS: E
Intersection Capacity Utilization 103.6% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	547	508	9	279	406	66	17	545	646	40	316	460
Future Volume (vph)	547	508	9	279	406	66	17	545	646	40	316	460
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3167	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.538			0.147		
Satd. Flow (perm)	2641	3205	0	3149	3167	0	900	2010	1402	246	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			9				595			474
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	564	524	9	288	419	68	18	562	666	41	326	474
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	533	0	288	487	0	18	562	666	41	326	474
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	33.1	41.3		17.3	25.5		50.6	46.1	46.1	53.8	49.4	49.4
Actuated g/C Ratio	0.26	0.32		0.13	0.20		0.39	0.36	0.36	0.42	0.38	0.38

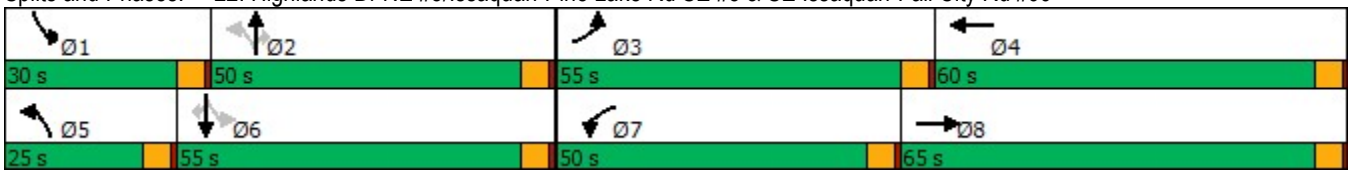
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.83	0.52		0.69	0.77		0.05	0.78	0.76	0.24	0.27	0.57
Control Delay	57.5	38.1		64.6	58.5		26.9	49.7	12.2	29.4	32.3	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	38.1		64.6	58.5		26.9	49.7	12.2	29.4	32.3	6.2
LOS	E	D		E	E		C	D	B	C	C	A
Approach Delay		48.1			60.8			29.3			17.5	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	274	194		122	204		9	362	42	20	104	0
Queue Length 95th (ft)	393	272		195	303		30	#680	256	55	182	97
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	1056	1523		1122	1383		495	716	882	371	1290	851
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.35		0.26	0.35		0.04	0.78	0.76	0.11	0.25	0.56

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 129.5
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 38.2 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	35	80	600	10	135	15	970	975	250	790	20
Future Volume (vph)	40	35	80	600	10	135	15	970	975	250	790	20
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98	1.00				1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.234			0.122		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	395	3214	1438	204	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			139			805		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	42	36	83	625	10	141	16	1010	1016	260	823	21
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	78	83	319	316	141	16	1010	1016	260	844	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.2	15.5	39.2	39.2	55.8	70.0	53.4	140.0	70.0	64.1	

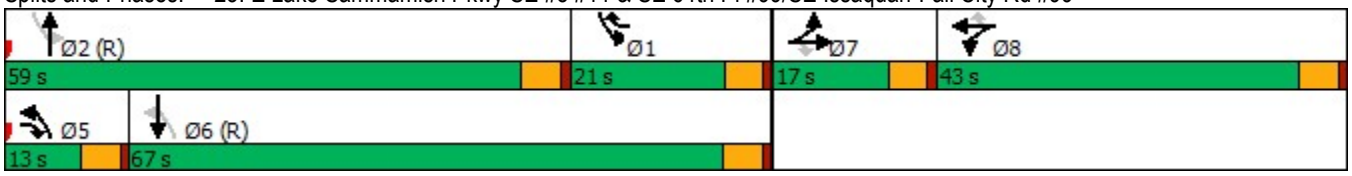
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.66	0.33	0.71	0.71	0.21	0.07	0.82	0.71	1.00	0.58	
Control Delay		87.8	6.8	56.0	55.5	3.5	22.6	46.1	6.0	93.3	22.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	
Total Delay		87.8	6.8	56.0	55.5	3.5	22.6	47.5	6.0	93.3	22.3	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		46.0			46.3			26.7			39.0	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		70	0	277	274	1	10	515	70	170	255	
Queue Length 95th (ft)		127	20	404	400	33	m10	585	173	m#345	235	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	274	447	448	674	274	1225	1438	260	1450	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.55	0.30	0.71	0.71	0.21	0.06	0.89	0.71	1.00	0.58	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 34.5 Intersection LOS: C
Intersection Capacity Utilization 82.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	988	458	2	0	31
Future Volume (vph)	34	988	458	2	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	11	11	15	12	16
Grade (%)		6%	-7%		-6%	
Storage Length (ft)	80			130	0	0
Storage Lanes	1			1	0	1
Taper Length (ft)	50				0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected	0.950					
Satd. Flow (prot)	1576	3385	1882	1820	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1576	3385	1882	1820	0	1863
Link Speed (mph)		40	40		30	
Link Distance (ft)		276	326		123	
Travel Time (s)		4.7	5.6		2.8	
Peak Hour Factor	0.94	0.94	0.79	0.79	0.80	0.80
Heavy Vehicles (%)	0%	0%	1%	1%	3%	3%
Adj. Flow (vph)	36	1051	580	3	0	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	1051	580	3	0	39
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 34.1% ICU Level of Service A
Analysis Period (min) 15
Description: 11/1/2018 4:45 peak
Jennifer provided estimated volumes

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	988	458	2	0	31
Future Vol, veh/h	34	988	458	2	0	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	130	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	6	-7	-	-6	-
Peak Hour Factor	94	94	79	79	80	80
Heavy Vehicles, %	0	0	1	1	3	3
Mvmt Flow	36	1051	580	3	0	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	583	0	-	0	-	580
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	5.645
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3285
Pot Cap-1 Maneuver	1001	-	-	-	0	563
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1001	-	-	-	-	563
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1001	-	-	-	563
HCM Lane V/C Ratio	0.036	-	-	-	0.069
HCM Control Delay (s)	8.7	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	162	283	182	238	221	317	591	92	137	613	68
Future Volume (vph)	78	162	283	182	238	221	317	591	92	137	613	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.96	0.99		0.98	1.00	0.99		0.99	1.00	
Frt			0.850			0.850		0.980			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1783	1516	1694	1783	1516	1711	3331	0	1677	3293	0
Flt Permitted	0.256			0.334			0.950			0.950		
Satd. Flow (perm)	456	1783	1461	590	1783	1492	1705	3331	0	1663	3293	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177			276		10			7	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1487			1545			1340			548	
Travel Time (s)		29.0			30.1			26.1			10.7	
Confl. Peds. (#/hr)	1		7	7		1	2		5	5		2
Confl. Bikes (#/hr)			2			1						1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	98	203	354	228	298	276	396	739	115	171	766	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	203	354	228	298	276	396	854	0	171	851	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4						
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	40.0	50.0	35.0	40.0	50.0	35.0	35.0	65.0		35.0	65.0	
Total Split (%)	21.1%	26.3%	18.4%	21.1%	26.3%	18.4%	18.4%	34.2%		18.4%	34.2%	
Maximum Green (s)	35.0	45.0	30.0	35.0	45.0	30.0	30.0	60.0		30.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		7			1			5			2	
Act Effct Green (s)	39.3	21.1	54.1	39.3	29.2	48.3	33.0	52.5		19.5	39.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.32	0.17	0.44	0.32	0.24	0.39	0.27	0.43		0.16	0.32	
v/c Ratio	0.39	0.67	0.47	0.65	0.71	0.37	0.87	0.60		0.65	0.81	
Control Delay	33.7	61.2	9.3	40.6	54.1	3.8	65.6	31.8		62.9	46.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.7	61.2	9.3	40.6	54.1	3.8	65.6	31.8		62.9	46.0	
LOS	C	E	A	D	D	A	E	C		E	D	
Approach Delay		29.0			33.0			42.5			48.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	53	149	53	134	214	0	296	263		126	317	
Queue Length 95th (ft)	96	244	106	207	321	27	#571	397		213	410	
Internal Link Dist (ft)		1407			1465			1260			468	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	549	699	754	556	705	890	456	1736		447	1715	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.29	0.47	0.41	0.42	0.31	0.87	0.49		0.38	0.50	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 123.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 69.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave SE & NE Inglewood Hill Rd/NE 8th Street

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	29	6	21	164	4	195	9	7	928	154	273	742
Future Volume (vph)	29	6	21	164	4	195	9	7	928	154	273	742
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0	275	
Storage Lanes	0		0	0		1		1		0	2	
Taper Length (ft)	0			0				25			50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.97	0.95
Ped Bike Factor		0.99			1.00	0.99			1.00		1.00	1.00
Frt		0.950				0.850			0.979			0.999
Flt Protected		0.975			0.953			0.950			0.950	
Satd. Flow (prot)	0	1656	0	0	1750	1561	0	1711	3334	0	3286	3383
Flt Permitted		0.643			0.653			0.177			0.950	
Satd. Flow (perm)	0	1092	0	0	1194	1540	0	319	3334	0	3274	3383
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		20				291			16			1
Link Speed (mph)		25			25				35			35
Link Distance (ft)		322			749				1370			1340
Travel Time (s)		8.8			20.4				26.7			26.1
Confl. Peds. (#/hr)	1		4	4		1		7		9	9	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	43	9	31	245	6	291	13	10	1385	230	407	1107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	251	291	0	23	1615	0	407	1117
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	NA
Protected Phases		8			4		5	5	2		1	6
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	24.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	65.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	45.1%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	60.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0		3.0	3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	Min
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			7.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			12.0
Pedestrian Calls (#/hr)	7	7		1	1	1			9			9
Act Effct Green (s)		30.4			30.4	29.4		85.1	62.5		20.7	72.6
Actuated g/C Ratio		0.25			0.25	0.24		0.70	0.51		0.17	0.60
v/c Ratio		0.29			0.84	0.49		0.06	0.94		0.73	0.55

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	7
Peak Hour Factor	0.67
Heavy Vehicles (%)	3%
Adj. Flow (vph)	10
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

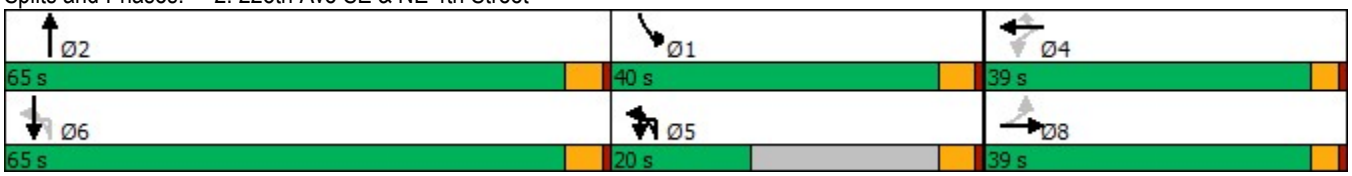
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Control Delay		31.2			68.2	7.2		7.5	40.9		56.6	21.9
Queue Delay		0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		31.2			68.2	7.2		7.5	40.9		56.6	21.9
LOS		C			E	A		A	D		E	C
Approach Delay		31.2			35.4				40.4			31.2
Approach LOS		C			D				D			C
Queue Length 50th (ft)		40			188	0		5	635		161	194
Queue Length 95th (ft)		61			210	1		11	516		159	341
Internal Link Dist (ft)		242			669				1290			1260
Turn Bay Length (ft)								125			275	
Base Capacity (vph)		348			365	663		652	1719		1006	2107
Starvation Cap Reductn		0			0	0		0	0		0	0
Spillback Cap Reductn		0			0	0		0	0		0	0
Storage Cap Reductn		0			0	0		0	0		0	0
Reduced v/c Ratio		0.24			0.69	0.44		0.04	0.94		0.40	0.53

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 121.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 35.8 Intersection LOS: D
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15
Description: FYA installed per Sammamish Current Projects list

Splits and Phases: 2: 228th Ave SE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBR
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	127	63	110	97	23	86	7	86	891	296	28	156
Future Volume (vph)	127	63	110	97	23	86	7	86	891	296	28	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	30		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				50				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99						0.97		
Frt			0.850		0.881					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1720	1810	1539	1728	1602	0	0	1745	3490	1561	0	1711
Flt Permitted	0.389			0.634				0.200				0.133
Satd. Flow (perm)	704	1810	1511	1147	1602	0	0	367	3490	1513	0	239
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			141		98					142		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)			3	3				5		7		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	163	81	141	124	29	110	9	110	1142	379	36	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	163	81	141	124	139	0	0	119	1142	379	0	236
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-3.0	-3.0			-2.0	-2.0	-2.0		-2.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0		3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	733	66
Future Volume (vph)	733	66
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.78	0.78
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	940	85
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1025	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						7	7		
Act Effct Green (s)	26.8	14.2	14.2	26.8	12.1			69.3	53.0	53.0		69.3
Actuated g/C Ratio	0.25	0.13	0.13	0.25	0.11			0.64	0.49	0.49		0.64
v/c Ratio	0.52	0.34	0.44	0.35	0.52			0.35	0.67	0.47		0.63
Control Delay	37.9	48.1	11.7	33.7	24.0			10.8	26.4	15.8		22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	37.9	48.1	11.7	33.7	24.0			10.8	26.4	15.8		22.5
LOS	D	D	B	C	C			B	C	B		C
Approach Delay		30.5			28.6				22.8			
Approach LOS		C			C				C			
Queue Length 50th (ft)	88	50	0	65	26			24	282	92		55
Queue Length 95th (ft)	138	93	35	108	69			62	474	208		144
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	30				190		170		380
Base Capacity (vph)	627	648	631	637	636			466	1710	813		672
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.26	0.13	0.22	0.19	0.22			0.26	0.67	0.47		0.35

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 108.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 22.6 Intersection LOS: C
Intersection Capacity Utilization 59.3% ICU Level of Service B
Analysis Period (min) 15
Description: FYA installed on 228th per Sammamish Project list

Splits and Phases: 3: 228th Ave SE & SE 4th Street

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	60.7	
Actuated g/C Ratio	0.56	
v/c Ratio	0.54	
Control Delay	17.8	
Queue Delay	0.0	
Total Delay	17.8	
LOS	B	
Approach Delay	18.7	
Approach LOS	B	
Queue Length 50th (ft)	203	
Queue Length 95th (ft)	335	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2285	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.45	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	36	22	6	304	35	401	21	55	852	264	1	141
Future Volume (vph)	36	22	6	304	35	401	21	55	852	264	1	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.98		0.99			1.00	0.99			1.00
Frt			0.850			0.850			0.965			
Flt Protected		0.970			0.957			0.950				0.950
Satd. Flow (prot)	0	1729	1515	0	1758	1561	0	1728	3308	0	0	1694
Flt Permitted		0.970			0.957			0.950				0.950
Satd. Flow (perm)	0	1729	1480	0	1742	1561	0	1726	3308	0	0	1689
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			315			28			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1774				959			
Travel Time (s)		5.5			34.6				16.3			
Confl. Peds. (#/hr)			5	5				1		4		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	41	25	7	345	40	456	24	63	968	300	1	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	7	0	385	456	0	87	1268	0	0	161
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	5	5	5						4			
Act Effct Green (s)		14.0	12.0		36.0	36.0		14.1	59.4			20.4

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	763	59
Future Volume (vph)	763	59
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.989	
Flt Protected		
Satd. Flow (prot)	3344	0
Flt Permitted		
Satd. Flow (perm)	3344	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.88	0.88
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	867	67
Shared Lane Traffic (%)		
Lane Group Flow (vph)	934	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)	66.2	

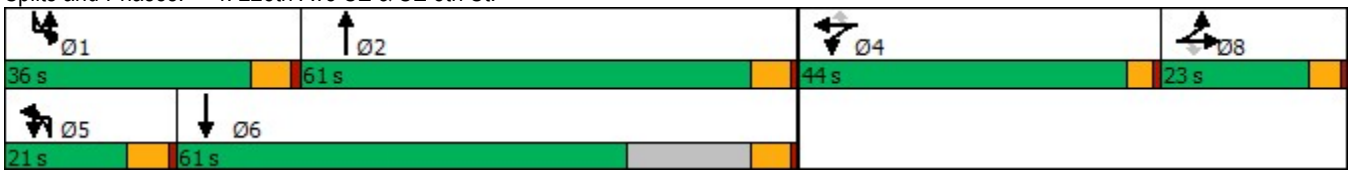
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.10	0.09		0.26	0.26		0.10	0.43			0.15
v/c Ratio		0.38	0.03		0.84	0.71		0.49	0.88			0.64
Control Delay		67.6	0.2		66.6	21.7		72.6	46.0			69.8
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		67.6	0.2		66.6	21.7		72.6	46.0			69.8
LOS		E	A		E	C		E	D			E
Approach Delay		61.2			42.2				47.7			
Approach LOS		E			D				D			
Queue Length 50th (ft)		58	0		328	114		77	565			142
Queue Length 95th (ft)		113	0		#557	269		150	#895			236
Internal Link Dist (ft)		203			1694				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		278	323		548	703		231	1441			409
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.24	0.02		0.70	0.65		0.38	0.88			0.39

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 137.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 42.8 Intersection LOS: D
Intersection Capacity Utilization 84.5% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.48	
v/c Ratio	0.58	
Control Delay	30.3	
Queue Delay	0.0	
Total Delay	30.3	
LOS	C	
Approach Delay	36.1	
Approach LOS	D	
Queue Length 50th (ft)	332	
Queue Length 95th (ft)	480	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1817	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.51	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	182	1	108	38	1	23	18	186	1064	18	1	9
Future Volume (vph)	182	1	108	38	1	23	18	186	1064	18	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99			0.99				1.00			
Frt		0.851			0.855				0.998			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1694	1498	0	1745	1551	0	0	1694	3379	0	0	1719
Flt Permitted	0.739			0.542				0.069				0.150
Satd. Flow (perm)	1318	1498	0	995	1551	0	0	123	3379	0	0	271
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					27				1			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			1086				1161			
Travel Time (s)		52.9			21.2				19.8			
Confl. Peds. (#/hr)								2		2		2
Confl. Bikes (#/hr)			1			1				2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	214	1	127	45	1	27	21	219	1252	21	1	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	128	0	45	28	0	0	240	1273	0	0	12
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							2			
Act Effct Green (s)	26.4	13.4		22.5	10.2			72.0	73.0			70.9

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1266	95
Future Volume (vph)	1266	95
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.990	
Flt Protected		
Satd. Flow (prot)	3397	0
Flt Permitted		
Satd. Flow (perm)	3397	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	3%	3%
Adj. Flow (vph)	1489	112
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1601	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	2	
Act Effct Green (s)	54.0	

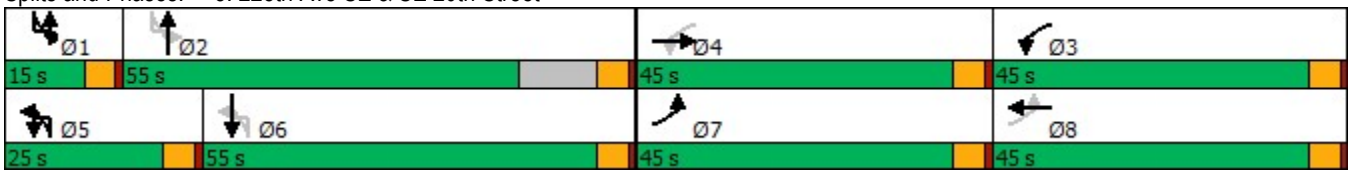
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.25	0.13		0.21	0.10			0.67	0.68			0.66
v/c Ratio	0.54	0.68		0.16	0.16			0.68	0.55			0.05
Control Delay	38.7	66.3		33.9	21.3			36.6	11.9			8.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	38.7	66.3		33.9	21.3			36.6	11.9			8.7
LOS	D	E		C	C			D	B			A
Approach Delay		49.0			29.1				15.9			
Approach LOS		D			C				B			
Queue Length 50th (ft)	126	91		25	1			116	231			3
Queue Length 95th (ft)	188	151		51	28			200	389			11
Internal Link Dist (ft)		2637			1006				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	686	570		788	606			422	2307			319
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.31	0.22		0.06	0.05			0.57	0.55			0.04

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 107
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street



Lane Group	SBT	SBR
Actuated g/C Ratio	0.50	
v/c Ratio	0.93	
Control Delay	38.7	
Queue Delay	0.0	
Total Delay	38.7	
LOS	D	
Approach Delay	38.5	
Approach LOS	D	
Queue Length 50th (ft)	591	
Queue Length 95th (ft)	#791	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1715	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.93	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	2	1	111	1	218	5	737	106	6	127	1081
Future Volume (vph)	4	2	1	111	1	218	5	737	106	6	127	1081
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		0.99				0.98			0.96			
Frt			0.850			0.850			0.850			0.999
Flt Protected		0.966			0.953		0.950				0.950	
Satd. Flow (prot)	0	1774	1561	0	1667	1487	1678	3355	1501	0	1678	3352
Flt Permitted		0.966			0.953		0.129				0.220	
Satd. Flow (perm)	0	1764	1561	0	1667	1455	228	3355	1446	0	389	3352
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			251			122			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		301			736			1560				1161
Travel Time (s)		8.2			20.1			23.6				17.6
Confl. Peds. (#/hr)	4					4			4		4	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	5	2	1	128	1	251	6	847	122	7	146	1243
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	1	0	129	251	6	847	122	0	153	1253
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	D.P+P	D.P+P	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2	2	2	
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	4	4	4	4	4	4		0	4			0
Act Effct Green (s)		12.0	12.0		15.4	15.4	42.3	28.7	44.9		40.1	40.3
Actuated g/C Ratio		0.17	0.17		0.22	0.22	0.61	0.42	0.65		0.58	0.59

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	9
Future Volume (vph)	9
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	4%
Adj. Flow (vph)	10
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.02	0.00		0.35	0.48	0.02	0.61	0.12		0.35	0.64
Control Delay		34.5	0.0		33.5	8.9	9.8	19.6	1.2		10.9	15.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		34.5	0.0		33.5	8.9	9.8	19.6	1.2		10.9	15.1
LOS		C	A		C	A	A	B	A		B	B
Approach Delay		30.2			17.3			17.2				14.7
Approach LOS		C			B			B				B
Queue Length 50th (ft)		2	0		30	0	1	92	0		13	91
Queue Length 95th (ft)		18	0		165	67	9	357	13		101	552
Internal Link Dist (ft)		221			656			1480				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		1044	959		1228	1138	736	3037	1351		1022	3078
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.01	0.00		0.11	0.22	0.01	0.28	0.09		0.15	0.41

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 68.8
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 59.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	109	113	17	212	103	454	1	7	420	70	411	750
Future Volume (vph)	109	113	17	212	103	454	1	7	420	70	411	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%				0%			0%
Storage Length (ft)	120		0	310		0		155		250	300	
Storage Lanes	1		0	1		1		1		1	1	
Taper Length (ft)	25			25				50			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.97	1.00
Ped Bike Factor		1.00		0.99						0.98	0.99	
Frt		0.980				0.850				0.850		
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1678	1724	0	1711	1801	1531	0	1631	3261	1459	3255	1766
Flt Permitted	0.950			0.950				0.077			0.950	
Satd. Flow (perm)	1678	1724	0	1700	1801	1531	0	132	3261	1429	3232	1766
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		4				209				130		
Link Speed (mph)		35			35				35			35
Link Distance (ft)		839			566				403			584
Travel Time (s)		16.3			11.0				7.9			11.4
Confl. Peds. (#/hr)			3	3						5	5	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	7%	4%	4%
Adj. Flow (vph)	121	126	19	236	114	504	1	8	467	78	457	833
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	145	0	236	114	504	0	9	467	78	457	833
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	D.P+P	NA	Perm	Prot	NA
Protected Phases	3	8		7	4	1	5	5	2		1	6
Permitted Phases						4	6	6		2		
Detector Phase	3	8		7	4	1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	11.0	38.0	38.0	11.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	36.0	56.0	56.0	31.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	21.4%	33.3%	33.3%	18.4%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	30.0	50.0	50.0	25.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6		0.0	-3.0	-3.0	-2.6	-3.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4		6.0	3.0	3.0	3.4	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0							10.0	10.0		4.0
Flash Dont Walk (s)		25.0							22.0	22.0		16.0
Pedestrian Calls (#/hr)		3							5	5		0
Act Effct Green (s)	11.6	14.3		21.3	21.3	48.8		52.8	31.7	31.7	21.6	55.2

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Ideal Flow (vphpl)	1900
Grade (%)	
Storage Length (ft)	125
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1501
Flt Permitted	
Satd. Flow (perm)	1501
Right Turn on Red	Yes
Satd. Flow (RTOR)	130
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	4%
Adj. Flow (vph)	50
Shared Lane Traffic (%)	
Lane Group Flow (vph)	50
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	10.0
Minimum Split (s)	26.0
Total Split (s)	56.0
Total Split (%)	33.3%
Maximum Green (s)	50.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Recall Mode	None
Walk Time (s)	4.0
Flash Dont Walk (s)	16.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	52.1

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.11	0.14		0.20	0.20	0.47		0.50	0.30	0.30	0.21	0.53
v/c Ratio	0.65	0.61		0.68	0.31	0.61		0.06	0.47	0.15	0.68	0.89
Control Delay	63.8	53.2		50.5	37.9	14.5		19.0	35.3	1.2	45.7	38.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	53.2		50.5	37.9	14.5		19.0	35.3	1.2	45.7	38.8
LOS	E	D		D	D	B		B	D	A	D	D
Approach Delay		58.1			27.5				30.2			39.7
Approach LOS		E			C				C			D
Queue Length 50th (ft)	73	85		135	61	126		3	126	0	133	424
Queue Length 95th (ft)	176	180		291	132	277		16	263	4	270	#1206
Internal Link Dist (ft)		759			486				323			504
Turn Bay Length (ft)	120			310				155		250	300	
Base Capacity (vph)	331	517		634	799	912		511	1865	873	886	931
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.37	0.28		0.37	0.14	0.55		0.02	0.25	0.09	0.52	0.89

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 104.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 36.1 Intersection LOS: D
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd

PRJ19-00008 Attachment 060

Lane Group	SBR
Actuated g/C Ratio	0.50
v/c Ratio	0.06
Control Delay	0.2
Queue Delay	0.0
Total Delay	0.2
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	0
Internal Link Dist (ft)	
Turn Bay Length (ft)	125
Base Capacity (vph)	812
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.06

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	80	483	9	21	1032
Future Volume (vph)	39	80	483	9	21	1032
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.909		0.998			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1550	0	1762	0	1711	1801
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1550	0	1762	0	1711	1801
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.60	0.60	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	4%	4%	2%	2%
Adj. Flow (vph)	65	133	537	10	23	1147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	0	547	0	23	1147
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	10.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	80	483	9	21	1032
Future Vol, veh/h	39	80	483	9	21	1032
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	60	60	90	90	90	90
Heavy Vehicles, %	6	6	4	4	2	2
Mvmt Flow	65	133	537	10	23	1147

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1735	542	0	0	547	0
Stage 1	542	-	-	-	-	-
Stage 2	1193	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	94	533	-	-	1022	-
Stage 1	575	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	92	533	-	-	1022	-
Mov Cap-2 Maneuver	92	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	276	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	100.1	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	207	1022	-
HCM Lane V/C Ratio	-	-	0.958	0.023	-
HCM Control Delay (s)	-	-	100.1	8.6	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	8.1	0.1	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	1	71	27	1	44	108	650	12	10	449	124
Future Volume (vph)	137	1	71	27	1	44	108	650	12	10	449	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.82		0.85	0.99		1.00	1.00		1.00	0.99	
Frt		0.852			0.853			0.997			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1281	0	1745	1546	0	1694	3376	0	1601	3080	0
Flt Permitted	0.719			0.697			0.268			0.256		
Satd. Flow (perm)	1321	1281	0	1084	1546	0	477	3376	0	430	3080	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92			57			2			35	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			545	
Travel Time (s)		5.5			10.3			5.6			10.6	
Confl. Peds. (#/hr)			134	134			5		6	6		5
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	178	1	92	35	1	57	140	844	16	13	583	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	93	0	35	58	0	140	860	0	13	744	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

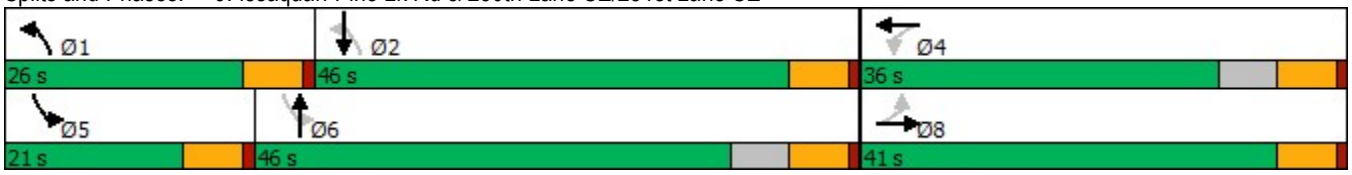
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	134	134		0	0			6			5	
Act Effct Green (s)	21.5	21.5		22.6	21.5		31.5	37.0		38.0	24.6	
Actuated g/C Ratio	0.30	0.30		0.31	0.30		0.44	0.51		0.53	0.34	
v/c Ratio	0.45	0.21		0.10	0.12		0.41	0.50		0.04	0.69	
Control Delay	25.4	6.6		19.8	7.0		14.0	14.3		8.8	24.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.4	6.6		19.8	7.0		14.0	14.3		8.8	24.1	
LOS	C	A		B	A		B	B		A	C	
Approach Delay		18.9			11.8			14.2			23.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	62	0		11	0		34	130		3	152	
Queue Length 95th (ft)	114	23		30	20		52	190		9	176	
Internal Link Dist (ft)		204			449			210			465	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	672	696		567	814		604	2257		504	1849	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.13		0.06	0.07		0.23	0.38		0.03	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 71.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 18.2 Intersection LOS: B
Intersection Capacity Utilization 59.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	82	69	600	683	17
Future Volume (vph)	28	82	69	600	683	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1711	1531	1728	1818	1778	0
Flt Permitted	0.950		0.239			
Satd. Flow (perm)	1711	1531	435	1818	1778	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		90			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	3%	3%
Adj. Flow (vph)	31	90	76	659	751	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	90	76	659	770	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	0	0				
Act Effct Green (s)	9.6	9.6	41.1	46.3	39.1	
Actuated g/C Ratio	0.17	0.17	0.71	0.80	0.68	
v/c Ratio	0.11	0.27	0.16	0.45	0.64	
Control Delay	29.6	10.3	3.0	4.1	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

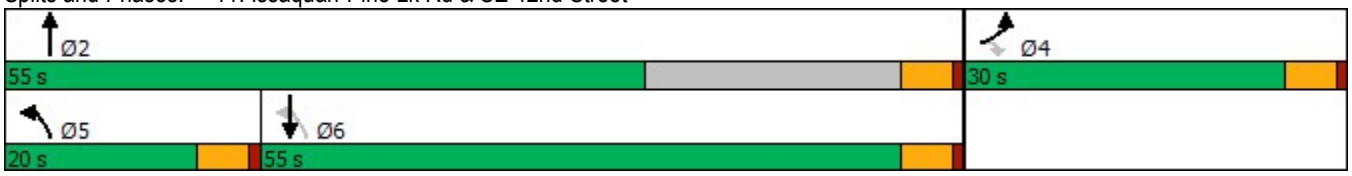
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	29.6	10.3	3.0	4.1	11.8	
LOS	C	B	A	A	B	
Approach Delay	15.3			3.9	11.8	
Approach LOS	B			A	B	
Queue Length 50th (ft)	11	0	5	71	189	
Queue Length 95th (ft)	39	40	15	136	345	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	881	832	798	1775	1455	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.11	0.10	0.37	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 57.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 55.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	23	340	4	99	1	556	67	22	739	4
Future Volume (vph)	15	1	23	340	4	99	1	556	67	22	739	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		200	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.98	0.97				0.98		1.00	
Frt		0.920			0.855				0.850		0.999	
Flt Protected		0.981		0.950			0.950			0.950		
Satd. Flow (prot)	0	1575	0	1728	1508	0	1694	1783	1516	1745	1835	0
Flt Permitted		0.905		0.757			0.105			0.216		
Satd. Flow (perm)	0	1448	0	1356	1508	0	187	1783	1482	397	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			111				61			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			371			920	
Travel Time (s)		11.4			12.0			7.2			17.9	
Confl. Peds. (#/hr)	3		5	5		3	2		1	1		2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	17	1	26	382	4	111	1	625	75	25	830	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	382	115	0	1	625	75	25	834	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	5	5		3	3			1	1		2	
Act Effct Green (s)		38.9		38.9	38.9		65.6	54.1	54.1	60.2	58.8	
Actuated g/C Ratio		0.37		0.37	0.37		0.62	0.51	0.51	0.57	0.55	

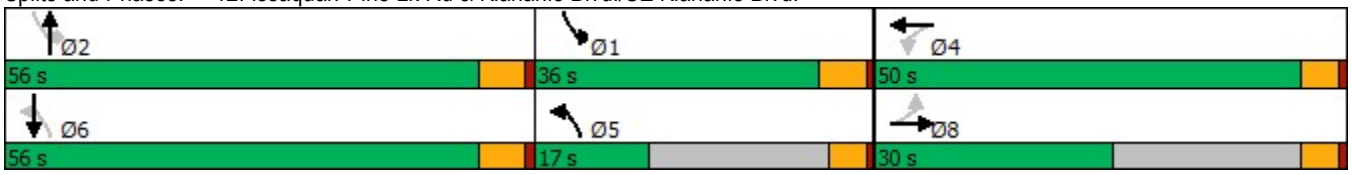
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.08		0.77	0.18		0.00	0.69	0.10	0.07	0.82	
Control Delay		12.6		41.6	5.5		12.0	28.1	7.0	13.1	30.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		12.6		41.6	5.5		12.0	28.1	7.0	13.1	30.1	
LOS		B		D	A		B	C	A	B	C	
Approach Delay		12.6			33.3			25.8			29.6	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)		8		244	2		0	378	6	8	464	
Queue Length 95th (ft)		32		361	38		3	548	33	21	#905	
Internal Link Dist (ft)		338			360			291			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		668		612	742		650	908	785	733	1016	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.07		0.62	0.15		0.00	0.69	0.10	0.03	0.82	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 106.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 71.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1	15	125	1	26	4	630	26	17	1177	36
Future Volume (vph)	45	1	15	125	1	26	4	630	26	17	1177	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		200	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.99							
Frt			0.850			0.850		0.994			0.996	
Flt Protected		0.953			0.953		0.950			0.950		
Satd. Flow (prot)	0	1750	1561	0	1750	1561	1694	1772	0	1711	1793	0
Flt Permitted		0.517			0.690		0.042			0.307		
Satd. Flow (perm)	0	950	1518	0	1252	1561	75	1772	0	553	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			17			23		3			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1458	
Travel Time (s)		8.8			7.1			14.1			28.4	
Confl. Peds. (#/hr)			4	4								
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	50	1	17	139	1	29	4	700	29	19	1308	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	17	0	140	29	4	729	0	19	1348	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		17.7	22.5		18.9	29.0	97.7	94.2		97.7	94.2	
Actuated g/C Ratio		0.14	0.18		0.15	0.23	0.77	0.74		0.77	0.74	
v/c Ratio		0.39	0.06		0.75	0.08	0.03	0.55		0.04	1.01	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		56.9	15.4		76.3	17.4	4.5	10.8		4.1	46.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		56.9	15.4		76.3	17.4	4.5	10.8		4.1	46.8	
LOS		E	B		E	B	A	B		A	D	
Approach Delay		46.5			66.2			10.8			46.3	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)		39	0		113	4	1	271		3	~1237	
Queue Length 95th (ft)		81	20		188	30	4	447		10	#1626	
Internal Link Dist (ft)		243			181			645			1378	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		195	345		257	434	200	1316		536	1331	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.26	0.05		0.54	0.07	0.02	0.55		0.04	1.01	

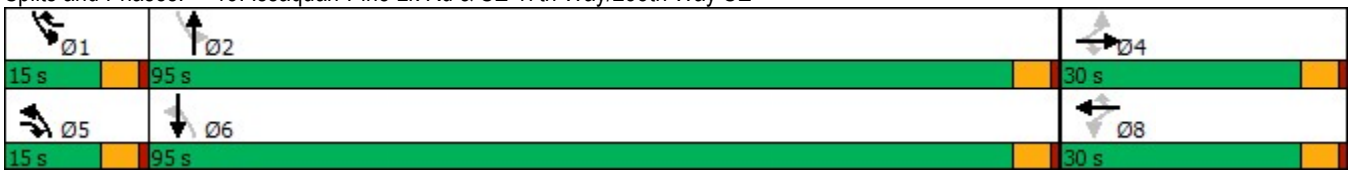
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 126.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 36.6 Intersection LOS: D
Intersection Capacity Utilization 85.3% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	97	197	54	522	1283	57
Future Volume (vph)	97	197	54	522	1283	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1728	1546	1678	1766	1790	0
Flt Permitted	0.950		0.043			
Satd. Flow (perm)	1728	1546	76	1766	1790	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		51			3	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%
Adj. Flow (vph)	110	224	61	593	1458	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	224	61	593	1523	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	18.4	29.5	99.2	101.2	92.1	
Actuated g/C Ratio	0.14	0.23	0.78	0.79	0.72	
v/c Ratio	0.44	0.57	0.41	0.42	1.18	
Control Delay	56.0	38.8	20.9	5.4	109.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	56.0	38.8	20.9	5.4	109.2	
LOS	E	D	C	A	F	
Approach Delay	44.5			6.9	109.2	
Approach LOS	D			A	F	
Queue Length 50th (ft)	84	127	9	139	~1535	
Queue Length 95th (ft)	144	204	46	187	#1826	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	284	553	325	1593	1292	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.39	0.41	0.19	0.37	1.18	

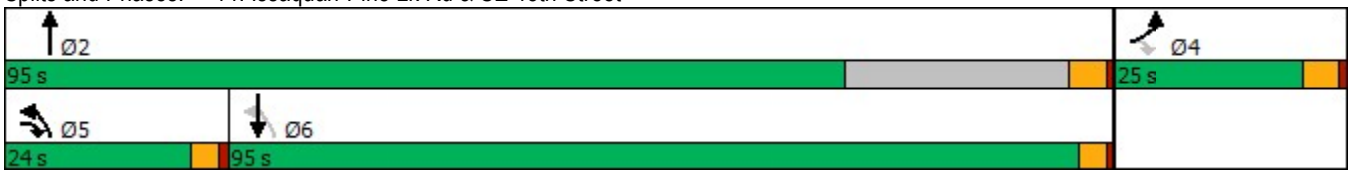
Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 127.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 74.0 Intersection LOS: E
Intersection Capacity Utilization 89.8% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	24	45	137	30	163	46	170	155	51	177	1
Future Volume (vph)	12	24	45	137	30	163	46	170	155	51	177	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.902			0.874			0.929			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1624	0	1728	1589	0	1694	1657	0	1728	1817	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1711	1624	0	1728	1589	0	1694	1657	0	1728	1817	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Adj. Flow (vph)	18	36	67	185	41	220	60	221	201	60	208	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	103	0	185	261	0	60	422	0	60	209	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 46.0% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	24	45	137	30	163	46	170	155	51	177	1
Future Vol, veh/h	12	24	45	137	30	163	46	170	155	51	177	1
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	1	1	1	3	3	3	1	1	1
Mvmt Flow	18	36	67	185	41	220	60	221	201	60	208	1
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	12.1	15.3	26.3	14.5
HCM LOS	B	C	D	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	52%	0%	35%	0%	16%	0%	99%
Vol Right, %	0%	48%	0%	65%	0%	84%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	325	12	69	137	193	51	178
LT Vol	46	0	12	0	137	0	51	0
Through Vol	0	170	0	24	0	30	0	177
RT Vol	0	155	0	45	0	163	0	1
Lane Flow Rate	60	422	18	103	185	261	60	209
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.124	0.773	0.042	0.213	0.395	0.476	0.13	0.423
Departure Headway (Hd)	7.444	6.593	8.419	7.432	7.685	6.569	7.783	7.266
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	482	549	425	482	468	548	460	494
Service Time	5.188	4.336	6.178	5.19	5.431	4.315	5.533	5.016
HCM Lane V/C Ratio	0.124	0.769	0.042	0.214	0.395	0.476	0.13	0.423
HCM Control Delay	11.2	28.4	11.5	12.2	15.4	15.2	11.7	15.3
HCM Lane LOS	B	D	B	B	C	C	B	C
HCM 95th-tile Q	0.4	7	0.1	0.8	1.9	2.5	0.4	2.1

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	13	355	15	16	520
Future Volume (vph)	40	13	355	15	16	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1722	0	1711	1801
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1722	0	1711	1801
Link Speed (mph)	35		40			40
Link Distance (ft)	396		1034			334
Travel Time (s)	7.7		17.6			5.7
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.79	0.79	0.76	0.76	0.86	0.86
Heavy Vehicles (%)	2%	2%	6%	6%	2%	2%
Adj. Flow (vph)	51	16	467	20	19	605
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	16	487	0	19	605
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.4% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	13	355	15	16	520
Future Vol, veh/h	40	13	355	15	16	520
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	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	76	76	86	86
Heavy Vehicles, %	2	2	6	6	2	2
Mvmt Flow	51	16	467	20	19	605

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1120	477	0	0	487	0
Stage 1	477	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	228	588	-	-	1076	-
Stage 1	624	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	224	588	-	-	1076	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	358	588	1076	-
HCM Lane V/C Ratio	-	-	0.141	0.028	0.017	-
HCM Control Delay (s)	-	-	16.7	11.3	8.4	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	0.1	-

PRJ19-00008 Attachment 060

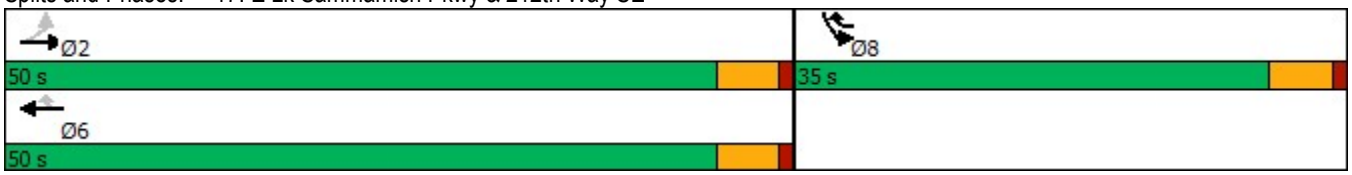
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	640	371	103	375	9
Future Volume (vph)	9	640	371	103	375	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			90	0	150
Storage Lanes	0			1	1	0
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850	0.997	
Flt Protected		0.999			0.953	
Satd. Flow (prot)	0	1817	1766	1501	1728	0
Flt Permitted		0.994			0.953	
Satd. Flow (perm)	0	1808	1766	1469	1728	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1036		414	
Travel Time (s)		13.3	20.2		9.4	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	4%	4%	1%	1%
Adj. Flow (vph)	10	696	403	112	408	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	706	403	112	418	0
Turn Type	Perm	NA	NA	pm+ov	Prot	
Protected Phases		2	6	8	8	
Permitted Phases	2			6		
Detector Phase	2	2	6	8	8	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0	22.0	21.0	21.0	
Total Split (s)	50.0	50.0	50.0	35.0	35.0	
Total Split (%)	58.8%	58.8%	58.8%	41.2%	41.2%	
Maximum Green (s)	45.0	45.0	45.0	30.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.5	-2.5	-2.5	-2.5	
Total Lost Time (s)		2.5	2.5	2.5	2.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Recall Mode	Min	Min	Min	None	None	
Walk Time (s)			7.0	5.0	5.0	
Flash Dont Walk (s)			10.0	11.0	11.0	
Pedestrian Calls (#/hr)			1	0	0	
Act Effct Green (s)		30.5	30.5	52.3	21.7	
Actuated g/C Ratio		0.53	0.53	0.90	0.38	
v/c Ratio		0.74	0.43	0.08	0.64	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay		16.8	10.6	0.2	22.0	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		16.8	10.6	0.2	22.0	
LOS		B	B	A	C	
Approach Delay		16.8	8.4		22.0	
Approach LOS		B	A		C	
Queue Length 50th (ft)		161	73	0	109	
Queue Length 95th (ft)		385	178	0	276	
Internal Link Dist (ft)		604	956		334	
Turn Bay Length (ft)				90		
Base Capacity (vph)		1481	1446	1419	1078	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.48	0.28	0.08	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 57.8
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 15.5 Intersection LOS: B
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 17: E Lk Sammamish Pkwy & 212th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	478	6	18	1051	0	11	1	13	30	1	29
Future Volume (vph)	15	478	6	18	1051	0	11	1	13	30	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96	1.00			1.00				0.98	
Frt			0.850					0.860			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3323	1487	1728	3455	0	1745	1688	0	1745	1652	0
Flt Permitted	0.207			0.462			0.950			0.950		
Satd. Flow (perm)	362	3323	1432	836	3455	0	1737	1688	0	1745	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					14			31	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1241			169			195			237	
Travel Time (s)		21.2			2.9			6.6			8.1	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			5			10						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	514	6	19	1130	0	12	1	14	32	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	514	6	19	1130	0	12	15	0	32	32	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		0	0		0						0	
Act Effct Green (s)	35.7	39.3	39.3	35.7	39.3		5.3	5.5		5.3	5.5	

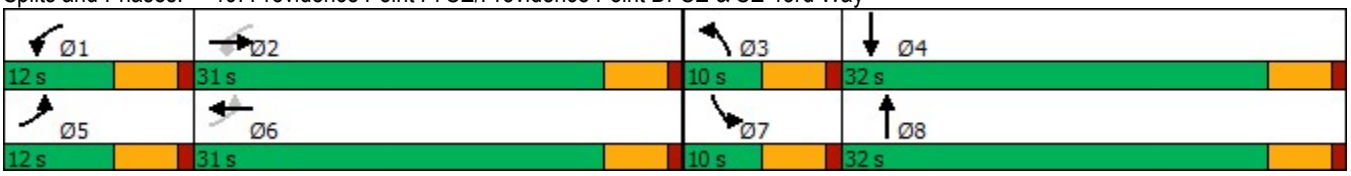
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.80	0.88	0.88	0.80	0.88		0.12	0.12		0.12	0.12	
v/c Ratio	0.03	0.18	0.00	0.02	0.37		0.06	0.07		0.15	0.14	
Control Delay	3.2	4.3	0.0	3.1	5.7		20.8	13.0		21.7	11.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.2	4.3	0.0	3.1	5.7		20.8	13.0		21.7	11.2	
LOS	A	A	A	A	A		C	B		C	B	
Approach Delay		4.2			5.6			16.5			16.5	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	1	0	0	1	0		2	0		6	0	
Queue Length 95th (ft)	9	107	0	10	274		19	16		36	23	
Internal Link Dist (ft)		1161			89			115			157	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	506	2927	1280	816	3044		207	1090		207	1073	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.03	0.18	0.00	0.02	0.37		0.06	0.01		0.15	0.03	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 44.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 5.8 Intersection LOS: A
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	32	143	106	58	16	334	1217	186	11	1059	255
Future Volume (vph)	122	32	143	106	58	16	334	1217	186	11	1059	255
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98		1.00		1.00					0.97
Frt			0.850		0.968			0.980				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1716	1458	1646	1672	0	1630	3195	0	1599	3197	1383
Flt Permitted	0.582			0.735			0.950			0.950		
Satd. Flow (perm)	997	1716	1435	1274	1672	0	1628	3195	0	1599	3197	1344
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					9			19				
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	1		2			1	2					2
Confl. Bikes (#/hr)			1									2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Adj. Flow (vph)	131	34	154	114	62	17	359	1309	200	12	1139	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	34	154	114	79	0	359	1509	0	12	1139	821
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	27.0	27.0
Total Split (s)	15.0	30.0	30.0	15.0	30.0		36.0	72.0		13.0	49.0	49.0
Total Split (%)	11.5%	23.1%	23.1%	11.5%	23.1%		27.7%	55.4%		10.0%	37.7%	37.7%
Maximum Green (s)	10.0	25.0	25.0	10.0	25.0		31.0	67.0		8.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		2	2		1			0			2	2
Act Effct Green (s)	28.5	18.0	18.0	25.4	17.3		31.9	82.8		5.7	50.5	51.5

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	509
Future Volume (vph)	509
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	No
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.93
Heavy Vehicles (%)	4%
Adj. Flow (vph)	547
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.22	0.14	0.14	0.20	0.13		0.25	0.64		0.04	0.39	0.40
v/c Ratio	0.47	0.14	0.78	0.41	0.34		0.90	0.74		0.17	0.92	1.54
Control Delay	44.5	47.9	78.3	43.7	47.1		72.9	21.2		51.6	44.9	277.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	2.4		0.0	0.0	0.0
Total Delay	44.5	47.9	78.3	43.7	47.1		72.9	23.6		51.6	44.9	277.6
LOS	D	D	E	D	D		E	C		D	D	F
Approach Delay		61.2			45.1			33.1			141.8	
Approach LOS		E			D			C			F	
Queue Length 50th (ft)	90	26	127	77	54		283	383		11	472	~1010
Queue Length 95th (ft)	138	55	193	122	98		#484	702		m13	#685	#1283
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	280	330	275	282	328		411	2041		98	1242	532
Starvation Cap Reductn	0	0	0	0	0		0	387		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.47	0.10	0.56	0.40	0.24		0.87	0.91		0.12	0.92	1.54

Intersection Summary

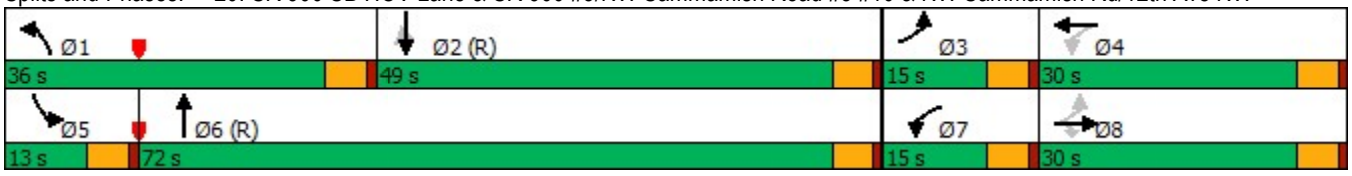
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 84.9 Intersection LOS: F
Intersection Capacity Utilization 90.1% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	443	64	196	32	186	16	520	464	16	16	454	905
Future Volume (vph)	443	64	196	32	186	16	520	464	16	16	454	905
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	175		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	1.00		1.00	1.00		1.00		0.99
Frt			0.850		0.988			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3027	1642	1385	1630	1692	0	3057	3133	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2999	1642	1362	1625	1692	0	3049	3133	0	1587	3182	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184		3			3				208
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	6		2	2		6	2		2	2		2
Confl. Bikes (#/hr)			4			3			1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	461	67	204	33	194	17	542	483	17	17	473	943
Shared Lane Traffic (%)												
Lane Group Flow (vph)	461	67	204	33	211	0	542	500	0	17	473	943
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	13.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	23.0	48.0	35.0	13.0	38.0		35.0	55.0		14.0	34.0	23.0
Total Split (%)	17.7%	36.9%	26.9%	10.0%	29.2%		26.9%	42.3%		10.8%	26.2%	17.7%
Maximum Green (s)	18.0	43.0	30.0	8.0	33.0		30.0	50.0		9.0	29.0	18.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	Max	None	C-Max	None	None		C-Max	C-Max		None	None	Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		2			6			2			2	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	34.5	42.3	70.3	6.8	21.9		30.0	53.5		6.3	23.6	58.1
Actuated g/C Ratio	0.27	0.33	0.54	0.05	0.17		0.23	0.41		0.05	0.18	0.45
v/c Ratio	0.57	0.13	0.25	0.39	0.74		0.77	0.39		0.22	0.82	1.26
Control Delay	34.6	28.0	2.1	72.7	64.9		49.4	16.1		81.7	71.8	148.2
Queue Delay	0.0	0.0	0.0	0.0	1.8		2.6	0.0		0.0	0.0	3.2
Total Delay	34.6	28.0	2.1	72.7	66.8		52.0	16.1		81.7	71.8	151.4
LOS	C	C	A	E	E		D	B		F	E	F
Approach Delay		24.9			67.6			34.8			124.3	
Approach LOS		C			E			C			F	
Queue Length 50th (ft)	69	19	0	27	170		158	83		14	215	~654
Queue Length 95th (ft)	#313	50	1	63	233		m255	m131		m0	m248	m#1239
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	175		215	150			400			230		800
Base Capacity (vph)	803	617	826	100	431		705	1290		110	709	747
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	106		79	0		0	0	266
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.57	0.11	0.25	0.33	0.65		0.87	0.39		0.15	0.67	1.96

Intersection Summary

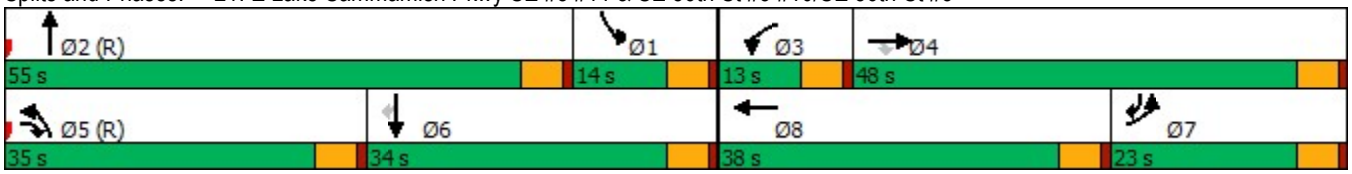
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 125 (96%), Referenced to phase 2:NBT and 5:NBL, Start of 1st Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.26
Intersection Signal Delay: 72.2 Intersection LOS: E
Intersection Capacity Utilization 104.1% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	121	5	427	784	75	2	252	257	116	597	629
Future Volume (vph)	179	121	5	427	784	75	2	252	257	116	597	629
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00							0.99
Frt		0.994			0.987				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2470	2958	0	3118	3168	0	1502	1897	1344	1576	3151	1410
Flt Permitted	0.950			0.950			0.379			0.355		
Satd. Flow (perm)	2468	2958	0	3118	3168	0	599	1897	1344	589	3151	1392
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5				271			367
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			707			402	
Travel Time (s)		14.0			39.6			13.8			7.8	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Adj. Flow (vph)	188	127	5	449	825	79	2	265	271	122	628	662
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	132	0	449	904	0	2	265	271	122	628	662
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			1			0	0		0	0
Act Effct Green (s)	14.8	40.1		23.6	48.9		40.4	35.4	35.4	52.1	50.3	50.3

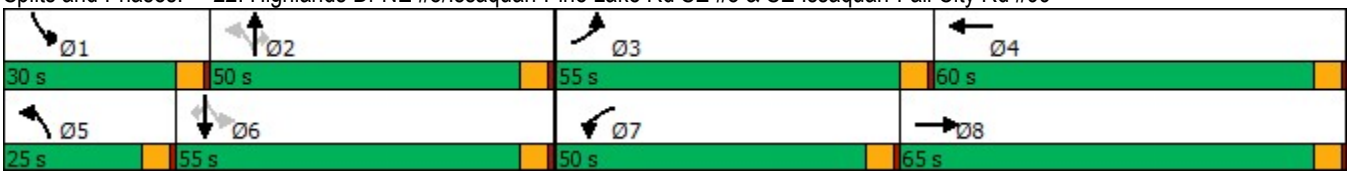
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.11	0.31		0.18	0.37		0.31	0.27	0.27	0.40	0.38	0.38
v/c Ratio	0.67	0.15		0.80	0.76		0.01	0.52	0.48	0.38	0.52	0.87
Control Delay	69.0	34.3		63.2	41.4		27.5	46.8	7.9	30.8	34.4	30.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	34.3		63.2	41.4		27.5	46.8	7.9	30.8	34.4	30.4
LOS	E	C		E	D		C	D	A	C	C	C
Approach Delay		54.7			48.6			27.1			32.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	90	40		182	337		1	155	0	64	201	246
Queue Length 95th (ft)	156	79		273	500		7	270	78	128	339	#620
Internal Link Dist (ft)		742			2244			627			322	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	949	1365		1079	1342		376	656	642	423	1211	761
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.10		0.42	0.67		0.01	0.40	0.42	0.29	0.52	0.87

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 130.9
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 39.6 Intersection LOS: D
Intersection Capacity Utilization 85.1% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	16	42	929	37	154	80	870	430	58	406	48
Future Volume (vph)	27	16	42	929	37	154	80	870	430	58	406	48
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor						0.99			0.99			
Frt			0.850			0.850			0.850		0.984	
Flt Protected		0.969		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1639	1438	1580	1590	1488	1576	3151	1410	1591	3131	0
Flt Permitted		0.969		0.950	0.956		0.372			0.118		
Satd. Flow (perm)	0	1639	1438	1580	1590	1469	617	3151	1392	198	3131	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			144			442		9	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	29	17	45	999	40	166	86	935	462	62	437	52
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	46	45	519	520	166	86	935	462	62	489	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.0	13.0	15.0	27.3	27.3	14.0	15.0	23.3		14.0	27.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0		14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%		10.8%	28.5%	
Maximum Green (s)	9.0	9.0	17.0	51.7	51.7	9.0	17.0	39.7		9.0	31.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		8.0	19.3	51.4	51.4	59.3	52.4	44.6	130.0	52.4	43.1	
Actuated g/C Ratio		0.06	0.15	0.40	0.40	0.46	0.40	0.34	1.00	0.40	0.33	

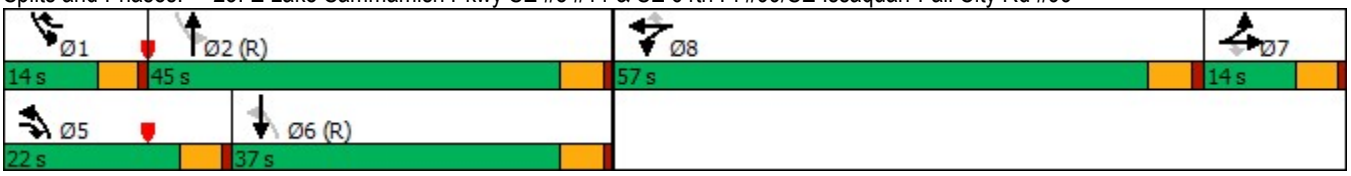
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.46	0.17	0.83	0.83	0.22	0.27	0.87	0.33	0.39	0.47	
Control Delay		73.5	6.2	48.6	48.2	3.4	35.3	56.8	0.4	27.8	32.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		73.5	6.2	48.6	48.2	3.4	35.3	56.8	0.4	27.8	32.9	
LOS		E	A	D	D	A	D	E	A	C	C	
Approach Delay		40.2			42.2			38.0			32.3	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)		38	0	410	409	7	59	361	0	30	174	
Queue Length 95th (ft)		81	20	#611	#609	35	m89	#550	0	m54	232	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		113	355	624	628	767	397	1079	1392	179	1043	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.41	0.13	0.83	0.83	0.22	0.22	0.87	0.33	0.35	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 38.6 Intersection LOS: D
Intersection Capacity Utilization 79.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	297	457	311	218	124	260	489	130	374	791	71
Future Volume (vph)	225	297	457	311	218	124	260	489	130	374	791	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.91			0.93		0.97			1.00	
Frt			0.850			0.850		0.968			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3256	0	1710	3363	0
Flt Permitted	0.348			0.085			0.053			0.160		
Satd. Flow (perm)	639	1837	1420	156	1837	1444	96	3256	0	288	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			124		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	296	391	601	409	287	163	342	643	171	492	1041	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	296	391	601	409	287	163	342	814	0	492	1134	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4	6			2		
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	89.1	47.1	84.1	89.1	64.1	100.7	112.5	75.7		112.5	75.7	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.42	0.22	0.39	0.42	0.30	0.47	0.53	0.35		0.53	0.35	
v/c Ratio	0.74	0.97	0.95	1.08	0.52	0.21	1.03	0.70		1.24	0.95	
Control Delay	56.2	117.5	58.4	133.2	67.6	9.7	132.9	61.3		167.6	82.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	56.2	117.5	58.4	133.2	67.6	9.7	132.9	61.3		167.6	82.7	
LOS	E	F	E	F	E	A	F	E		F	F	
Approach Delay		75.8			87.9			82.4			108.4	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	294	565	455	~610	350	30	~471	511		~713	820	
Queue Length 95th (ft)	322	#603	446	#640	384	52	#516	468		#704	713	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	409	404	634	377	551	766	333	1266		397	1300	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.72	0.97	0.95	1.08	0.52	0.21	1.03	0.64		1.24	0.87	

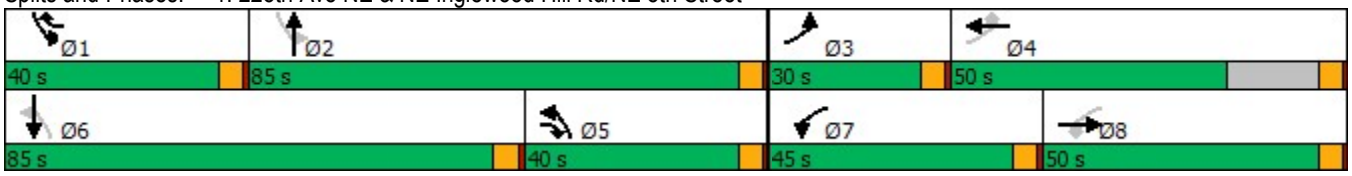
Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 213.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 90.2 Intersection LOS: F
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	16	4	18	693	22	314	10	11	878	66	6	119
Future Volume (vph)	16	4	18	693	22	314	10	11	878	66	6	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.936				0.850			0.989			
Flt Protected		0.980			0.954			0.950				0.950
Satd. Flow (prot)	0	1669	0	0	1735	1546	0	1728	3410	0	0	3351
Flt Permitted		0.489			0.722			0.080				0.950
Satd. Flow (perm)	0	833	0	0	1306	1496	0	145	3410	0	0	3329
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		21				161			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	18	5	21	797	25	361	11	13	1009	76	7	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	822	361	0	24	1085	0	0	144
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		37.6			37.6	36.6		56.7	37.1			15.3
Actuated g/C Ratio		0.38			0.38	0.37		0.58	0.38			0.16

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1234	5
Future Volume (vph)	1234	5
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1418	6
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1424	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	50.0	
Actuated g/C Ratio	0.51	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.13			1.64	0.55		0.12	0.84			0.28
Control Delay		16.9			324.5	18.7		13.0	35.1			38.0
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		16.9			324.5	18.7		13.0	35.1			38.0
LOS		B			F	B		B	D			D
Approach Delay		16.9			231.2				34.6			
Approach LOS		B			F				C			
Queue Length 50th (ft)		10			~812	103		6	334			42
Queue Length 95th (ft)		38			#1122	213		16	430			71
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		332			500	658		735	2191			1283
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.13			1.64	0.55		0.03	0.50			0.11

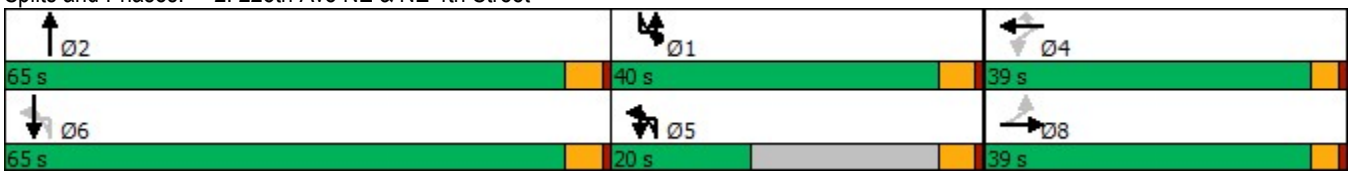
Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 98.2
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.64
Intersection Signal Delay: 90.5 Intersection LOS: F
Intersection Capacity Utilization 94.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 228th Ave NE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
v/c Ratio	0.81	
Control Delay	24.8	
Queue Delay	0.0	
Total Delay	24.8	
LOS	C	
Approach Delay	26.0	
Approach LOS	C	
Queue Length 50th (ft)	407	
Queue Length 95th (ft)	469	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2215	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.64	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	148	2	210	47	10	21	5	162	793	12	71	30
Future Volume (vph)	148	2	210	47	10	21	5	162	793	12	71	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	300		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99	0.99					0.97		
Frt			0.850		0.897					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1806	1901	1616	1711	1600	0	0	1745	3490	1561	0	1728
Flt Permitted	0.734			0.757				0.076				0.240
Satd. Flow (perm)	1394	1901	1587	1355	1600	0	0	140	3490	1507	0	436
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			241		24					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	170	2	241	54	11	24	6	186	911	14	82	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	2	241	54	35	0	0	192	911	14	0	116
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0	-3.0	0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1465	199
Future Volume (vph)	1465	199
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.982	
Flt Protected		
Satd. Flow (prot)	3351	0
Flt Permitted		
Satd. Flow (perm)	3351	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	10	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1684	229
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1913	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						8	8		
Act Effct Green (s)	22.7	11.6	14.7	16.7	7.4			67.9	59.1	57.1		63.9
Actuated g/C Ratio	0.22	0.11	0.14	0.16	0.07			0.67	0.58	0.56		0.63
v/c Ratio	0.45	0.01	0.55	0.22	0.25			0.58	0.45	0.02		0.32
Control Delay	35.3	39.5	10.2	33.4	28.0			28.0	15.0	0.0		10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	35.3	39.5	10.2	33.4	28.0			28.0	15.0	0.0		10.3
LOS	D	D	B	C	C			C	B	A		B
Approach Delay		20.7			31.3				17.1			
Approach LOS		C			C				B			
Queue Length 50th (ft)	93	1	0	29	7			64	164	0		24
Queue Length 95th (ft)	145	8	57	58	37			163	316	0		65
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	300				190		170		380
Base Capacity (vph)	699	666	753	611	576			369	2034	899		749
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.24	0.00	0.32	0.09	0.06			0.52	0.45	0.02		0.15

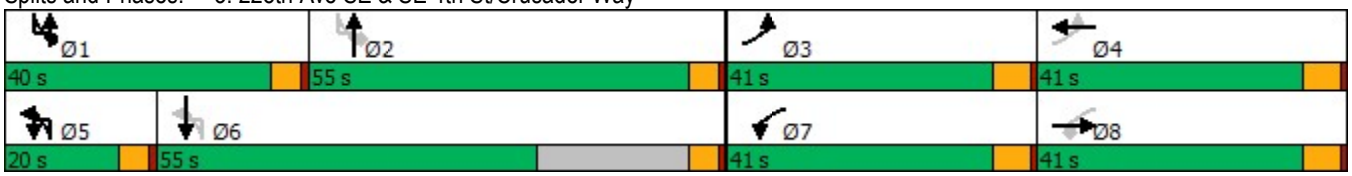
Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 101.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 49.4 Intersection LOS: D
Intersection Capacity Utilization 89.6% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	52.8	
Actuated g/C Ratio	0.52	
v/c Ratio	1.09	
Control Delay	77.7	
Queue Delay	0.0	
Total Delay	77.7	
LOS	E	
Approach Delay	73.8	
Approach LOS	E	
Queue Length 50th (ft)	~769	
Queue Length 95th (ft)	#1106	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2420	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.79	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	79	49	29	397	78	218	21	90	815	229	11	195
Future Volume (vph)	79	49	29	397	78	218	21	90	815	229	11	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			
Frt			0.850			0.850			0.967			
Flt Protected		0.970			0.960			0.950				0.950
Satd. Flow (prot)	0	1746	1530	0	1781	1577	0	1745	3336	0	0	1710
Flt Permitted		0.970			0.960			0.950				0.069
Satd. Flow (perm)	0	1746	1448	0	1730	1554	0	1743	3336	0	0	124
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			24			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	100	62	37	503	99	276	27	114	1032	290	14	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	37	0	602	276	0	141	1322	0	0	261
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		D.P+P	D.P+P
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4					2	2
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		21.5	19.5		42.2	42.2		17.0	58.2			83.4

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1336	130
Future Volume (vph)	1336	130
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.987	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.79	0.79
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1691	165
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1856	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	67.4	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.14	0.12		0.27	0.27		0.11	0.37			0.53
v/c Ratio		0.68	0.13		1.27	0.54		0.75	1.06			0.81
Control Delay		81.1	0.9		182.4	30.6		94.2	90.6			64.2
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		81.1	0.9		182.4	30.6		94.2	90.6			64.2
LOS		F	A		F	C		F	F			E
Approach Delay		66.2			134.7				90.9			
Approach LOS		E			F				F			
Queue Length 50th (ft)		163	0		~821	132		148	~828			219
Queue Length 95th (ft)		221	0		#912	187		203	#806			271
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		257	304		475	511		199	1243			394
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.63	0.12		1.27	0.54		0.71	1.06			0.66

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 158.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 129.4 Intersection LOS: F
Intersection Capacity Utilization 97.5% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.43	
v/c Ratio	1.29	
Control Delay	173.3	
Queue Delay	0.0	
Total Delay	173.3	
LOS	F	
Approach Delay	159.8	
Approach LOS	F	
Queue Length 50th (ft)	~1342	
Queue Length 95th (ft)	#1190	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1563	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	1.19	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	75	7	293	30	1	15	28	112	1170	29	6	26
Future Volume (vph)	75	7	293	30	1	15	28	112	1170	29	6	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.853			0.858				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1545	0	1646	1487	0	0	1728	3437	0	0	1753
Flt Permitted	0.745			0.299				0.074				0.068
Satd. Flow (perm)	1368	1545	0	518	1487	0	0	135	3437	0	0	126
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					18				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	88	8	345	35	1	18	33	132	1376	34	7	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	353	0	35	19	0	0	165	1410	0	0	38
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	39.6	35.5		40.6	19.5			67.0	61.9			63.0

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1570	137
Future Volume (vph)	1570	137
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3455	0
Flt Permitted		
Satd. Flow (perm)	3455	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1847	161
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2008	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	53.6	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.33	0.30		0.34	0.16			0.56	0.52			0.52
v/c Ratio	0.17	0.77		0.16	0.07			0.64	0.80			0.28
Control Delay	25.7	52.2		29.1	15.9			36.5	30.4			19.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	25.7	52.2		29.1	15.9			36.5	30.4			19.1
LOS	C	D		C	B			D	C			B
Approach Delay		46.9			24.5				31.0			
Approach LOS		D			C				C			
Queue Length 50th (ft)	44	255		17	1			77	508			14
Queue Length 95th (ft)	80	367		41	20			143	584			30
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	701	520		707	512			381	1838			206
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.13	0.68		0.05	0.04			0.43	0.77			0.18

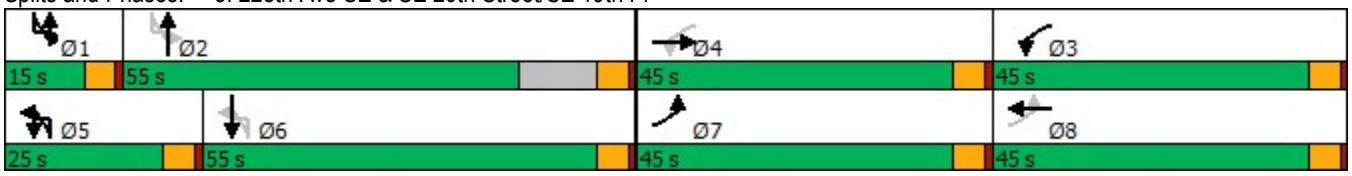
Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 120.1
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.30
Intersection Signal Delay: 100.3 Intersection LOS: F
Intersection Capacity Utilization 91.3% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.45	
v/c Ratio	1.30	
Control Delay	169.9	
Queue Delay	0.0	
Total Delay	169.9	
LOS	F	
Approach Delay	167.1	
Approach LOS	F	
Queue Length 50th (ft)	~1111	
Queue Length 95th (ft)	#1268	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1545	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	1.30	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	12	5	11	116	6	244	17	1160	136	5	447	1350
Future Volume (vph)	12	5	11	116	6	244	17	1160	136	5	447	1350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.966			0.955		0.950				0.950	
Satd. Flow (prot)	0	1774	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.966			0.955		0.099				0.950	
Satd. Flow (perm)	0	1772	1536	0	1747	1539	180	3455	1501	0	1725	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			287			150			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	14	6	13	136	7	287	20	1365	160	6	526	1588
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	13	0	143	287	20	1365	160	0	532	1619
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.8	11.8		17.3	17.3	102.5	67.9	85.9		33.7	97.1
Actuated g/C Ratio		0.09	0.09		0.13	0.13	0.76	0.50	0.64		0.25	0.72

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	26
Future Volume (vph)	26
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	31
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.13	0.06		0.64	0.64	0.09	0.79	0.16		1.23	0.65
Control Delay		61.5	0.5		71.5	13.4	8.2	33.8	1.6		165.6	16.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		61.5	0.5		71.5	13.4	8.2	33.8	1.6		165.6	16.1
LOS		E	A		E	B	A	C	A		F	B
Approach Delay		37.5			32.7			30.1				53.1
Approach LOS		D			C			C				D
Queue Length 50th (ft)		17	0		119	0	4	501	2		~571	411
Queue Length 95th (ft)		44	0		215	67	19	786	15		#1004	772
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		443	457		562	688	407	1909	1284		431	2477
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.05	0.03		0.25	0.42	0.05	0.72	0.12		1.23	0.65

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 134.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 42.3 Intersection LOS: D
Intersection Capacity Utilization 91.1% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	108	19	195	126	359	13	734	183	675	587	56
Future Volume (vph)	122	108	19	195	126	359	13	734	183	675	587	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.978				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1738	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.189			0.950		
Satd. Flow (perm)	1694	1738	0	1724	1819	1546	344	3455	1525	3349	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				90			169			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	144	127	22	229	148	422	15	864	215	794	691	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	149	0	229	148	422	15	864	215	794	691	66
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	14.4	15.7		23.5	22.1	56.8	64.8	37.6	37.6	28.8	66.2	63.1
Actuated g/C Ratio	0.12	0.13		0.19	0.18	0.47	0.53	0.31	0.31	0.24	0.55	0.52

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.72	0.65		0.69	0.45	0.55	0.06	0.81	0.37	1.00	0.70	0.08
Control Delay	75.8	64.5		59.1	49.6	22.2	17.5	46.3	11.0	79.4	29.4	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.8	64.5		59.1	49.6	22.2	17.5	46.3	11.0	79.4	29.4	0.2
LOS	E	E		E	D	C	B	D	B	E	C	A
Approach Delay		70.1			37.8			39.0			53.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	105	106		161	102	178	5	311	24	~311	333	0
Queue Length 95th (ft)	218	200		300	181	319	21	485	89	#660	773	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	290	455		557	703	771	545	1719	843	793	991	843
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.33		0.41	0.21	0.55	0.03	0.50	0.26	1.00	0.70	0.08

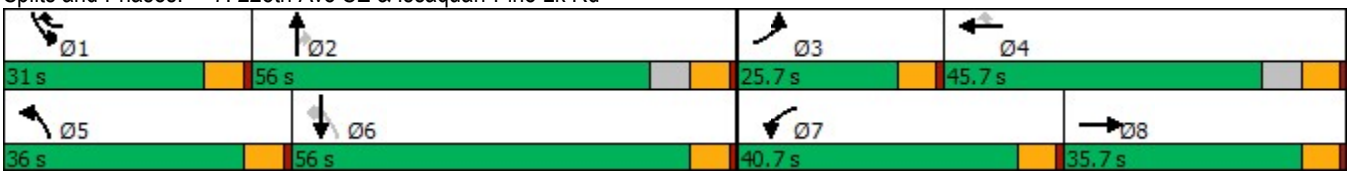
Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 121.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 47.3 Intersection LOS: D
Intersection Capacity Utilization 72.8% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	19	896	22	44	738
Future Volume (vph)	18	19	896	22	44	738
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.931		0.997			
Flt Protected	0.976				0.950	
Satd. Flow (prot)	1620	0	1813	0	1728	1818
Flt Permitted	0.976				0.950	
Satd. Flow (perm)	1620	0	1813	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.65	0.65	0.81	0.81	0.77	0.77
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	28	29	1106	27	57	958
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	0	1133	0	57	958
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 58.5% ICU Level of Service B
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	19	896	22	44	738
Future Vol, veh/h	18	19	896	22	44	738
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	65	81	81	77	77
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	28	29	1106	27	57	958

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2192	1120	0	0	1133	0
Stage 1	1120	-	-	-	-	-
Stage 2	1072	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	49	250	-	-	620	-
Stage 1	310	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	44	250	-	-	620	-
Mov Cap-2 Maneuver	44	-	-	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	297	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	134.3	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	76	620	-
HCM Lane V/C Ratio	-	-	0.749	0.092	-
HCM Control Delay (s)	-	-	134.3	11.4	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	3.6	0.3	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	13	21	1	26	10	614	27	55	911	7
Future Volume (vph)	10	1	13	21	1	26	10	614	27	55	911	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		1.00	1.00	
Frt		0.859			0.855			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1541	0	1745	1551	0	1711	3395	0	1728	3451	0
Flt Permitted	0.784			0.747			0.210			0.336		
Satd. Flow (perm)	1440	1541	0	1354	1551	0	378	3395	0	608	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			31			5			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	12	1	15	25	1	31	12	722	32	65	1072	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	16	0	25	32	0	12	754	0	65	1080	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

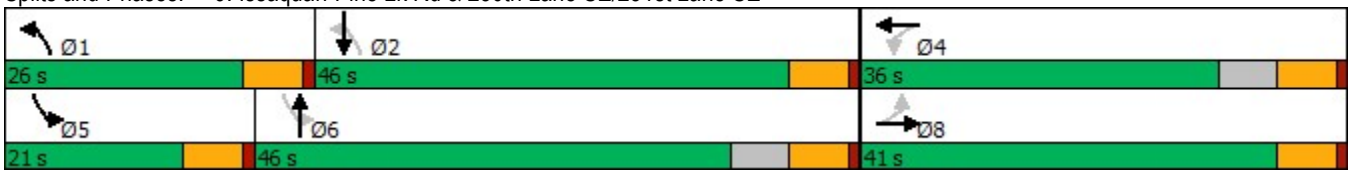
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	10.0	10.0		12.1	10.6		26.7	28.1		26.4	32.5	
Actuated g/C Ratio	0.23	0.23		0.28	0.24		0.61	0.64		0.60	0.74	
v/c Ratio	0.04	0.04		0.07	0.08		0.03	0.35		0.11	0.42	
Control Delay	20.6	11.7		20.1	9.6		6.3	11.0		5.9	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.6	11.7		20.1	9.6		6.3	11.0		5.9	8.2	
LOS	C	B		C	A		A	B		A	A	
Approach Delay		15.5			14.2			11.0			8.1	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	3	0		6	0		1	80		5	66	
Queue Length 95th (ft)	17	14		27	19		9	192		30	287	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1116	1198		1064	1209		1104	3029		1029	2897	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03		0.01	0.25		0.06	0.37	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 43.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 55.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	58	55	637	734	23
Future Volume (vph)	24	58	55	637	734	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1811	0
Flt Permitted	0.950		0.191			
Satd. Flow (perm)	1745	1526	347	1818	1811	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		69			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	29	69	65	758	874	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	69	65	758	901	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	10.1	10.1	56.1	60.3	52.5	
Actuated g/C Ratio	0.14	0.14	0.76	0.81	0.71	
v/c Ratio	0.12	0.26	0.17	0.51	0.70	

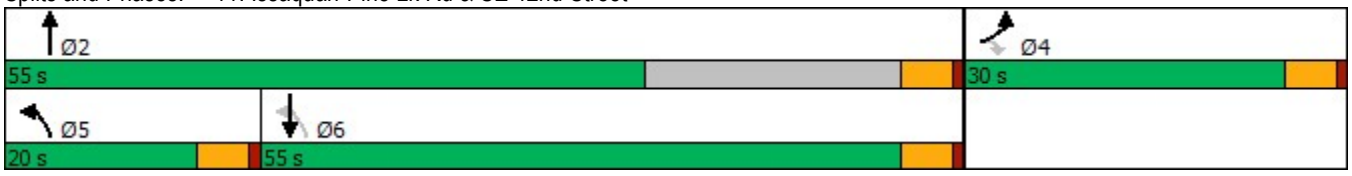
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	31.0	10.5	4.3	5.9	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.0	10.5	4.3	5.9	15.6	
LOS	C	B	A	A	B	
Approach Delay	16.6			5.8	15.6	
Approach LOS	B			A	B	
Queue Length 50th (ft)	13	0	5	88	247	
Queue Length 95th (ft)	33	28	23	292	#653	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	643	606	588	1646	1280	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.11	0.11	0.46	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 74.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 11.2 Intersection LOS: B
Intersection Capacity Utilization 57.0% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	114	1	32	13	656	233	80	705	5
Future Volume (vph)	1	1	1	114	1	32	13	656	233	80	705	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.955			0.854				0.850		0.999	
Flt Protected		0.984		0.950			0.950			0.950		
Satd. Flow (prot)	0	1726	0	1711	1497	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.954		0.756			0.231			0.189		
Satd. Flow (perm)	0	1669	0	1361	1497	0	420	1818	1546	354	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			37				101			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1	1	1	133	1	37	15	763	271	93	820	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	133	38	0	15	763	271	93	826	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		17.0		17.0	17.0		68.1	53.9	53.9	64.5	64.5	
Actuated g/C Ratio		0.19		0.19	0.19		0.75	0.60	0.60	0.71	0.71	

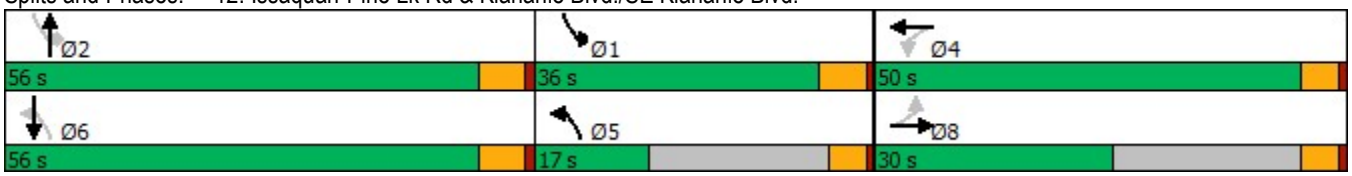
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.52	0.12		0.03	0.71	0.28	0.22	0.62	
Control Delay		25.7		40.5	11.3		4.0	18.4	7.0	7.0	11.9	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		25.7		40.5	11.3		4.0	18.4	7.0	7.0	11.9	
LOS		C		D	B		A	B	A	A	B	
Approach Delay		25.7			34.0			15.3			11.4	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		1		68	0		2	272	40	11	173	
Queue Length 95th (ft)		8		121	24		7	475	92	29	529	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		868		708	796		902	1082	961	854	1334	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.19	0.05		0.02	0.71	0.28	0.11	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 90.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 64.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1	9	55	1	24	10	923	102	25	810	25
Future Volume (vph)	19	1	9	55	1	24	10	923	102	25	810	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.985			0.996	
Flt Protected		0.954			0.953		0.950			0.950		
Satd. Flow (prot)	0	1752	1561	0	1750	1561	1728	1791	0	1711	1793	0
Flt Permitted		0.695			0.713		0.238			0.133		
Satd. Flow (perm)	0	1276	1561	0	1310	1561	433	1791	0	239	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			27		8			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	22	1	10	63	1	27	11	1049	116	28	920	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	10	0	64	27	11	1165	0	28	948	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		10.4	15.8		11.0	18.4	95.4	90.5		93.9	94.3	
Actuated g/C Ratio		0.09	0.14		0.10	0.16	0.84	0.80		0.83	0.83	
v/c Ratio		0.20	0.04		0.50	0.10	0.03	0.81		0.10	0.63	
Control Delay		54.1	12.6		65.8	14.9	2.2	16.3		2.8	8.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

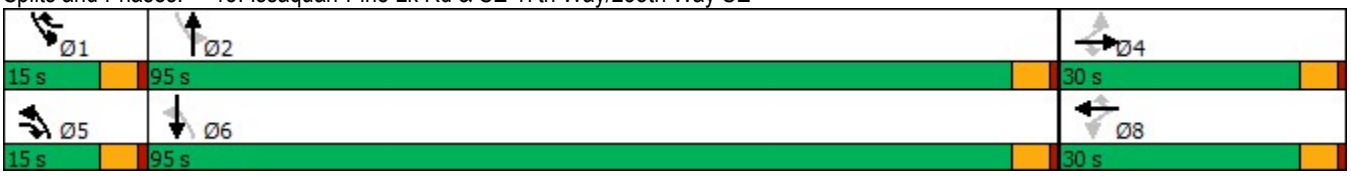
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		54.1	12.6		65.8	14.9	2.2	16.3		2.8	8.5	
LOS		D	B		E	B	A	B		A	A	
Approach Delay		41.5			50.7			16.2			8.3	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)		17	0		48	0	1	531		3	183	
Queue Length 95th (ft)		43	11		93	24	5	910		9	523	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		303	302		310	345	500	1434		352	1496	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.08	0.03		0.21	0.08	0.02	0.81		0.08	0.63	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 113.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	113	155	989	821	92
Future Volume (vph)	48	113	155	989	821	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.986	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1775	0
Flt Permitted	0.950		0.113			
Satd. Flow (perm)	1745	1561	205	1818	1775	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		130			8	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	55	130	178	1137	944	106
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	130	178	1137	1050	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	11.5	27.4	82.7	84.8	71.0	
Actuated g/C Ratio	0.11	0.26	0.79	0.81	0.68	
v/c Ratio	0.29	0.26	0.54	0.77	0.87	
Control Delay	55.0	7.8	13.9	9.3	23.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

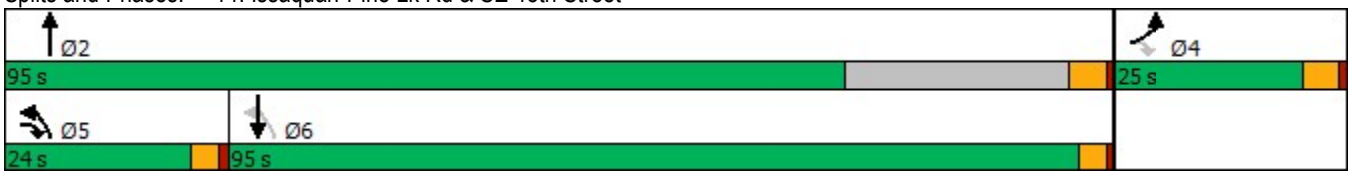
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	55.0	7.8	13.9	9.3	23.4	
LOS	D	A	B	A	C	
Approach Delay	21.8			9.9	23.4	
Approach LOS	C			A	C	
Queue Length 50th (ft)	35	0	17	281	475	
Queue Length 95th (ft)	88	45	76	466	876	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	375	652	494	1720	1509	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.20	0.36	0.66	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 104.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 71.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	32	32	107	34	73	32	165	96	189	143	7
Future Volume (vph)	2	32	32	107	34	73	32	165	96	189	143	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.897			0.945			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1647	0	1745	1736	0	1745	1824	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1647	0	1745	1736	0	1745	1824	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	46	46	139	44	95	44	229	133	239	181	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	92	0	139	139	0	44	362	0	239	190	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	32	32	107	34	73	32	165	96	189	143	7
Future Vol, veh/h	2	32	32	107	34	73	32	165	96	189	143	7
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	46	46	139	44	95	44	229	133	239	181	9
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.5	12.5	17.7	14
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	63%	0%	50%	0%	32%	0%	95%
Vol Right, %	0%	37%	0%	50%	0%	68%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	261	2	64	107	107	189	150
LT Vol	32	0	2	0	107	0	189	0
Through Vol	0	165	0	32	0	34	0	143
RT Vol	0	96	0	32	0	73	0	7
Lane Flow Rate	44	362	3	93	139	139	239	190
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.086	0.621	0.006	0.185	0.29	0.252	0.457	0.334
Departure Headway (Hd)	6.933	6.163	8.067	7.194	7.524	6.525	6.879	6.337
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	580	446	502	475	546	519	564
Service Time	4.719	3.948	5.767	4.894	5.317	4.318	4.667	4.125
HCM Lane V/C Ratio	0.086	0.624	0.007	0.185	0.293	0.255	0.461	0.337
HCM Control Delay	10.4	18.6	10.8	11.5	13.4	11.5	15.4	12.3
HCM Lane LOS	B	C	B	B	B	B	C	B
HCM 95th-tile Q	0.3	4.3	0	0.7	1.2	1	2.4	1.5

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	6	465	39	10	597
Future Volume (vph)	43	6	465	39	10	597
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.990			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1800	0	1728	1818
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1800	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.45	0.45	0.73	0.73	0.74	0.74
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	96	13	637	53	14	807
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	13	690	0	14	807
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.4% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	6	465	39	10	597
Future Vol, veh/h	43	6	465	39	10	597
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	45	45	73	73	74	74
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	96	13	637	53	14	807

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1500	665	0	0	691	0
Stage 1	665	-	-	-	-	-
Stage 2	835	-	-	-	-	-
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	134	460	-	-	908	-
Stage 1	511	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	460	-	-	907	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	510	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	270	460	907	-
HCM Lane V/C Ratio	-	-	0.354	0.029	0.015	-
HCM Control Delay (s)	-	-	25.5	13.1	9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1.5	0.1	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	681	0	2	546	256	1	1	1	151	2	7
Future Volume (vph)	13	681	0	2	546	256	1	1	1	151	2	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.955			0.994	
Flt Protected		0.999						0.984			0.955	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1726	0	0	1743	0
Flt Permitted		0.987			0.998			0.909			0.955	
Satd. Flow (perm)	0	1777	0	0	1815	1513	0	1594	0	0	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								1			3	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	820	0	2	658	308	1	1	1	182	2	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	836	0	0	660	308	0	3	0	0	192	0
Turn Type	Perm	NA		Perm	NA	pm+ov	D.Pm	NA		Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		31.9			31.9	46.2		11.5			11.5	
Actuated g/C Ratio		0.62			0.62	0.90		0.22			0.22	
v/c Ratio		0.76			0.59	0.23		0.01			0.49	

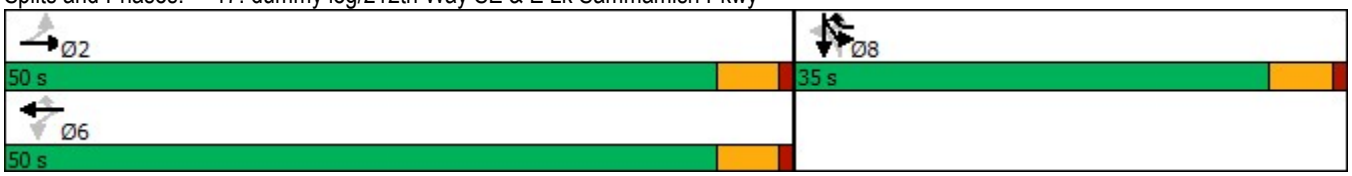
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		12.8			8.6	0.5		18.0			24.5	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		12.8			8.6	0.5		18.0			24.5	
LOS		B			A	A		B			C	
Approach Delay		12.8			6.0			18.0			24.5	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)		143			94	0		1			48	
Queue Length 95th (ft)		287			188	0		6			118	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1550			1583	1479		1009			1104	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.54			0.42	0.21		0.00			0.17	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 51.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 69.3% ICU Level of Service C
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	907	1	19	734	0	16	1	11	20	1	51
Future Volume (vph)	32	907	1	19	734	0	16	1	11	20	1	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96				1.00				0.98	
Frt			0.850					0.860			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3490	1561	1728	3455	0	1745	1688	0	1694	1597	0
Flt Permitted	0.262			0.193			0.950			0.950		
Satd. Flow (perm)	480	3490	1494	351	3455	0	1737	1688	0	1694	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					14			64	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1235			169			195			164	
Travel Time (s)		21.1			2.9			6.6			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			10			5						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	3%	3%	3%
Adj. Flow (vph)	40	1134	1	24	918	0	20	1	14	25	1	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	1134	1	24	918	0	20	15	0	25	65	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		5	5		5						5	
Act Effct Green (s)	36.8	39.4	39.4	37.8	36.9		5.3	8.2		5.3	8.2	

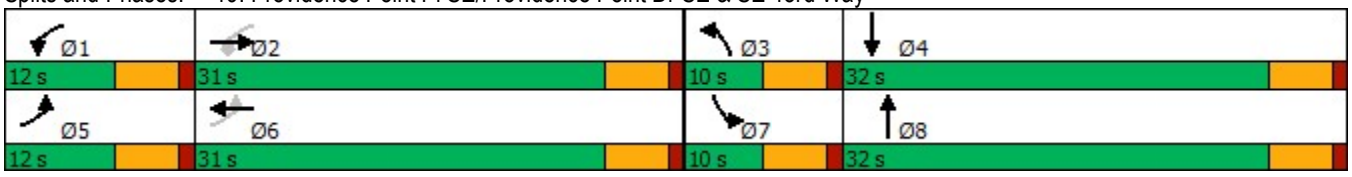
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.68	0.73	0.73	0.70	0.68		0.10	0.15		0.10	0.15	
v/c Ratio	0.08	0.45	0.00	0.05	0.39		0.12	0.06		0.15	0.22	
Control Delay	7.8	11.6	0.0	8.1	12.1		30.8	11.8		31.1	8.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.8	11.6	0.0	8.1	12.1		30.8	11.8		31.1	8.5	
LOS	A	B	A	A	B		C	B		C	A	
Approach Delay		11.5			12.0			22.7			14.8	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	3	55	0	2	41		4	0		5	0	
Queue Length 95th (ft)	26	#392	0	18	270		29	11		34	21	
Internal Link Dist (ft)		1155			89			115			84	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	503	2548	1132	437	2367		173	910		168	885	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.45	0.00	0.05	0.39		0.12	0.02		0.15	0.07	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 53.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 45.0% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	144	341	253	93	23	214	1153	214	14	1320	149
Future Volume (vph)	355	144	341	253	93	23	214	1153	214	14	1320	149
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3202	0	1646	3292	1424
Flt Permitted	0.670			0.392			0.950			0.950		
Satd. Flow (perm)	1167	1750	1467	686	1691	0	1644	3202	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			22				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	418	169	401	298	109	27	252	1356	252	16	1553	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	418	169	401	298	136	0	252	1608	0	16	1553	473
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.5	78.1		6.0	55.5	55.5

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	253
Future Volume (vph)	253
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	298
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.19	0.54	1.54	0.86	0.37		0.95	0.90		0.23	1.19	0.76
Control Delay	152.3	59.6	297.7	62.5	47.5		97.9	17.8		70.0	130.5	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	5.4		0.0	0.0	0.0
Total Delay	152.3	59.6	297.7	62.5	47.5		97.9	23.3		70.0	130.5	34.5
LOS	F	E	F	E	D		F	C		E	F	C
Approach Delay		195.5			57.8			33.4			107.8	
Approach LOS		F			E			C			F	
Queue Length 50th (ft)	~419	142	~510	219	100		218	113		14	~899	218
Queue Length 95th (ft)	#615	206	#665	#326	155		m#287	#433		m20	#947	350
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	350	312	261	348	368		270	1796		94	1304	624
Starvation Cap Reductn	0	0	0	0	0		0	150		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.19	0.54	1.54	0.86	0.37		0.93	0.98		0.17	1.19	0.76

Intersection Summary

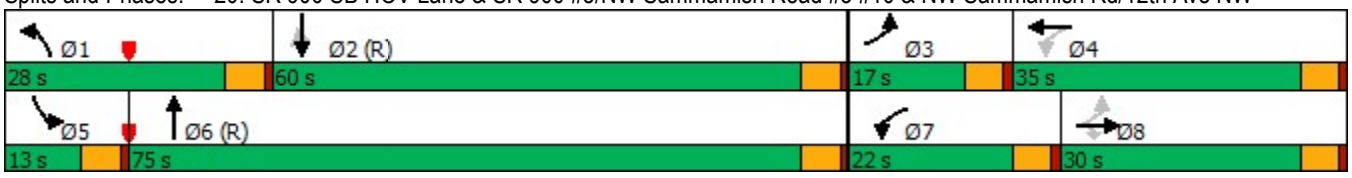
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 94.0 Intersection LOS: F
Intersection Capacity Utilization 98.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1009	136	425	80	154	42	294	747	37	37	458	623
Future Volume (vph)	1009	136	425	80	154	42	294	747	37	37	458	623
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.99		0.99	1.00		1.00		0.97
Frt			0.850		0.968			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1659	0	3087	3156	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2994	1692	1384	1625	1659	0	3050	3156	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		9			4				199
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1187	160	500	94	181	49	346	879	44	44	539	733
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1187	160	500	94	230	0	346	923	0	44	539	733
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	45.6	60.3	77.3	11.7	26.4		17.0	42.6		7.4	31.0	76.6
Actuated g/C Ratio	0.33	0.43	0.55	0.08	0.19		0.12	0.30		0.05	0.22	0.55
v/c Ratio	1.17	0.22	0.60	0.68	0.72		0.93	0.96		0.53	0.77	0.85
Control Delay	128.9	26.8	15.8	85.9	63.2		74.2	56.5		74.9	49.5	34.5
Queue Delay	0.0	0.0	0.4	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	128.9	26.8	16.2	85.9	63.2		74.2	56.5		74.9	49.5	34.5
LOS	F	C	B	F	E		E	E		E	D	C
Approach Delay		89.6			69.8			61.3			42.0	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	~722	91	185	84	181		171	~470		36	192	579
Queue Length 95th (ft)	#786	140	270	135	255		#228	#551		m52	258	#738
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	1014	728	836	176	397		374	963		90	704	860
Starvation Cap Reductn	0	0	73	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.17	0.22	0.66	0.53	0.58		0.93	0.96		0.49	0.77	0.85

Intersection Summary

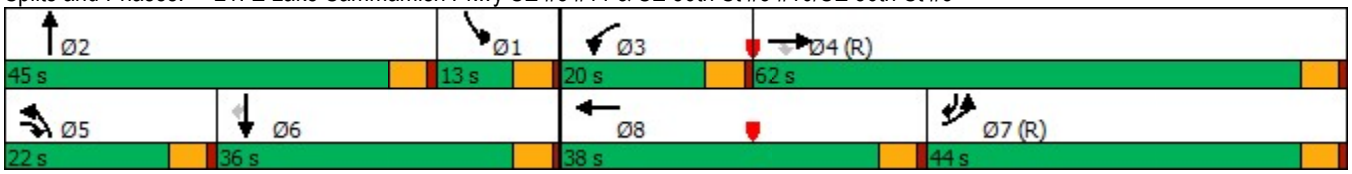
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 67.5 Intersection LOS: E
Intersection Capacity Utilization 100.7% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	485	10	303	387	71	14	472	528	57	356	498
Future Volume (vph)	455	485	10	303	387	71	14	472	528	57	356	498
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3160	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.505			0.144		
Satd. Flow (perm)	2643	3205	0	3149	3160	0	845	2010	1402	241	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			11				563			488
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	529	564	12	352	450	83	16	549	614	66	414	579
Shared Lane Traffic (%)												
Lane Group Flow (vph)	529	576	0	352	533	0	16	549	614	66	414	579
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	32.2	40.0		20.5	28.3		51.4	45.8	45.8	59.0	55.2	55.2
Actuated g/C Ratio	0.24	0.30		0.15	0.21		0.38	0.34	0.34	0.44	0.41	0.41

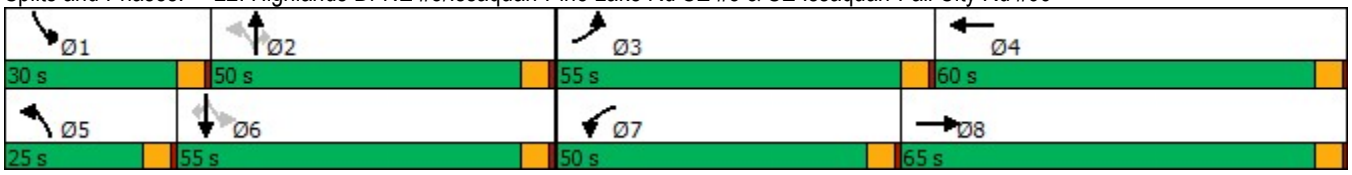
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.83	0.61		0.74	0.79		0.05	0.81	0.72	0.35	0.32	0.67
Control Delay	61.5	43.6		65.8	59.7		27.6	53.3	11.1	31.6	31.8	11.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	43.6		65.8	59.7		27.6	53.3	11.1	31.6	31.8	11.4
LOS	E	D		E	E		C	D	B	C	C	B
Approach Delay		52.2			62.1			31.0			20.6	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	262	224		150	226		8	356	30	33	118	46
Queue Length 95th (ft)	364	300		225	318		27	#641	152	78	225	197
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	1005	1449		1068	1316		483	681	847	360	1305	863
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.40		0.33	0.41		0.03	0.81	0.72	0.18	0.32	0.67

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 134.9
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 40.4 Intersection LOS: D
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	33	74	560	10	126	14	915	911	234	739	19
Future Volume (vph)	37	33	74	560	10	126	14	915	911	234	739	19
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98					1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.215			0.097		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	364	3214	1438	162	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			131			807		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	44	39	87	659	12	148	16	1076	1072	275	869	22
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	83	87	336	335	148	16	1076	1072	275	891	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.3	15.6	39.1	39.1	55.7	70.0	53.4	140.0	70.0	64.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.69	0.35	0.76	0.75	0.22	0.07	0.88	0.75	1.13	0.61	
Control Delay		90.2	7.6	58.6	58.3	4.5	20.1	41.6	6.2	129.5	24.2	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	
Total Delay		90.2	7.6	58.6	58.3	4.5	20.1	45.0	6.2	129.5	24.2	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		48.0			48.7			25.6			49.0	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		75	0	297	296	7	9	550	34	~232	241	
Queue Length 95th (ft)		125	19	397	395	35	m9	m507	m51	m#345	m214	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	276	445	446	668	259	1225	1438	244	1450	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.59	0.32	0.76	0.75	0.22	0.06	0.94	0.75	1.13	0.61	

Intersection Summary

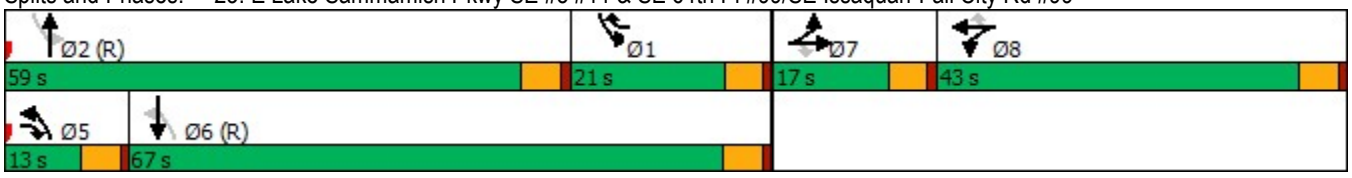
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 37.2 Intersection LOS: D
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	282	342	235	207	163	342	642	170	279	593	52
Future Volume (vph)	296	282	342	235	207	163	342	642	170	279	593	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.91			0.93	0.99	0.97		0.97	1.00	
Frt			0.850			0.850		0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3260	0	1710	3364	0
Flt Permitted	0.329			0.148			0.950			0.950		
Satd. Flow (perm)	604	1837	1420	272	1837	1444	1704	3260	0	1663	3364	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			83		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	348	332	402	276	244	192	402	755	200	328	698	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	332	402	276	244	192	402	955	0	328	759	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4						
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	66.5	38.0	86.5	66.5	40.7	78.5	48.5	58.4		38.2	48.1	

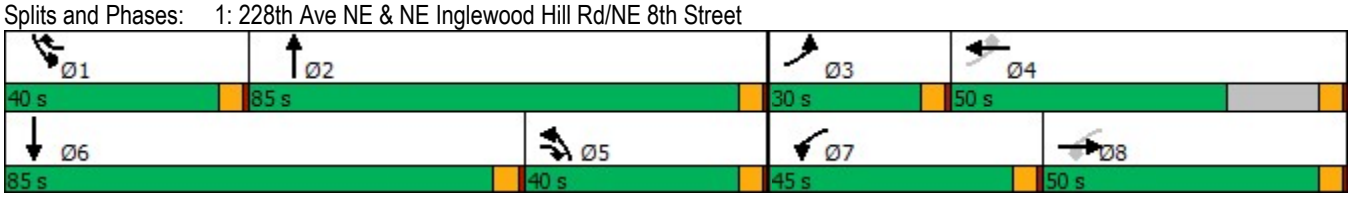
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.38	0.22	0.49	0.38	0.23	0.45	0.28	0.33		0.22	0.27	
v/c Ratio	0.87	0.83	0.50	0.81	0.57	0.27	0.84	0.87		0.88	0.82	
Control Delay	64.2	85.9	13.5	62.7	65.6	17.7	78.6	64.1		91.6	68.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	64.2	85.9	13.5	62.7	65.6	17.7	78.6	64.1		91.6	68.2	
LOS	E	F	B	E	E	B	E	E		F	E	
Approach Delay		52.0			51.6			68.4			75.3	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	299	367	116	233	251	73	446	537		375	432	
Queue Length 95th (ft)	#450	554	201	365	364	138	#752	670		#699	554	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	413	508	805	471	675	717	478	1589		373	1633	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.84	0.65	0.50	0.59	0.36	0.27	0.84	0.60		0.88	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 175.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 63.1 Intersection LOS: E
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	21	4	13	351	11	157	10	14	1150	86	6	89
Future Volume (vph)	21	4	13	351	11	157	10	14	1150	86	6	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.954				0.850			0.990			
Flt Protected		0.973			0.954			0.950				0.950
Satd. Flow (prot)	0	1694	0	0	1735	1546	0	1728	3413	0	0	3351
Flt Permitted		0.807			0.729			0.181				0.950
Satd. Flow (perm)	0	1401	0	0	1318	1496	0	329	3413	0	0	3334
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		13				159			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
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
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	21	4	13	358	11	160	10	14	1173	88	6	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	369	160	0	24	1261	0	0	97
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		37.4			37.4	36.3		51.2	40.5			8.7
Actuated g/C Ratio		0.39			0.39	0.38		0.54	0.43			0.09

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	929	4
Future Volume (vph)	929	4
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	948	4
Shared Lane Traffic (%)		
Lane Group Flow (vph)	952	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	44.4	
Actuated g/C Ratio	0.47	

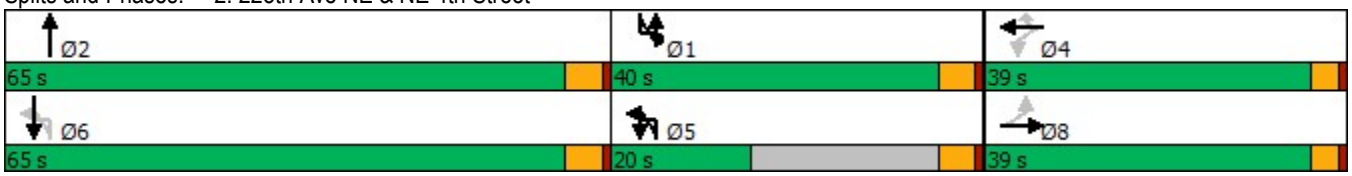
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.07			0.71	0.24		0.07	0.86			0.31
Control Delay		16.5			35.7	5.1		10.4	31.1			45.2
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		16.5			35.7	5.1		10.4	31.1			45.2
LOS		B			D	A		B	C			D
Approach Delay		16.5			26.4				30.8			
Approach LOS		B			C				C			
Queue Length 50th (ft)		9			183	0		6	345			28
Queue Length 95th (ft)		35			#398	46		16	451			59
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		560			519	672		794	2258			1321
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.07			0.71	0.24		0.03	0.56			0.07

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 94.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 27.5 Intersection LOS: C
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 228th Ave NE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
v/c Ratio	0.59	
Control Delay	22.2	
Queue Delay	0.0	
Total Delay	22.2	
LOS	C	
Approach Delay	24.4	
Approach LOS	C	
Queue Length 50th (ft)	173	
Queue Length 95th (ft)	368	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2281	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.42	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	185	2	171	35	10	28	5	206	1044	16	71	23
Future Volume (vph)	185	2	171	35	10	28	5	206	1044	16	71	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	300		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99	0.99					0.97		
Frt			0.850		0.888					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1806	1901	1616	1711	1583	0	0	1745	3490	1561	0	1728
Flt Permitted	0.732			0.757				0.090				0.183
Satd. Flow (perm)	1391	1901	1587	1355	1583	0	0	165	3490	1507	0	333
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			174		29					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
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
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	189	2	174	36	10	29	5	210	1065	16	72	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	2	174	36	39	0	0	215	1065	16	0	95
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0	-3.0	0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1091	176
Future Volume (vph)	1091	176
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.979	
Flt Protected		
Satd. Flow (prot)	3334	0
Flt Permitted		
Satd. Flow (perm)	3334	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	12	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1113	180
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1293	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

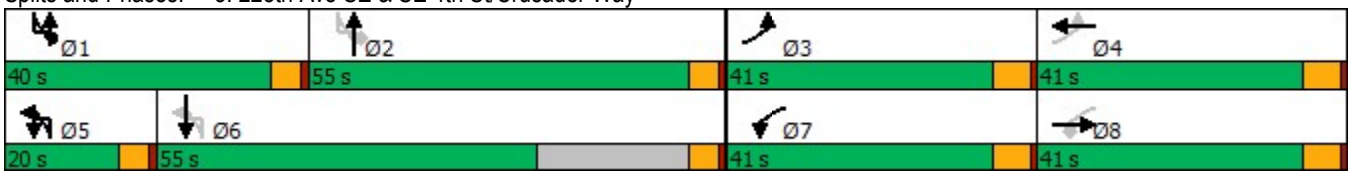
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						8	8		
Act Effct Green (s)	21.4	13.6	16.7	16.7	7.0			62.0	53.8	51.7		57.9
Actuated g/C Ratio	0.23	0.14	0.18	0.18	0.07			0.66	0.57	0.55		0.61
v/c Ratio	0.49	0.01	0.41	0.14	0.27			0.53	0.54	0.02		0.32
Control Delay	34.8	38.0	8.9	31.1	26.9			24.5	15.7	0.1		10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	34.8	38.0	8.9	31.1	26.9			24.5	15.7	0.1		10.8
LOS	C	D	A	C	C			C	B	A		B
Approach Delay		22.5			28.9				17.0			
Approach LOS		C			C				B			
Queue Length 50th (ft)	98	1	0	18	6			68	204	0		20
Queue Length 95th (ft)	167	9	56	44	40			183	386	0		56
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	300				190		170		380
Base Capacity (vph)	767	734	766	670	629			405	2121	931		761
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.25	0.00	0.23	0.05	0.06			0.53	0.50	0.02		0.12

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 94.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.3 Intersection LOS: C
Intersection Capacity Utilization 78.8% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	44.3	
Actuated g/C Ratio	0.47	
v/c Ratio	0.82	
Control Delay	28.1	
Queue Delay	0.0	
Total Delay	28.1	
LOS	C	
Approach Delay	27.0	
Approach LOS	C	
Queue Length 50th (ft)	350	
Queue Length 95th (ft)	#583	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2613	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.49	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	104	46	22	198	39	113	21	118	1069	301	11	149
Future Volume (vph)	104	46	22	198	39	113	21	118	1069	301	11	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			1.00
Frt			0.850			0.850			0.967			
Flt Protected		0.967			0.960			0.950				0.950
Satd. Flow (prot)	0	1741	1530	0	1781	1577	0	1745	3336	0	0	1710
Flt Permitted		0.967			0.960			0.950				0.950
Satd. Flow (perm)	0	1741	1448	0	1731	1554	0	1740	3336	0	0	1704
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			24			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	117	52	25	222	44	127	24	133	1201	338	12	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	25	0	266	127	0	157	1539	0	0	179
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		21.2	19.2		27.4	27.4		17.3	59.0			21.7

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1004	100
Future Volume (vph)	1004	100
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.986	
Flt Protected		
Satd. Flow (prot)	3362	0
Flt Permitted		
Satd. Flow (perm)	3362	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.89	0.89
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1128	112
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1240	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	63.8	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.15	0.14		0.20	0.20		0.12	0.42			0.16
v/c Ratio		0.64	0.08		0.76	0.31		0.73	1.08			0.68
Control Delay		69.9	0.5		69.1	8.7		81.3	88.8			70.7
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		69.9	0.5		69.1	8.7		81.3	88.8			70.7
LOS		E	A		E	A		F	F			E
Approach Delay		61.0			49.5				88.1			
Approach LOS		E			D				F			
Queue Length 50th (ft)		146	0		238	0		143	~864			160
Queue Length 95th (ft)		257	0		358	49		#289	#1222			260
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		292	329		543	566		227	1419			403
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.58	0.08		0.49	0.22		0.69	1.08			0.44

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 140
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 65.4 Intersection LOS: E
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.46	
v/c Ratio	0.81	
Control Delay	39.4	
Queue Delay	0.0	
Total Delay	39.4	
LOS	D	
Approach Delay	43.3	
Approach LOS	D	
Queue Length 50th (ft)	533	
Queue Length 95th (ft)	706	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1786	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.69	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	99	7	219	23	1	19	28	147	1535	39	6	19
Future Volume (vph)	99	7	219	23	1	19	28	147	1535	39	6	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.854			0.857				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1547	0	1646	1485	0	0	1728	3437	0	0	1753
Flt Permitted	0.744			0.351				0.090				0.065
Satd. Flow (perm)	1366	1547	0	608	1485	0	0	164	3437	0	0	120
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					20				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	104	7	231	24	1	20	29	155	1616	41	6	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	238	0	24	21	0	0	184	1657	0	0	26
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	27.1	19.9		25.0	14.2			67.6	65.0			64.7

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1178	102
Future Volume (vph)	1178	102
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3455	0
Flt Permitted		
Satd. Flow (perm)	3455	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1240	107
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1347	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	54.3	

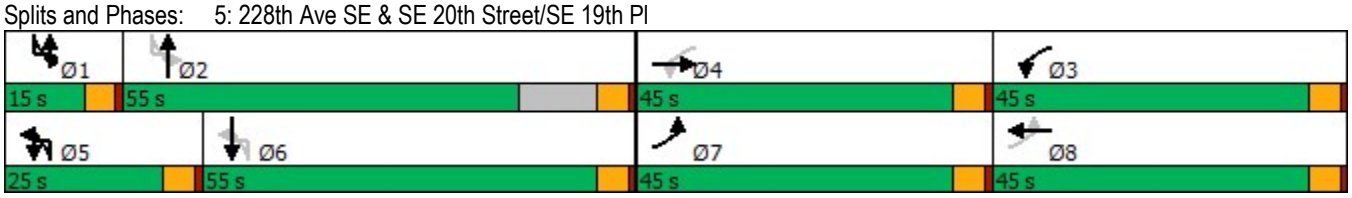
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.26	0.19		0.24	0.14			0.66	0.63			0.63
v/c Ratio	0.24	0.80		0.12	0.10			0.58	0.76			0.16
Control Delay	30.0	60.8		31.2	18.5			24.9	20.5			11.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	30.0	60.8		31.2	18.5			24.9	20.5			11.4
LOS	C	E		C	B			C	C			B
Approach Delay		51.4			25.3				20.9			
Approach LOS		D			C				C			
Queue Length 50th (ft)	52	157		12	1			57	486			6
Queue Length 95th (ft)	103	266		34	24			146	719			20
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	740	616		773	603			463	2200			241
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.14	0.39		0.03	0.03			0.40	0.75			0.11

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 102.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.53	
v/c Ratio	0.74	
Control Delay	25.4	
Queue Delay	0.0	
Total Delay	25.4	
LOS	C	
Approach Delay	25.1	
Approach LOS	C	
Queue Length 50th (ft)	385	
Queue Length 95th (ft)	#673	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1826	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.74	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	16	5	9	86	6	321	22	1524	179	5	334	1013
Future Volume (vph)	16	5	9	86	6	321	22	1524	179	5	334	1013
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.963			0.955		0.950				0.950	
Satd. Flow (prot)	0	1769	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.963			0.955		0.227				0.950	
Satd. Flow (perm)	0	1766	1536	0	1747	1539	413	3455	1501	0	1726	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			334			149			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	17	5	9	90	6	334	23	1588	186	5	348	1055
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	9	0	96	334	23	1588	186	0	353	1075
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.9	11.9		14.2	14.2	108.5	74.1	89.0		33.5	102.9
Actuated g/C Ratio		0.09	0.09		0.10	0.10	0.79	0.54	0.64		0.24	0.75

PRJ19-00008 Attachment 060

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	19
Future Volume (vph)	19
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	20
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.14	0.04		0.53	0.73	0.06	0.86	0.18		0.84	0.42
Control Delay		62.0	0.3		71.5	16.0	7.0	35.0	2.1		69.6	10.6
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		62.0	0.3		71.5	16.0	7.0	35.0	2.1		69.6	10.6
LOS		E	A		E	B	A	D	A		E	B
Approach Delay		44.1			28.4			31.2				25.2
Approach LOS		D			C			C				C
Queue Length 50th (ft)		19	0		82	0	4	612	8		299	188
Queue Length 95th (ft)		50	0		161	102	21	#1164	26		#642	447
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		429	446		545	708	550	1854	1316		419	2567
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.05	0.02		0.18	0.47	0.04	0.86	0.14		0.84	0.42

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 138
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 28.7 Intersection LOS: C
Intersection Capacity Utilization 99.6% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	103	15	146	120	469	17	965	238	507	439	38
Future Volume (vph)	161	103	15	146	120	469	17	965	238	507	439	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.981				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1744	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.380			0.950		
Satd. Flow (perm)	1694	1744	0	1724	1819	1546	691	3455	1525	3349	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				62			168			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	169	108	16	154	126	494	18	1016	251	534	462	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	124	0	154	126	494	18	1016	251	534	462	40
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	16.6	16.6		17.6	14.9	48.0	67.4	41.9	41.9	27.2	68.8	65.7
Actuated g/C Ratio	0.14	0.14		0.15	0.13	0.40	0.57	0.35	0.35	0.23	0.58	0.55

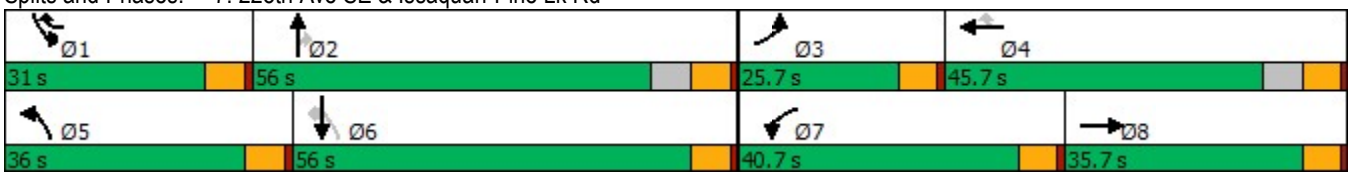
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.72	0.50		0.60	0.56	0.75	0.04	0.84	0.39	0.70	0.44	0.05
Control Delay	69.6	55.6		61.0	59.9	35.6	13.9	43.7	12.7	50.5	19.1	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	55.6		61.0	59.9	35.6	13.9	43.7	12.7	50.5	19.1	0.1
LOS	E	E		E	E	D	B	D	B	D	B	A
Approach Delay		63.7			44.6			37.2			34.6	
Approach LOS		E			D			D			C	
Queue Length 50th (ft)	123	87		111	94	290	5	365	42	192	166	0
Queue Length 95th (ft)	#282	170		222	170	485	23	593	136	#371	435	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	294	462		565	712	677	674	1744	852	805	1050	887
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.27		0.27	0.18	0.73	0.03	0.58	0.29	0.66	0.44	0.05

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 119
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 40.4 Intersection LOS: D
Intersection Capacity Utilization 76.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	13	26	1175	29	33	551
Future Volume (vph)	13	26	1175	29	33	551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.910		0.997			
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1597	0	1813	0	1728	1818
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1597	0	1813	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.73	0.73	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	18	36	1291	32	38	633
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	1323	0	38	633
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	26	1175	29	33	551
Future Vol, veh/h	13	26	1175	29	33	551
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	87	87
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	18	36	1291	32	38	633

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2016	1307	0	0	1323	0
Stage 1	1307	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	64	194	-	-	525	-
Stage 1	252	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	194	-	-	525	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	252	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	65.3	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	110	525	-
HCM Lane V/C Ratio	-	-	0.486	0.072	-
HCM Control Delay (s)	-	-	65.3	12.4	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	2.2	0.2	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	13	21	1	33	13	793	34	54	894	7
Future Volume (vph)	12	1	13	21	1	33	13	793	34	54	894	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		1.00	1.00	
Frt		0.860			0.854			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1543	0	1745	1549	0	1711	3395	0	1728	3451	0
Flt Permitted	0.784			0.748			0.263			0.286		
Satd. Flow (perm)	1440	1543	0	1356	1549	0	473	3395	0	518	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			34			4			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	13	1	14	22	1	34	14	826	35	56	931	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	15	0	22	35	0	14	861	0	56	938	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

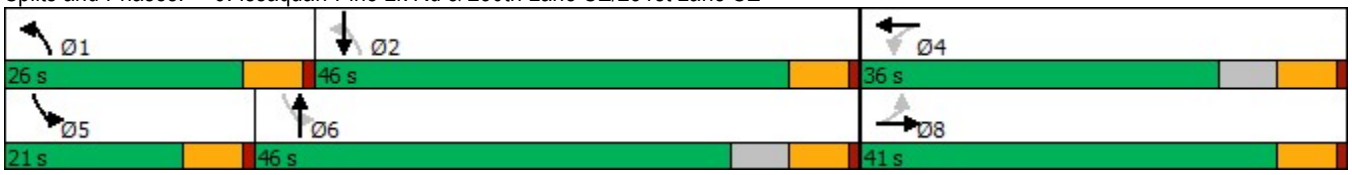
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	10.0	10.0		12.0	10.5		26.9	28.5		26.7	32.7	
Actuated g/C Ratio	0.23	0.23		0.27	0.24		0.61	0.65		0.61	0.74	
v/c Ratio	0.04	0.04		0.06	0.09		0.03	0.39		0.10	0.37	
Control Delay	20.2	11.4		19.7	9.0		6.5	11.4		6.0	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.2	11.4		19.7	9.0		6.5	11.4		6.0	7.9	
LOS	C	B		B	A		A	B		A	A	
Approach Delay		15.4			13.1			11.4			7.8	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	3	0		5	0		1	94		5	53	
Queue Length 95th (ft)	18	14		24	21		11	246		28	263	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1101	1183		1051	1192		1112	2985		1002	2854	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03		0.01	0.29		0.06	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 44
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.39
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 54.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	40	42	822	721	18
Future Volume (vph)	35	40	42	822	721	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1813	0
Flt Permitted	0.950		0.221			
Satd. Flow (perm)	1745	1526	402	1818	1813	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		43			2	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	37	43	45	874	767	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	43	45	874	786	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	11.6	11.6	38.8	43.0	38.2	
Actuated g/C Ratio	0.20	0.20	0.68	0.76	0.67	
v/c Ratio	0.10	0.12	0.10	0.64	0.64	

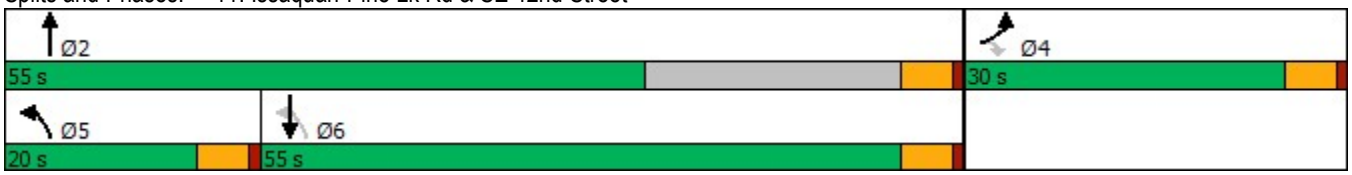
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	27.0	10.5	4.1	8.4	13.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.0	10.5	4.1	8.4	13.6	
LOS	C	B	A	A	B	
Approach Delay	18.1			8.2	13.6	
Approach LOS	B			A	B	
Queue Length 50th (ft)	13	0	3	117	193	
Queue Length 95th (ft)	42	26	19	440	519	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	951	851	790	1731	1487	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.05	0.06	0.50	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 56.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 54.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	1	110	1	45	17	818	299	79	676	5
Future Volume (vph)	2	1	1	110	1	45	17	818	299	79	676	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.966			0.853				0.850		0.999	
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1732	0	1711	1495	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.923		0.755			0.288			0.173		
Satd. Flow (perm)	0	1632	0	1359	1495	0	524	1818	1546	324	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			46				103			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	1	1	113	1	46	18	843	308	81	697	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	113	47	0	18	843	308	81	702	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		15.8		15.8	15.8		66.8	56.0	56.0	66.3	60.5	
Actuated g/C Ratio		0.18		0.18	0.18		0.76	0.63	0.63	0.75	0.68	

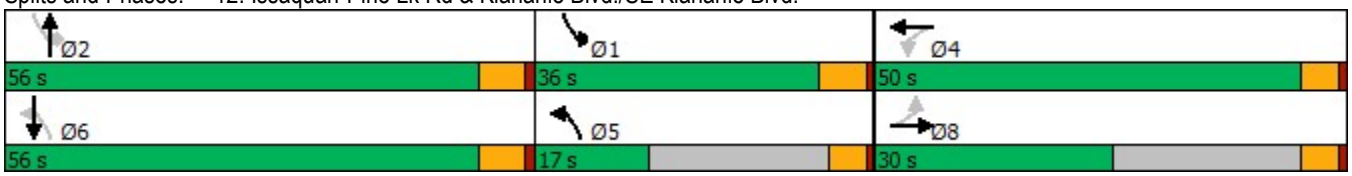
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.47	0.15		0.03	0.73	0.30	0.20	0.55	
Control Delay		26.8		39.1	10.9		3.5	18.2	6.8	6.2	11.7	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		26.8		39.1	10.9		3.5	18.2	6.8	6.2	11.7	
LOS		C		D	B		A	B	A	A	B	
Approach Delay		26.8			30.8			15.0			11.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		1		57	0		2	311	47	9	121	
Queue Length 95th (ft)		10		110	29		8	#588	110	25	407	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		869		723	817		948	1151	1016	852	1297	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.16	0.06		0.02	0.73	0.30	0.10	0.54	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 88.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 14.8 Intersection LOS: B
Intersection Capacity Utilization 70.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1	9	54	1	34	13	1159	133	24	761	10
Future Volume (vph)	7	1	9	54	1	34	13	1159	133	24	761	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.985			0.998	
Flt Protected		0.958			0.953		0.950			0.950		
Satd. Flow (prot)	0	1760	1561	0	1750	1561	1728	1791	0	1711	1797	0
Flt Permitted		0.767			0.725		0.313			0.073		
Satd. Flow (perm)	0	1409	1561	0	1332	1561	569	1791	0	131	1797	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			34		8			1	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	7	1	9	55	1	34	13	1171	134	24	769	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	9	0	56	34	13	1305	0	24	779	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		7.8	9.6		10.2	18.1	100.6	95.9		99.8	97.9	
Actuated g/C Ratio		0.07	0.08		0.09	0.15	0.85	0.81		0.84	0.82	
v/c Ratio		0.09	0.06		0.49	0.13	0.02	0.90		0.13	0.53	
Control Delay		53.4	12.7		66.7	14.1	2.0	22.8		3.3	6.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

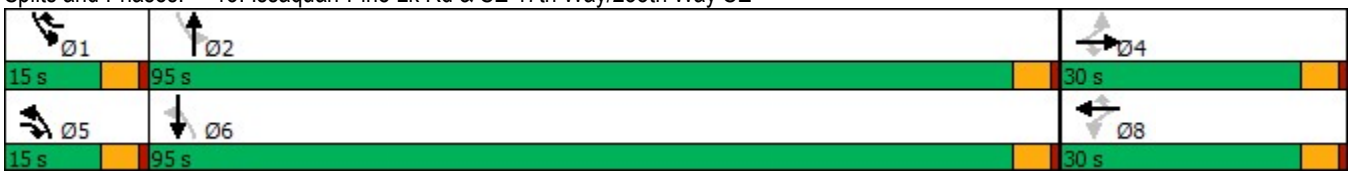
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		53.4	12.7		66.7	14.1	2.0	22.8		3.3	6.8	
LOS		D	B		E	B	A	C		A	A	
Approach Delay		31.8			46.8			22.6			6.7	
Approach LOS		C			D			C			A	
Queue Length 50th (ft)		6	0		42	0	1	740		2	213	
Queue Length 95th (ft)		22	10		86	29	5	#1344		7	353	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		308	205		291	330	599	1444		259	1478	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.03	0.04		0.19	0.10	0.02	0.90		0.09	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 119
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 87.4% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	111	201	1263	805	57
Future Volume (vph)	48	111	201	1263	805	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1784	0
Flt Permitted	0.950		0.198			
Satd. Flow (perm)	1745	1561	360	1818	1784	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		113			5	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	49	113	205	1289	821	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	113	205	1289	879	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	10.8	23.5	68.3	70.4	59.8	
Actuated g/C Ratio	0.12	0.26	0.76	0.78	0.67	
v/c Ratio	0.23	0.23	0.51	0.90	0.74	
Control Delay	45.3	8.0	6.8	17.6	13.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

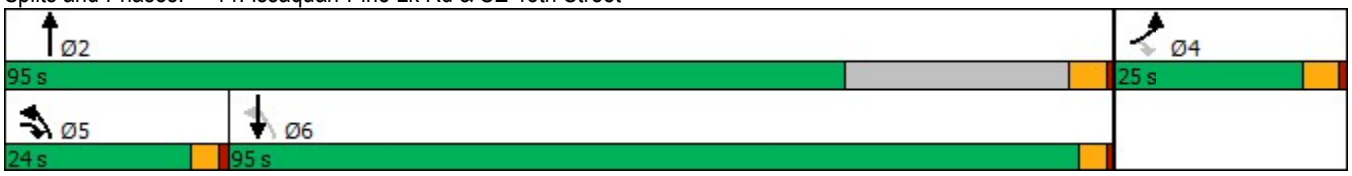
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	45.3	8.0	6.8	17.6	13.9	
LOS	D	A	A	B	B	
Approach Delay	19.3			16.1	13.9	
Approach LOS	B			B	B	
Queue Length 50th (ft)	27	0	18	384	267	
Queue Length 95th (ft)	71	45	39	837	502	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	435	717	628	1818	1656	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.11	0.16	0.33	0.71	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 89.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 15.6 Intersection LOS: B
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	36	36	127	40	85	36	194	113	221	169	9
Future Volume (vph)	2	36	36	127	40	85	36	194	113	221	169	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.898			0.945			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1649	0	1745	1736	0	1745	1822	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1649	0	1745	1736	0	1745	1822	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	46	46	148	47	99	44	240	140	248	190	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	92	0	148	146	0	44	380	0	248	200	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 53.1% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	36	36	127	40	85	36	194	113	221	169	9
Future Vol, veh/h	2	36	36	127	40	85	36	194	113	221	169	9
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	46	46	148	47	99	44	240	140	248	190	10
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.8	13	20.1	14.9
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	63%	0%	50%	0%	32%	0%	95%
Vol Right, %	0%	37%	0%	50%	0%	68%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	307	2	72	127	125	221	178
LT Vol	36	0	2	0	127	0	221	0
Through Vol	0	194	0	36	0	40	0	169
RT Vol	0	113	0	36	0	85	0	9
Lane Flow Rate	44	379	3	92	148	145	248	200
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.088	0.672	0.006	0.189	0.317	0.272	0.49	0.364
Departure Headway (Hd)	7.151	6.379	8.243	7.368	7.734	6.735	7.098	6.553
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	569	434	486	465	533	509	552
Service Time	4.863	4.091	5.991	5.116	5.473	4.474	4.811	4.266
HCM Lane V/C Ratio	0.087	0.666	0.007	0.189	0.318	0.272	0.487	0.362
HCM Control Delay	10.6	21.2	11	11.8	14	12	16.5	13
HCM Lane LOS	B	C	B	B	B	B	C	B
HCM 95th-tile Q	0.3	5	0	0.7	1.3	1.1	2.7	1.7

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	41	9	645	55	10	574
Future Volume (vph)	41	9	645	55	10	574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.989			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1798	0	1728	1818
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1798	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.51	0.51	0.82	0.82	0.83	0.83
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	80	18	787	67	12	692
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	18	854	0	12	692
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 47.3% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	9	645	55	10	574
Future Vol, veh/h	41	9	645	55	10	574
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	82	82	83	83
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	80	18	787	67	12	692

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1538	822	0	0	855	0
Stage 1	822	-	-	-	-	-
Stage 2	716	-	-	-	-	-
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	127	374	-	-	789	-
Stage 1	432	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	374	-	-	788	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	264	374	788	-
HCM Lane V/C Ratio	-	-	0.305	0.047	0.015	-
HCM Control Delay (s)	-	-	24.5	15.1	9.6	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.1	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	654	0	4	758	350	1	1	1	145	2	11
Future Volume (vph)	13	654	0	4	758	350	1	1	1	145	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.955			0.990	
Flt Protected		0.999						0.984			0.956	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1726	0	0	1738	0
Flt Permitted		0.984			0.997			0.907			0.956	
Satd. Flow (perm)	0	1772	0	0	1813	1513	0	1591	0	0	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								1			5	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	703	0	4	815	376	1	1	1	156	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	717	0	0	819	376	0	3	0	0	170	0
Turn Type	Perm	NA		Perm	NA	pm+ov	D.Pm	NA		Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		29.1			29.1	42.5		10.6			10.6	
Actuated g/C Ratio		0.61			0.61	0.89		0.22			0.22	
v/c Ratio		0.67			0.74	0.28		0.01			0.44	

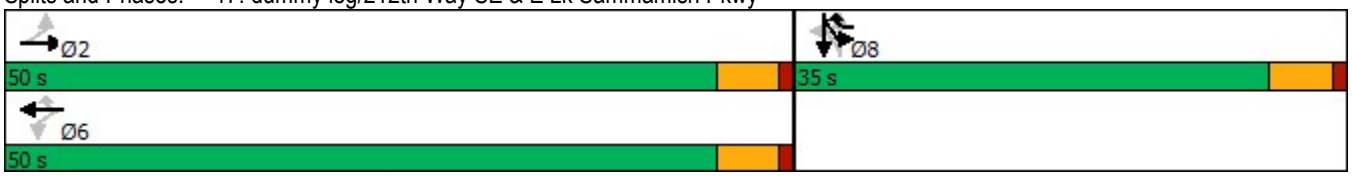
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		10.0			11.9	0.7		17.3			22.2	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		10.0			11.9	0.7		17.3			22.2	
LOS		A			B	A		B			C	
Approach Delay		10.0			8.4			17.3			22.2	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)		96			120	0		0			36	
Queue Length 95th (ft)		252			315	0		7			116	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1595			1632	1475		1092			1194	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.45			0.50	0.25		0.00			0.14	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 48
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 10.1 Intersection LOS: B
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	1189	1	15	548	0	12	1	15	15	1	38
Future Volume (vph)	41	1189	1	15	548	0	12	1	15	15	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96				1.00				0.98	
Frt			0.850					0.858			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3490	1561	1728	3455	0	1745	1685	0	1694	1600	0
Flt Permitted	0.410			0.143			0.950			0.950		
Satd. Flow (perm)	751	3490	1494	260	3455	0	1737	1685	0	1694	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					17			42	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1235			169			195			164	
Travel Time (s)		21.1			2.9			6.6			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			10			5						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	3%	3%	3%
Adj. Flow (vph)	46	1321	1	17	609	0	13	1	17	17	1	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1321	1	17	609	0	13	18	0	17	43	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		5	5		5						5	
Act Effct Green (s)	35.7	39.8	39.8	36.9	36.9		5.5	8.1		5.5	8.1	

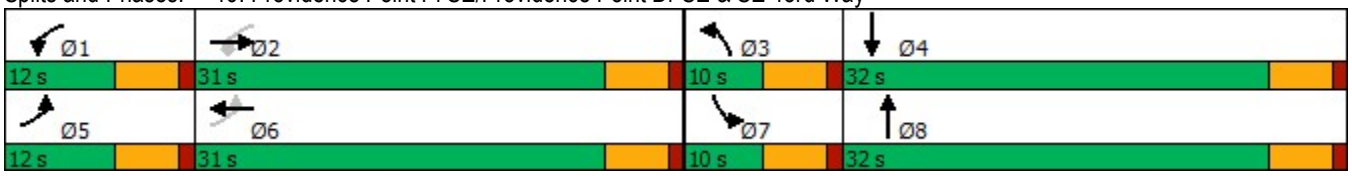
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.71	0.79	0.79	0.73	0.73		0.11	0.16		0.11	0.16	
v/c Ratio	0.07	0.48	0.00	0.04	0.24		0.07	0.06		0.09	0.15	
Control Delay	7.2	11.7	0.0	7.8	10.3		27.4	10.4		27.7	8.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.2	11.7	0.0	7.8	10.3		27.4	10.4		27.7	8.5	
LOS	A	B	A	A	B		C	B		C	A	
Approach Delay		11.5			10.2			17.6			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	0	0	0	1	0		2	0		3	0	
Queue Length 95th (ft)	32	#595	0	16	197		25	15		29	23	
Internal Link Dist (ft)		1155			89			115			84	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	683	2754	1211	415	2712		190	1001		185	961	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.48	0.00	0.04	0.22		0.07	0.02		0.09	0.04	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 50.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 11.3 Intersection LOS: B
Intersection Capacity Utilization 52.2% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	403	165	387	287	106	27	244	1309	244	16	1500	169
Future Volume (vph)	403	165	387	287	106	27	244	1309	244	16	1500	169
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.976				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3202	0	1646	3292	1424
Flt Permitted	0.669			0.386			0.950			0.950		
Satd. Flow (perm)	1166	1750	1467	676	1691	0	1644	3202	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			22				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	420	172	403	299	110	28	254	1364	254	17	1563	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	420	172	403	299	138	0	254	1618	0	17	1563	475
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.6	78.1		6.1	55.4	55.4

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	287
Future Volume (vph)	287
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	299
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.20	0.55	1.54	0.86	0.38		0.95	0.90		0.24	1.20	0.76
Control Delay	154.4	59.9	300.8	63.6	47.6		98.4	18.2		69.9	134.4	34.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	6.0		0.0	0.0	0.0
Total Delay	154.4	59.9	300.8	63.6	47.6		98.4	24.2		69.9	134.4	34.7
LOS	F	E	F	E	D		F	C		E	F	C
Approach Delay		197.4			58.6			34.3			110.8	
Approach LOS		F			E			C			F	
Queue Length 50th (ft)	~424	145	~514	220	102		220	113		15	~909	220
Queue Length 95th (ft)	#674	224	#722	#380	168		m#294	#764		m21	#1053	405
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	350	312	261	346	368		270	1795		94	1302	623
Starvation Cap Reductn	0	0	0	0	0		0	147		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.20	0.55	1.54	0.86	0.38		0.94	0.98		0.18	1.20	0.76

Intersection Summary

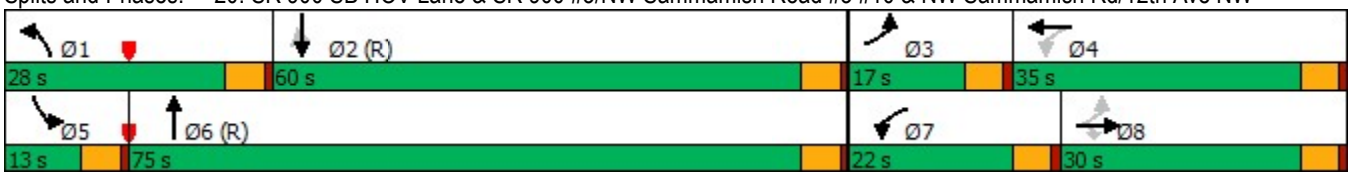
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 95.9 Intersection LOS: F
Intersection Capacity Utilization 109.7% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1145	154	483	90	175	48	334	848	42	42	520	708
Future Volume (vph)	1145	154	483	90	175	48	334	848	42	42	520	708
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.99		0.99	1.00		1.00		0.97
Frt			0.850		0.968			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1659	0	3087	3156	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2994	1692	1384	1625	1659	0	3051	3156	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			150		9			4				198
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
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 (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1193	160	503	94	182	50	348	883	44	44	542	738
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1193	160	503	94	232	0	348	927	0	44	542	738
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	45.5	60.3	77.3	11.7	26.5		17.0	42.6		7.4	31.0	76.5
Actuated g/C Ratio	0.32	0.43	0.55	0.08	0.19		0.12	0.30		0.05	0.22	0.55
v/c Ratio	1.18	0.22	0.60	0.68	0.72		0.93	0.96		0.53	0.77	0.86
Control Delay	132.0	26.8	16.0	85.9	63.4		75.0	57.2		74.9	49.7	35.3
Queue Delay	0.0	0.0	0.4	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	132.0	26.8	16.4	85.9	63.4		75.0	57.2		74.9	49.7	35.3
LOS	F	C	B	F	E		E	E		E	D	D
Approach Delay		91.6			69.9			62.1			42.5	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	~728	91	188	84	183		172	~474		36	194	587
Queue Length 95th (ft)	#865	149	308	144	276		#255	#615		m52	285	#848
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	1012	728	836	176	397		374	963		90	704	858
Starvation Cap Reductn	0	0	72	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.18	0.22	0.66	0.53	0.58		0.93	0.96		0.49	0.77	0.86

Intersection Summary

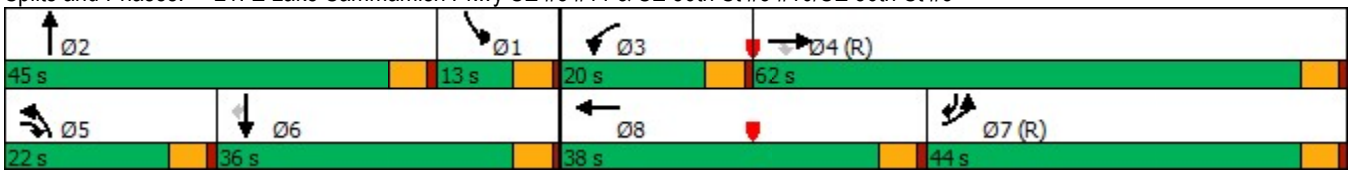
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 68.6 Intersection LOS: E
Intersection Capacity Utilization 106.8% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	590	539	10	296	431	82	18	600	686	55	349	488
Future Volume (vph)	590	539	10	296	431	82	18	600	686	55	349	488
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3156	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.507			0.084		
Satd. Flow (perm)	2643	3205	0	3149	3156	0	848	2010	1402	141	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			11				567			489
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	608	556	10	305	444	85	19	619	707	57	360	503
Shared Lane Traffic (%)												
Lane Group Flow (vph)	608	566	0	305	529	0	19	619	707	57	360	503
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	38.5	48.6		18.9	29.0		50.5	46.0	46.0	55.5	50.2	50.2
Actuated g/C Ratio	0.28	0.35		0.14	0.21		0.36	0.33	0.33	0.40	0.36	0.36

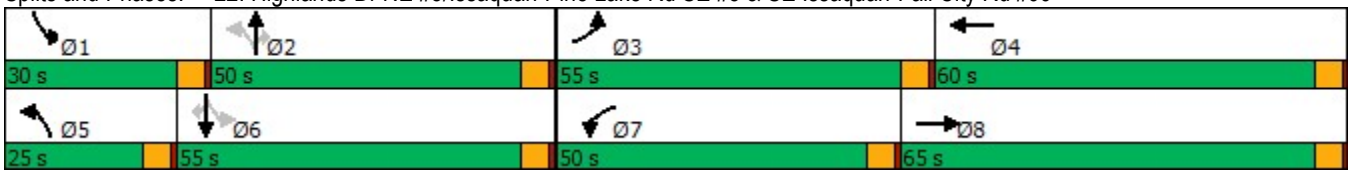
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.83	0.51		0.71	0.79		0.06	0.93	0.84	0.41	0.31	0.61
Control Delay	58.6	37.9		69.5	61.9		30.3	69.0	20.1	38.5	36.6	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	37.9		69.5	61.9		30.3	69.0	20.1	38.5	36.6	7.6
LOS	E	D		E	E		C	E	C	D	D	A
Approach Delay		48.6			64.7			42.8			20.9	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	316	215		140	240		10	467	130	32	130	9
Queue Length 95th (ft)	448	299		215	343		33	#850	#475	76	213	124
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	979	1424		1040	1280		452	663	843	323	1200	834
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.40		0.29	0.41		0.04	0.93	0.84	0.18	0.30	0.60

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 139.3
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 43.9 Intersection LOS: D
Intersection Capacity Utilization 79.5% ICU Level of Service D
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	37	85	637	11	143	16	1039	1035	265	839	21
Future Volume (vph)	42	37	85	637	11	143	16	1039	1035	265	839	21
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98					1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.212			0.095		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	359	3214	1438	159	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			130			808		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	44	39	89	664	11	149	17	1082	1078	276	874	22
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	83	89	339	336	149	17	1082	1078	276	896	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.3	15.7	39.1	39.1	55.7	70.0	53.4	140.0	70.0	64.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.69	0.36	0.76	0.75	0.22	0.07	0.88	0.75	1.14	0.62	
Control Delay		90.2	7.9	59.0	58.4	4.7	20.2	41.7	6.4	132.6	24.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	
Total Delay		90.2	7.9	59.0	58.4	4.7	20.2	45.5	6.4	132.6	24.3	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		47.6			48.9			25.9			49.8	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		75	0	302	297	8	10	552	40	~237	246	
Queue Length 95th (ft)		#135	24	#458	#449	41	m9	m511	m60	m#382	m239	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	276	445	446	667	257	1225	1438	243	1449	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.59	0.32	0.76	0.75	0.22	0.07	0.95	0.75	1.14	0.62	

Intersection Summary

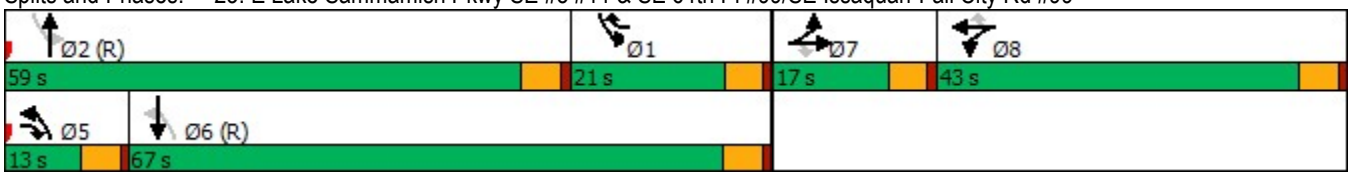
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 86.8% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.32	0.17	0.44	0.32	0.24	0.39	0.27	0.43		0.16	0.32	
v/c Ratio	0.39	0.67	0.47	0.65	0.71	0.37	0.87	0.60		0.65	0.81	
Control Delay	33.7	61.2	9.3	40.6	54.1	3.8	65.6	31.8		62.9	46.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	33.7	61.2	9.3	40.6	54.1	3.8	65.6	31.8		62.9	46.0	
LOS	C	E	A	D	D	A	E	C		E	D	
Approach Delay		29.0			33.0			42.5			48.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	53	149	53	134	214	0	296	263		126	317	
Queue Length 95th (ft)	96	244	106	207	321	27	#571	397		213	410	
Internal Link Dist (ft)		1407			1465			1260			468	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	549	699	754	556	705	890	456	1736		447	1715	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.29	0.47	0.41	0.42	0.31	0.87	0.49		0.38	0.50	

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 123.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 69.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave SE & NE Inglewood Hill Rd/NE 8th Street

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	29	6	21	164	4	195	9	7	928	154	273	742
Future Volume (vph)	29	6	21	164	4	195	9	7	928	154	273	742
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0	275	
Storage Lanes	0		0	0		1		1		0	2	
Taper Length (ft)	0			0				25			50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.97	0.95
Ped Bike Factor		0.99			1.00	0.99			1.00		1.00	1.00
Frt		0.950				0.850			0.979			0.999
Flt Protected		0.975			0.953			0.950			0.950	
Satd. Flow (prot)	0	1656	0	0	1750	1561	0	1711	3334	0	3286	3383
Flt Permitted		0.643			0.653			0.177			0.950	
Satd. Flow (perm)	0	1092	0	0	1194	1540	0	319	3334	0	3274	3383
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		20				291			16			1
Link Speed (mph)		25			25				35			35
Link Distance (ft)		322			749				1370			1340
Travel Time (s)		8.8			20.4				26.7			26.1
Confl. Peds. (#/hr)	1		4	4		1		7		9	9	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	43	9	31	245	6	291	13	10	1385	230	407	1107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	83	0	0	251	291	0	23	1615	0	407	1117
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	NA
Protected Phases		8			4		5	5	2		1	6
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	24.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	65.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	45.1%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	60.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0		3.0	3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	Min
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			7.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			12.0
Pedestrian Calls (#/hr)	7	7		1	1	1			9			9
Act Effct Green (s)		30.4			30.4	29.4		85.1	62.5		20.7	72.6
Actuated g/C Ratio		0.25			0.25	0.24		0.70	0.51		0.17	0.60
v/c Ratio		0.29			0.84	0.49		0.06	0.94		0.73	0.55

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	7
Future Volume (vph)	7
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	7
Peak Hour Factor	0.67
Heavy Vehicles (%)	3%
Adj. Flow (vph)	10
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	

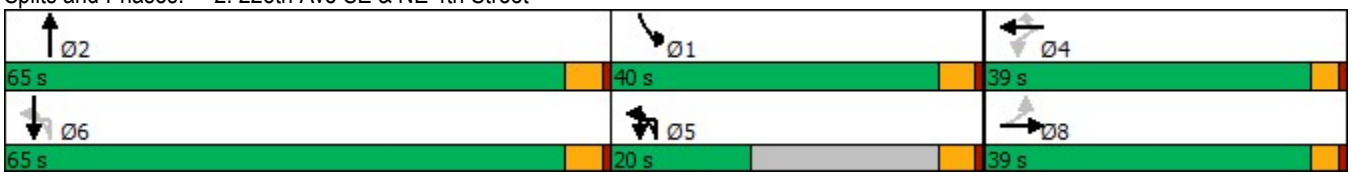
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Control Delay		31.2			68.2	7.2		7.5	40.9		56.6	21.9
Queue Delay		0.0			0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		31.2			68.2	7.2		7.5	40.9		56.6	21.9
LOS		C			E	A		A	D		E	C
Approach Delay		31.2			35.4				40.4			31.2
Approach LOS		C			D				D			C
Queue Length 50th (ft)		40			188	0		5	635		161	194
Queue Length 95th (ft)		61			210	1		11	516		159	341
Internal Link Dist (ft)		242			669				1290			1260
Turn Bay Length (ft)								125			275	
Base Capacity (vph)		348			365	663		652	1719		1006	2107
Starvation Cap Reductn		0			0	0		0	0		0	0
Spillback Cap Reductn		0			0	0		0	0		0	0
Storage Cap Reductn		0			0	0		0	0		0	0
Reduced v/c Ratio		0.24			0.69	0.44		0.04	0.94		0.40	0.53

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 121.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 35.8 Intersection LOS: D
Intersection Capacity Utilization 64.4% ICU Level of Service C
Analysis Period (min) 15
Description: FYA installed per Sammamish Current Projects list

Splits and Phases: 2: 228th Ave SE & NE 4th Street



Lane Group	SBR
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	126	63	53	97	23	86	7	56	892	296	28	156
Future Volume (vph)	126	63	53	97	23	86	7	56	892	296	28	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	30		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				50				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99						0.97		
Frt			0.850		0.881					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1720	1810	1539	1728	1602	0	0	1745	3490	1561	0	1711
Flt Permitted	0.389			0.634				0.203				0.133
Satd. Flow (perm)	704	1810	1511	1147	1602	0	0	373	3490	1513	0	239
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			111		98					141		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)			3	3				5		7		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	1%	1%	1%	1%	2%	2%
Adj. Flow (vph)	162	81	68	124	29	110	9	72	1144	379	36	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	81	68	124	139	0	0	81	1144	379	0	236
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-3.0	-3.0			-2.0	-2.0	-2.0		-2.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0		3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	735	64
Future Volume (vph)	735	64
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.988	
Flt Protected		
Satd. Flow (prot)	3367	0
Flt Permitted		
Satd. Flow (perm)	3367	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.78	0.78
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	942	82
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1024	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						7	7		
Act Effct Green (s)	26.8	14.2	14.2	26.8	12.1			69.3	53.0	53.0		69.3
Actuated g/C Ratio	0.25	0.13	0.13	0.25	0.11			0.64	0.49	0.49		0.64
v/c Ratio	0.52	0.34	0.23	0.35	0.52			0.24	0.67	0.47		0.63
Control Delay	37.8	48.2	3.3	33.8	24.0			9.8	26.4	15.8		22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	37.8	48.2	3.3	33.8	24.0			9.8	26.4	15.8		22.5
LOS	D	D	A	C	C			A	C	B		C
Approach Delay		33.0			28.6				23.0			
Approach LOS		C			C				C			
Queue Length 50th (ft)	88	51	0	65	26			16	283	93		55
Queue Length 95th (ft)	137	93	0	108	69			45	476	209		144
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	30				190		170		380
Base Capacity (vph)	627	648	612	637	636			468	1710	813		672
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.26	0.13	0.11	0.19	0.22			0.17	0.67	0.47		0.35

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 108.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 22.5 Intersection LOS: C
Intersection Capacity Utilization 59.3% ICU Level of Service B
Analysis Period (min) 15
Description: FYA installed on 228th per Sammamish Project list

Splits and Phases: 3: 228th Ave SE & SE 4th Street

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	61.5	
Actuated g/C Ratio	0.57	
v/c Ratio	0.54	
Control Delay	17.1	
Queue Delay	0.0	
Total Delay	17.1	
LOS	B	
Approach Delay	18.1	
Approach LOS	B	
Queue Length 50th (ft)	198	
Queue Length 95th (ft)	325	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2286	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.45	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	36	22	6	231	35	376	21	55	848	264	1	96
Future Volume (vph)	36	22	6	231	35	376	21	55	848	264	1	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.98		0.99			1.00	0.99			1.00
Frt			0.850			0.850			0.964			
Flt Protected		0.970			0.958			0.950				0.950
Satd. Flow (prot)	0	1729	1515	0	1760	1561	0	1728	3304	0	0	1694
Flt Permitted		0.970			0.958			0.950				0.950
Satd. Flow (perm)	0	1729	1480	0	1744	1561	0	1726	3304	0	0	1689
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			374			28			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1774				959			
Travel Time (s)		5.5			34.6				16.3			
Confl. Peds. (#/hr)			5	5				1		4		4
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	41	25	7	263	40	427	24	63	964	300	1	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	7	0	303	427	0	87	1264	0	0	110
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	5	5	5						4			
Act Effct Green (s)		13.7	11.6		28.3	28.3		13.7	59.7			15.5

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	757	59
Future Volume (vph)	757	59
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.989	
Flt Protected		
Satd. Flow (prot)	3344	0
Flt Permitted		
Satd. Flow (perm)	3344	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	6	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		1
Confl. Bikes (#/hr)		2
Peak Hour Factor	0.88	0.88
Heavy Vehicles (%)	2%	2%
Adj. Flow (vph)	860	67
Shared Lane Traffic (%)		
Lane Group Flow (vph)	927	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	1	
Act Effct Green (s)	62.0	

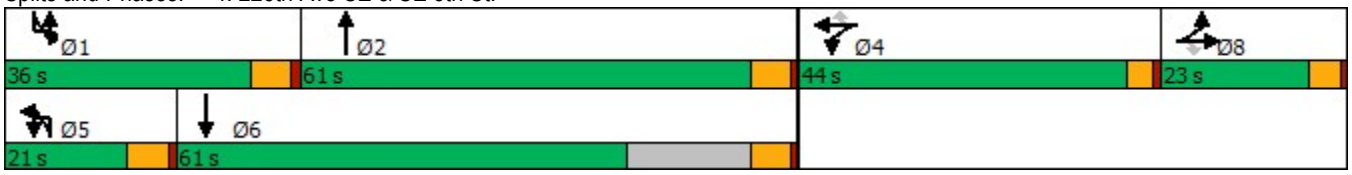
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.11	0.09		0.23	0.23		0.11	0.48			0.12
v/c Ratio		0.35	0.03		0.76	0.67		0.46	0.79			0.53
Control Delay		60.8	0.2		59.9	12.9		65.1	35.0			64.4
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		60.8	0.2		59.9	12.9		65.1	35.0			64.4
LOS		E	A		E	B		E	C			E
Approach Delay		55.0			32.4				36.9			
Approach LOS		D			C				D			
Queue Length 50th (ft)		50	0		229	34		66	437			84
Queue Length 95th (ft)		108	0		380	142		143	#832			169
Internal Link Dist (ft)		203			1694				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		307	344		607	783		255	1590			452
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.21	0.02		0.50	0.55		0.34	0.79			0.24

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 125.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 34.4 Intersection LOS: C
Intersection Capacity Utilization 80.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.50	
v/c Ratio	0.56	
Control Delay	27.1	
Queue Delay	0.0	
Total Delay	27.1	
LOS	C	
Approach Delay	31.0	
Approach LOS	C	
Queue Length 50th (ft)	270	
Queue Length 95th (ft)	478	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	2009	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.46	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	87	1	160	38	1	23	18	203	891	18	1	9
Future Volume (vph)	87	1	160	38	1	23	18	203	891	18	1	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99			0.99				1.00			
Frt		0.851			0.855				0.997			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1694	1498	0	1745	1551	0	0	1694	3376	0	0	1719
Flt Permitted	0.739			0.397				0.070				0.208
Satd. Flow (perm)	1318	1498	0	729	1551	0	0	125	3376	0	0	376
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					27				1			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			1086				1161			
Travel Time (s)		52.9			21.2				19.8			
Confl. Peds. (#/hr)								2		2		2
Confl. Bikes (#/hr)			1			1				2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	102	1	188	45	1	27	21	239	1048	21	1	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	189	0	45	28	0	0	260	1069	0	0	12
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							2			
Act Effct Green (s)	26.2	17.3		22.3	13.3			74.7	75.7			73.5

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1198	81
Future Volume (vph)	1198	81
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.991	
Flt Protected		
Satd. Flow (prot)	3401	0
Flt Permitted		
Satd. Flow (perm)	3401	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	4	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		2
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	3%	3%
Adj. Flow (vph)	1409	95
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1504	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	2	
Act Effct Green (s)	53.5	

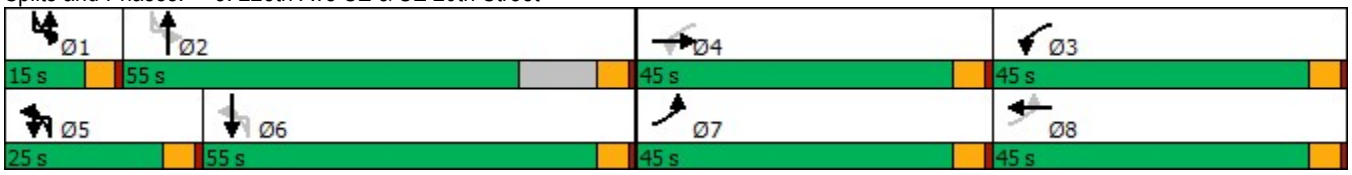
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.24	0.16		0.20	0.12			0.68	0.69			0.67
v/c Ratio	0.28	0.80		0.23	0.13			0.66	0.46			0.04
Control Delay	33.8	69.6		37.2	18.0			35.4	10.2			8.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	33.8	69.6		37.2	18.0			35.4	10.2			8.0
LOS	C	E		D	B			D	B			A
Approach Delay		57.0			29.8				15.1			
Approach LOS		E			C				B			
Queue Length 50th (ft)	58	134		25	1			125	163			3
Queue Length 95th (ft)	96	200		51	26			217	296			10
Internal Link Dist (ft)		2637			1006				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	665	552		758	589			413	2333			379
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.15	0.34		0.06	0.05			0.63	0.46			0.03

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 109.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.49	
v/c Ratio	0.90	
Control Delay	36.4	
Queue Delay	0.0	
Total Delay	36.4	
LOS	D	
Approach Delay	36.1	
Approach LOS	D	
Queue Length 50th (ft)	526	
Queue Length 95th (ft)	#697	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1664	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.90	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	4	2	1	111	1	218	5	581	106	6	127	1065
Future Volume (vph)	4	2	1	111	1	218	5	581	106	6	127	1065
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		0.99				0.98			0.96			
Frt			0.850			0.850			0.850			0.999
Flt Protected		0.966			0.953		0.950				0.950	
Satd. Flow (prot)	0	1774	1561	0	1667	1487	1678	3355	1501	0	1678	3352
Flt Permitted		0.966			0.953		0.125				0.291	
Satd. Flow (perm)	0	1764	1561	0	1667	1455	221	3355	1446	0	514	3352
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			251			122			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		301			736			1560				1161
Travel Time (s)		8.2			20.1			23.6				17.6
Confl. Peds. (#/hr)	4					4			4		4	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	5	2	1	128	1	251	6	668	122	7	146	1224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	1	0	129	251	6	668	122	0	153	1234
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	D.P+P	D.P+P	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2	2	2	
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	4	4	4	4	4	4		0	4			0
Act Effct Green (s)		12.1	12.1		15.6	15.6	38.6	24.7	41.2		36.2	36.5
Actuated g/C Ratio		0.19	0.19		0.24	0.24	0.59	0.38	0.63		0.55	0.56

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	9
Future Volume (vph)	9
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	4%
Adj. Flow (vph)	10
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.02	0.00		0.32	0.47	0.02	0.53	0.13		0.31	0.66
Control Delay		32.7	0.0		31.3	8.5	10.2	19.0	1.3		10.8	15.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		32.7	0.0		31.3	8.5	10.2	19.0	1.3		10.8	15.7
LOS		C	A		C	A	B	B	A		B	B
Approach Delay		28.6			16.2			16.2				15.2
Approach LOS		C			B			B				B
Queue Length 50th (ft)		2	0		26	0	1	67	0		13	88
Queue Length 95th (ft)		18	0		164	66	9	270	13		101	540
Internal Link Dist (ft)		221			656			1480				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		1123	1024		1291	1183	774	3041	1358		1098	3082
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.01	0.00		0.10	0.21	0.01	0.22	0.09		0.14	0.40

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 65.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 57.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	113	100	267	103	441	1	31	360	107	388	781
Future Volume (vph)	26	113	100	267	103	441	1	31	360	107	388	781
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%				0%			0%
Storage Length (ft)	120		0	310		0		155		250	300	
Storage Lanes	1		0	1		1		1		1	1	
Taper Length (ft)	25			25				50			25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.97	1.00
Ped Bike Factor		0.99		0.99						0.98	0.99	
Frt		0.930				0.850				0.850		
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1678	1621	0	1711	1801	1531	0	1631	3261	1459	3255	1766
Flt Permitted	0.950			0.950				0.078			0.950	
Satd. Flow (perm)	1678	1621	0	1701	1801	1531	0	134	3261	1429	3230	1766
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		23				393				130		
Link Speed (mph)		35			35				35			35
Link Distance (ft)		839			566				403			584
Travel Time (s)		16.3			11.0				7.9			11.4
Confl. Peds. (#/hr)			3	3						5	5	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	7%	7%	7%	7%	4%	4%
Adj. Flow (vph)	29	126	111	297	114	490	1	34	400	119	431	868
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	237	0	297	114	490	0	35	400	119	431	868
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	D.P+P	NA	Perm	Prot	NA
Protected Phases	3	8		7	4	1	5	5	2		1	6
Permitted Phases						4	6	6		2		
Detector Phase	3	8		7	4	1	5	5	2	2	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	11.0	38.0	38.0	11.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	36.0	56.0	56.0	31.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	21.4%	33.3%	33.3%	18.4%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	30.0	50.0	50.0	25.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6		0.0	-3.0	-3.0	-2.6	-3.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4		6.0	3.0	3.0	3.4	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0							10.0	10.0		4.0
Flash Dont Walk (s)		25.0							22.0	22.0		16.0
Pedestrian Calls (#/hr)		3							5	5		0
Act Effct Green (s)	6.3	21.2		28.1	45.5	74.2		55.6	36.9	36.9	22.9	54.3

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	21
Future Volume (vph)	21
Ideal Flow (vphpl)	1900
Grade (%)	
Storage Length (ft)	125
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1501
Flt Permitted	
Satd. Flow (perm)	1501
Right Turn on Red	Yes
Satd. Flow (RTOR)	130
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	4%
Adj. Flow (vph)	23
Shared Lane Traffic (%)	
Lane Group Flow (vph)	23
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Detector Phase	6
Switch Phase	
Minimum Initial (s)	10.0
Minimum Split (s)	26.0
Total Split (s)	56.0
Total Split (%)	33.3%
Maximum Green (s)	50.0
Yellow Time (s)	5.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	6.0
Lead/Lag	Lag
Lead-Lag Optimize?	
Vehicle Extension (s)	1.0
Recall Mode	None
Walk Time (s)	4.0
Flash Dont Walk (s)	16.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	51.2

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.05	0.17		0.23	0.37	0.60		0.45	0.30	0.30	0.18	0.44
v/c Ratio	0.35	0.81		0.77	0.17	0.46		0.28	0.41	0.23	0.72	1.13
Control Delay	74.3	66.7		60.6	29.0	4.2		26.8	40.3	6.8	57.1	109.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	74.3	66.7		60.6	29.0	4.2		26.8	40.3	6.8	57.1	109.1
LOS	E	E		E	C	A		C	D	A	E	F
Approach Delay		67.5			25.9				32.3			90.2
Approach LOS		E			C				C			F
Queue Length 50th (ft)	24	171		229	66	35		15	140	0	172	~850
Queue Length 95th (ft)	63	288		368	116	94		43	233	44	263	#1355
Internal Link Dist (ft)		759			486				323			504
Turn Bay Length (ft)	120			310				155		250	300	
Base Capacity (vph)	275	421		528	713	1119		433	1554	749	738	769
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.11	0.56		0.56	0.16	0.44		0.08	0.26	0.16	0.58	1.13

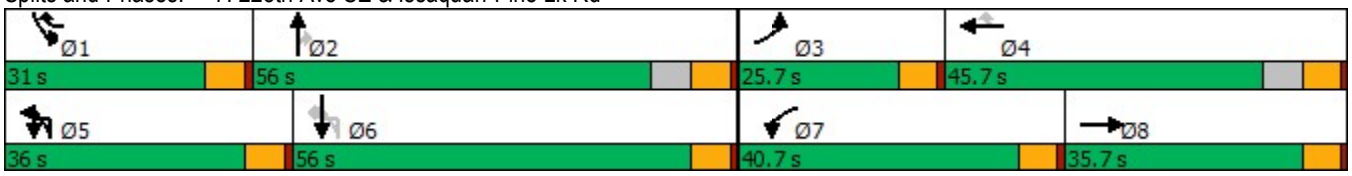
Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 124.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 58.6 Intersection LOS: E
Intersection Capacity Utilization 90.1% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



Lane Group	SBR
Actuated g/C Ratio	0.41
v/c Ratio	0.03
Control Delay	0.1
Queue Delay	0.0
Total Delay	0.1
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	0
Internal Link Dist (ft)	
Turn Bay Length (ft)	125
Base Capacity (vph)	693
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.03

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	137	32	532	43	7	1215
Future Volume (vph)	137	32	532	43	7	1215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975		0.990			
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1624	0	1748	0	1711	1801
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1624	0	1748	0	1711	1801
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.60	0.60	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	4%	4%	2%	2%
Adj. Flow (vph)	228	53	591	48	8	1350
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	0	639	0	8	1350
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 80.2% ICU Level of Service D
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	159.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	137	32	532	43	7	1215
Future Vol, veh/h	137	32	532	43	7	1215
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	60	60	90	90	90	90
Heavy Vehicles, %	6	6	4	4	2	2
Mvmt Flow	228	53	591	48	8	1350

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1981	615	0	0	639	0
Stage 1	615	-	-	-	-	-
Stage 2	1366	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.12	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.218	-
Pot Cap-1 Maneuver	~ 66	484	-	-	945	-
Stage 1	532	-	-	-	-	-
Stage 2	232	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 65	484	-	-	945	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	230	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	1286.8	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	78	945	-
HCM Lane V/C Ratio	-	-	3.611	0.008	-
HCM Control Delay (s)	-	-	$ 1286.8	8.8	-
HCM Lane LOS	-	-	F	A	-
HCM 95th %tile Q(veh)	-	-	29.1	0	-

Notes

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

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	1	71	27	1	44	108	693	12	10	468	124
Future Volume (vph)	137	1	71	27	1	44	108	693	12	10	468	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.82		0.85	0.99		1.00	1.00		1.00	0.99	
Frt		0.852			0.853			0.997			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1281	0	1745	1546	0	1694	3376	0	1601	3084	0
Flt Permitted	0.719			0.697			0.257			0.233		
Satd. Flow (perm)	1321	1281	0	1084	1546	0	457	3376	0	392	3084	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92			57			2			33	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			545	
Travel Time (s)		5.5			10.3			5.6			10.6	
Confl. Peds. (#/hr)			134	134			5		6	6		5
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	178	1	92	35	1	57	140	900	16	13	608	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	93	0	35	58	0	140	916	0	13	769	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

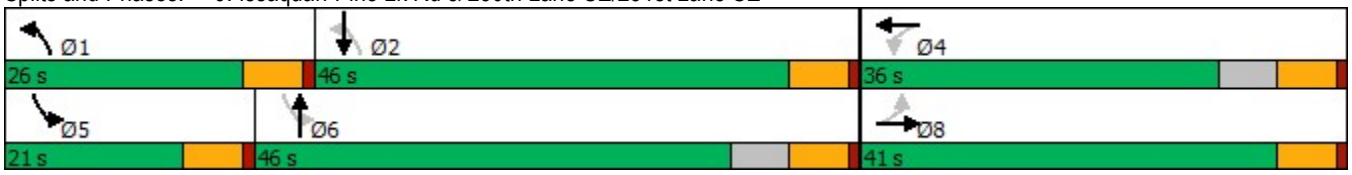
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	134	134		0	0			6			5	
Act Effct Green (s)	21.6	21.6		22.6	21.6		32.3	37.7		38.8	25.4	
Actuated g/C Ratio	0.30	0.30		0.31	0.30		0.44	0.52		0.53	0.35	
v/c Ratio	0.46	0.21		0.10	0.12		0.41	0.52		0.04	0.70	
Control Delay	26.0	6.7		20.3	7.2		14.1	14.5		8.7	24.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.0	6.7		20.3	7.2		14.1	14.5		8.7	24.3	
LOS	C	A		C	A		B	B		A	C	
Approach Delay		19.4			12.1			14.4			24.0	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	63	0		11	0		34	142		3	160	
Queue Length 95th (ft)	116	23		31	19		52	204		9	183	
Internal Link Dist (ft)		204			449			210			465	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	664	689		560	805		598	2232		491	1830	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.13		0.06	0.07		0.23	0.41		0.03	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 72.7
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 60.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



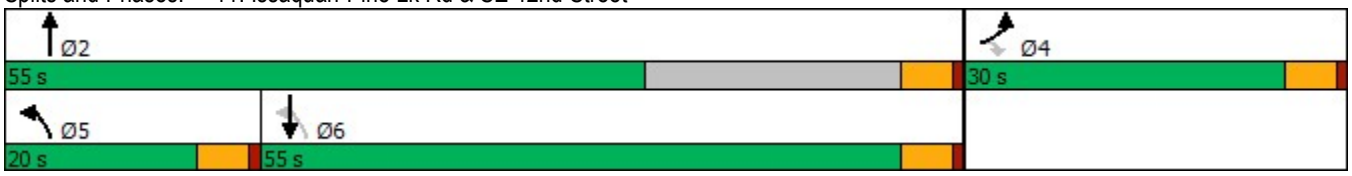
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	82	69	618	698	10
Future Volume (vph)	13	82	69	618	698	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1711	1531	1728	1818	1780	0
Flt Permitted	0.950		0.237			
Satd. Flow (perm)	1711	1531	431	1818	1780	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		90			1	
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	1%	1%	3%	3%
Adj. Flow (vph)	14	90	76	679	767	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	90	76	679	778	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	0	0				
Act Effct Green (s)	9.2	9.2	41.4	46.5	39.3	
Actuated g/C Ratio	0.16	0.16	0.72	0.81	0.68	
v/c Ratio	0.05	0.28	0.16	0.46	0.64	
Control Delay	29.5	10.5	2.9	4.0	11.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	29.5	10.5	2.9	4.0	11.7	
LOS	C	B	A	A	B	
Approach Delay	13.0			3.9	11.7	
Approach LOS	B			A	B	
Queue Length 50th (ft)	5	0	5	69	184	
Queue Length 95th (ft)	23	40	15	143	352	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	883	834	792	1775	1460	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.11	0.10	0.38	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 57.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 55.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	23	340	4	99	1	574	67	22	754	4
Future Volume (vph)	15	1	23	340	4	99	1	574	67	22	754	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		200	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.98	0.97				0.98		1.00	
Frt		0.920			0.855				0.850		0.999	
Flt Protected		0.981		0.950			0.950			0.950		
Satd. Flow (prot)	0	1575	0	1728	1508	0	1694	1783	1516	1745	1835	0
Flt Permitted		0.905		0.757			0.093			0.200		
Satd. Flow (perm)	0	1448	0	1356	1508	0	166	1783	1482	367	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			111				61			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			371			920	
Travel Time (s)		11.4			12.0			7.2			17.9	
Confl. Peds. (#/hr)	3		5	5		3	2		1	1		2
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	17	1	26	382	4	111	1	645	75	25	847	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	382	115	0	1	645	75	25	851	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	5	5		3	3			1	1		2	
Act Effct Green (s)		38.9		38.9	38.9		65.6	54.1	54.1	61.4	58.8	
Actuated g/C Ratio		0.37		0.37	0.37		0.62	0.51	0.51	0.58	0.55	

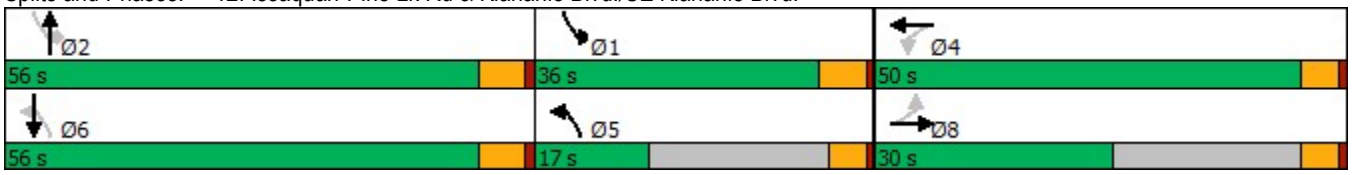
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.08		0.77	0.18		0.00	0.71	0.10	0.07	0.84	
Control Delay		12.6		41.6	5.5		12.0	29.0	7.0	13.2	31.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		12.6		41.6	5.5		12.0	29.0	7.0	13.2	31.2	
LOS		B		D	A		B	C	A	B	C	
Approach Delay		12.6			33.3			26.6			30.7	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)		8		244	2		0	397	6	8	481	
Queue Length 95th (ft)		32		361	38		3	577	33	21	#932	
Internal Link Dist (ft)		338			360			291			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		668		612	742		639	908	785	728	1016	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.07		0.62	0.15		0.00	0.71	0.10	0.03	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 106.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 72.1% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	1	9	125	1	26	1	644	26	17	1189	37
Future Volume (vph)	44	1	9	125	1	26	1	644	26	17	1189	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		200	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97		0.99							
Frt			0.850			0.850		0.994			0.995	
Flt Protected		0.953			0.953		0.950			0.950		
Satd. Flow (prot)	0	1750	1561	0	1750	1561	1694	1772	0	1711	1792	0
Flt Permitted		0.519			0.691		0.042			0.299		
Satd. Flow (perm)	0	953	1518	0	1253	1561	75	1772	0	538	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			23		3			2	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1458	
Travel Time (s)		8.8			7.1			14.1			28.4	
Confl. Peds. (#/hr)			4	4								
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	49	1	10	139	1	29	1	716	29	19	1321	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	10	0	140	29	1	745	0	19	1362	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		17.5	22.3		18.6	28.7	96.5	92.1		95.7	94.3	
Actuated g/C Ratio		0.14	0.18		0.15	0.23	0.77	0.74		0.77	0.76	
v/c Ratio		0.38	0.03		0.75	0.08	0.01	0.57		0.04	1.01	

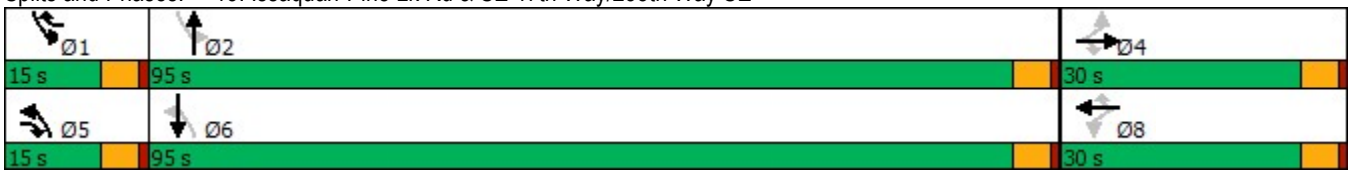
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		55.4	11.1		74.7	17.3	4.0	11.1		4.1	43.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		55.4	11.1		74.7	17.3	4.0	11.1		4.1	43.3	
LOS		E	B		E	B	A	B		A	D	
Approach Delay		48.0			64.9			11.1			42.7	
Approach LOS		D			E			B			D	
Queue Length 50th (ft)		34	0		102	3	0	270		3	801	
Queue Length 95th (ft)		79	11		188	30	2	463		10	#1653	
Internal Link Dist (ft)		243			181			645			1378	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		199	348		262	438	202	1340		526	1355	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.25	0.03		0.53	0.07	0.00	0.56		0.04	1.01	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 124.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 34.4 Intersection LOS: C
Intersection Capacity Utilization 86.0% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	123	153	43	507	1285	61
Future Volume (vph)	123	153	43	507	1285	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1728	1546	1678	1766	1790	0
Flt Permitted	0.950		0.043			
Satd. Flow (perm)	1728	1546	76	1766	1790	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		51			3	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	2%	2%
Adj. Flow (vph)	140	174	49	576	1460	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	174	49	576	1529	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	16.9	27.5	98.7	100.7	92.1	
Actuated g/C Ratio	0.13	0.22	0.79	0.80	0.73	
v/c Ratio	0.61	0.46	0.34	0.41	1.16	
Control Delay	62.7	33.6	14.8	4.9	102.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	62.7	33.6	14.8	4.9	102.6	
LOS	E	C	B	A	F	
Approach Delay	46.6			5.7	102.6	
Approach LOS	D			A	F	
Queue Length 50th (ft)	108	86	6	115	~1478	
Queue Length 95th (ft)	176	152	31	181	#1809	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	289	545	329	1618	1313	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.32	0.15	0.36	1.16	

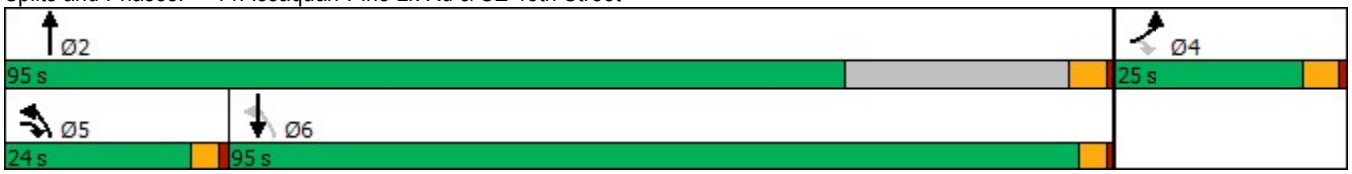
Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 125.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 70.9 Intersection LOS: E
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	24	45	128	30	175	46	152	130	86	170	1
Future Volume (vph)	12	24	45	128	30	175	46	152	130	86	170	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.902			0.872			0.931			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1624	0	1728	1586	0	1694	1660	0	1728	1817	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1711	1624	0	1728	1586	0	1694	1660	0	1728	1817	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Adj. Flow (vph)	18	36	67	173	41	236	60	197	169	101	200	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	103	0	173	277	0	60	366	0	101	201	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.5% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	24	45	128	30	175	46	152	130	86	170	1
Future Vol, veh/h	12	24	45	128	30	175	46	152	130	86	170	1
Peak Hour Factor	0.67	0.67	0.67	0.74	0.74	0.74	0.77	0.77	0.77	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	1	1	1	3	3	3	1	1	1
Mvmt Flow	18	36	67	173	41	236	60	197	169	101	200	1
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.9	15.2	20.7	13.9
HCM LOS	B	C	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	54%	0%	35%	0%	15%	0%	99%
Vol Right, %	0%	46%	0%	65%	0%	85%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	282	12	69	128	205	86	171
LT Vol	46	0	12	0	128	0	86	0
Through Vol	0	152	0	24	0	30	0	170
RT Vol	0	130	0	45	0	175	0	1
Lane Flow Rate	60	366	18	103	173	277	101	201
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.124	0.676	0.041	0.21	0.365	0.498	0.215	0.4
Departure Headway (Hd)	7.487	6.648	8.311	7.325	7.591	6.469	7.666	7.15
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	479	542	431	489	474	557	468	503
Service Time	5.228	4.388	6.063	5.077	5.33	4.208	5.412	4.896
HCM Lane V/C Ratio	0.125	0.675	0.042	0.211	0.365	0.497	0.216	0.4
HCM Control Delay	11.3	22.2	11.4	12	14.7	15.5	12.5	14.6
HCM Lane LOS	B	C	B	B	B	C	B	B
HCM 95th-tile Q	0.4	5.1	0.1	0.8	1.7	2.8	0.8	1.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	13	381	15	16	610
Future Volume (vph)	40	13	381	15	16	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1724	0	1711	1801
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1724	0	1711	1801
Link Speed (mph)	35		40			40
Link Distance (ft)	396		1034			334
Travel Time (s)	7.7		17.6			5.7
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.79	0.79	0.76	0.76	0.86	0.86
Heavy Vehicles (%)	2%	2%	6%	6%	2%	2%
Adj. Flow (vph)	51	16	501	20	19	709
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	16	521	0	19	709
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.1% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	13	381	15	16	610
Future Vol, veh/h	40	13	381	15	16	610
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	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	79	79	76	76	86	86
Heavy Vehicles, %	2	2	6	6	2	2
Mvmt Flow	51	16	501	20	19	709

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1258	511	0	0	521	0
Stage 1	511	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	189	563	-	-	1045	-
Stage 1	602	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	563	-	-	1045	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	321	563	1045	-
HCM Lane V/C Ratio	-	-	0.158	0.029	0.018	-
HCM Control Delay (s)	-	-	18.3	11.6	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	0.1	-

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	730	397	87	378	9
Future Volume (vph)	9	730	397	87	378	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			90	0	150
Storage Lanes	0			1	1	0
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.98		
Frt				0.850	0.997	
Flt Protected		0.999			0.953	
Satd. Flow (prot)	0	1817	1766	1501	1728	0
Flt Permitted		0.995			0.953	
Satd. Flow (perm)	0	1809	1766	1469	1728	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)					2	
Link Speed (mph)		35	35		30	
Link Distance (ft)		684	1036		414	
Travel Time (s)		13.3	20.2		9.4	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	4%	4%	1%	1%
Adj. Flow (vph)	10	793	432	95	411	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	803	432	95	421	0
Turn Type	Perm	NA	NA	pm+ov	Prot	
Protected Phases		2	6	8	8	
Permitted Phases	2			6		
Detector Phase	2	2	6	8	8	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0	22.0	21.0	21.0	
Total Split (s)	50.0	50.0	50.0	35.0	35.0	
Total Split (%)	58.8%	58.8%	58.8%	41.2%	41.2%	
Maximum Green (s)	45.0	45.0	45.0	30.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.5	-2.5	-2.5	-2.5	
Total Lost Time (s)		2.5	2.5	2.5	2.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Recall Mode	Min	Min	Min	None	None	
Walk Time (s)			7.0	5.0	5.0	
Flash Dont Walk (s)			10.0	11.0	11.0	
Pedestrian Calls (#/hr)			1	0	0	
Act Effct Green (s)		35.3	35.3	58.5	23.2	
Actuated g/C Ratio		0.55	0.55	0.91	0.36	
v/c Ratio		0.81	0.44	0.07	0.67	

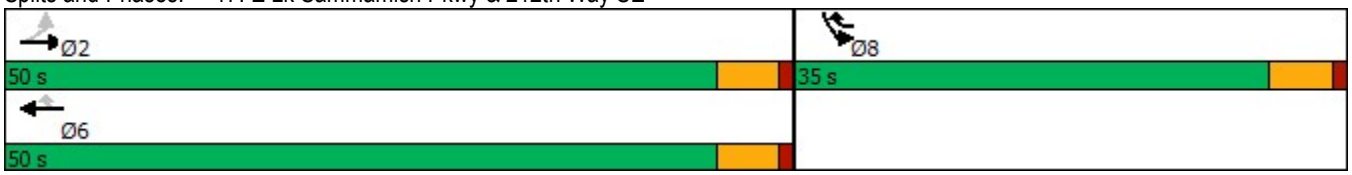
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay		20.2	10.9	0.2	25.0	
Queue Delay		0.0	0.0	0.0	0.0	
Total Delay		20.2	10.9	0.2	25.0	
LOS		C	B	A	C	
Approach Delay		20.2	9.0		25.0	
Approach LOS		C	A		C	
Queue Length 50th (ft)		226	90	0	134	
Queue Length 95th (ft)		485	194	0	279	
Internal Link Dist (ft)		604	956		334	
Turn Bay Length (ft)				90		
Base Capacity (vph)		1377	1344	1415	962	
Starvation Cap Reductn		0	0	0	0	
Spillback Cap Reductn		0	0	0	0	
Storage Cap Reductn		0	0	0	0	
Reduced v/c Ratio		0.58	0.32	0.07	0.44	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 64
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 18.0 Intersection LOS: B
Intersection Capacity Utilization 73.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 17: E Lk Sammamish Pkwy & 212th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	966	6	18	1241	0	11	1	13	30	1	29
Future Volume (vph)	15	966	6	18	1241	0	11	1	13	30	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96				1.00				0.98	
Frt			0.850					0.860			0.855	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	3323	1487	1728	3455	0	1745	1688	0	1745	1652	0
Flt Permitted	0.144			0.233			0.950			0.950		
Satd. Flow (perm)	252	3323	1432	424	3455	0	1737	1688	0	1745	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					14			31	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1241			169			195			237	
Travel Time (s)		21.2			2.9			6.6			8.1	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			5			10						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	1039	6	19	1334	0	12	1	14	32	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1039	6	19	1334	0	12	15	0	32	32	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		0	0		0						0	
Act Effct Green (s)	35.5	37.8	37.8	35.5	37.8		5.2	5.3		5.2	5.3	

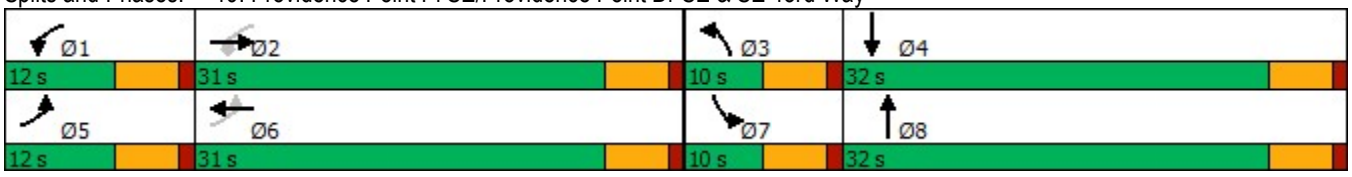
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.76	0.81	0.81	0.76	0.81		0.11	0.11		0.11	0.11	
v/c Ratio	0.04	0.39	0.01	0.04	0.48		0.06	0.07		0.17	0.15	
Control Delay	4.1	6.4	0.0	4.1	8.3		22.6	14.1		23.6	12.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.1	6.4	0.0	4.1	8.3		22.6	14.1		23.6	12.2	
LOS	A	A	A	A	A		C	B		C	B	
Approach Delay		6.4			8.3			17.9			17.9	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)	1	0	0	1	0		2	0		6	0	
Queue Length 95th (ft)	9	248	0	10	#398		19	16		36	23	
Internal Link Dist (ft)		1161			89			115			157	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	409	2684	1186	523	2791		192	1013		192	998	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.39	0.01	0.04	0.48		0.06	0.01		0.17	0.03	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 46.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 7.8 Intersection LOS: A
Intersection Capacity Utilization 53.1% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	32	143	106	58	16	334	1376	186	11	1131	255
Future Volume (vph)	180	32	143	106	58	16	334	1376	186	11	1131	255
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98		1.00		1.00					0.97
Frt			0.850		0.968			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1630	1716	1458	1646	1672	0	1630	3201	0	1599	3197	1383
Flt Permitted	0.582			0.735			0.950			0.950		
Satd. Flow (perm)	997	1716	1435	1274	1672	0	1628	3201	0	1599	3197	1344
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					9			17				
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	1		2			1	2					2
Confl. Bikes (#/hr)			1									2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Adj. Flow (vph)	194	34	154	114	62	17	359	1480	200	12	1216	274
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	34	154	114	79	0	359	1680	0	12	1216	840
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	27.0	27.0
Total Split (s)	15.0	30.0	30.0	15.0	30.0		36.0	72.0		13.0	49.0	49.0
Total Split (%)	11.5%	23.1%	23.1%	11.5%	23.1%		27.7%	55.4%		10.0%	37.7%	37.7%
Maximum Green (s)	10.0	25.0	25.0	10.0	25.0		31.0	67.0		8.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		2	2		1			0			2	2
Act Effct Green (s)	28.5	18.0	18.0	25.4	17.3		31.9	82.8		5.7	50.5	51.5

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	526
Future Volume (vph)	526
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	No
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.93
Heavy Vehicles (%)	4%
Adj. Flow (vph)	566
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

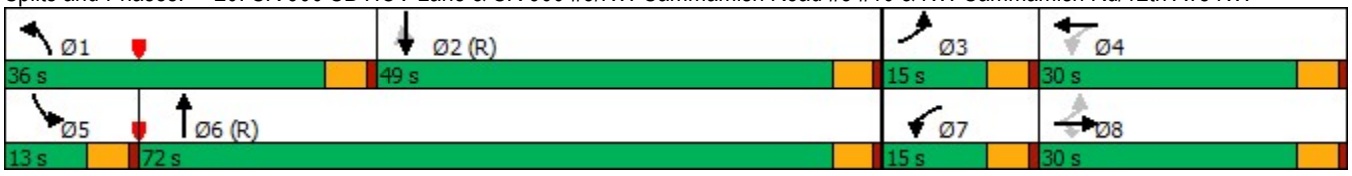
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.22	0.14	0.14	0.20	0.13		0.25	0.64		0.04	0.39	0.40
v/c Ratio	0.69	0.14	0.78	0.41	0.34		0.90	0.82		0.17	0.98	1.58
Control Delay	55.8	47.9	78.3	43.7	47.1		72.9	24.5		51.6	53.2	293.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	8.9		0.0	0.0	0.0
Total Delay	55.8	47.9	78.3	43.7	47.1		72.9	33.4		51.6	53.2	293.0
LOS	E	D	E	D	D		E	C		D	D	F
Approach Delay		64.2			45.1			40.3			150.6	
Approach LOS		E			D			D			F	
Queue Length 50th (ft)	139	26	127	77	54		283	475		11	~590	~1044
Queue Length 95th (ft)	201	55	193	122	98		#484	#913		m13	#757	#1317
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	280	330	275	282	328		411	2044		98	1242	532
Starvation Cap Reductn	0	0	0	0	0		0	349		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.69	0.10	0.56	0.40	0.24		0.87	0.99		0.12	0.98	1.58

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.58
Intersection Signal Delay: 91.2 Intersection LOS: F
Intersection Capacity Utilization 91.2% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	719	64	137	1	186	78	503	496	5	38	481	1011
Future Volume (vph)	719	64	137	1	186	78	503	496	5	38	481	1011
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	175		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00	0.99		1.00	1.00		1.00		0.99
Frt			0.850		0.956			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3027	1642	1385	1630	1630	0	3057	3147	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3002	1642	1362	1625	1630	0	3050	3147	0	1587	3182	1403
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		15			1				211
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	6		2	2		6	2		2	2		2
Confl. Bikes (#/hr)			4			3			1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	749	67	143	1	194	81	524	517	5	40	501	1053
Shared Lane Traffic (%)												
Lane Group Flow (vph)	749	67	143	1	275	0	524	522	0	40	501	1053
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	13.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	23.0	48.0	35.0	13.0	38.0		35.0	55.0		14.0	34.0	23.0
Total Split (%)	17.7%	36.9%	26.9%	10.0%	29.2%		26.9%	42.3%		10.8%	26.2%	17.7%
Maximum Green (s)	18.0	43.0	30.0	8.0	33.0		30.0	50.0		9.0	29.0	18.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	Max	None	C-Max	None	None		C-Max	C-Max		None	None	Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		2			6			2			2	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	28.3	45.7	73.7	5.0	25.7		30.0	50.7		7.3	26.1	54.3
Actuated g/C Ratio	0.22	0.35	0.57	0.04	0.20		0.23	0.39		0.06	0.20	0.42
v/c Ratio	1.14	0.12	0.17	0.02	0.83		0.74	0.43		0.45	0.79	1.48
Control Delay	113.9	26.0	1.0	61.0	66.7		48.4	16.6		83.4	67.7	243.4
Queue Delay	0.0	0.0	0.0	0.0	6.5		2.0	0.0		0.0	0.0	3.3
Total Delay	113.9	26.0	1.0	61.0	73.2		50.4	16.6		83.4	67.7	246.7
LOS	F	C	A	E	E		D	B		F	E	F
Approach Delay		91.0			73.2			33.6			186.3	
Approach LOS		F			E			C			F	
Queue Length 50th (ft)	~380	21	0	1	212		152	90		32	217	~1168
Queue Length 95th (ft)	#600	53	1	8	297		m247	m138		m41	m264	m#1464
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	175		215	150			400			230		800
Base Capacity (vph)	658	660	838	100	424		705	1228		110	709	713
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	103		79	0		0	0	253
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.14	0.10	0.17	0.01	0.86		0.84	0.43		0.36	0.71	2.29

Intersection Summary

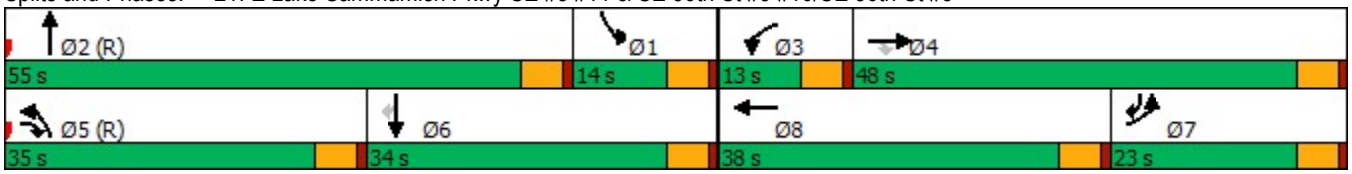
Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 125 (96%), Referenced to phase 2:NBT and 5:NBL, Start of 1st Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.48
Intersection Signal Delay: 113.4 Intersection LOS: F
Intersection Capacity Utilization 114.2% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	105	5	427	776	83	2	252	257	132	597	571
Future Volume (vph)	145	105	5	427	776	83	2	252	257	132	597	571
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00				1.00							0.99
Frt		0.994			0.986				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2470	2958	0	3118	3164	0	1502	1897	1344	1576	3151	1410
Flt Permitted	0.950			0.950			0.392			0.350		
Satd. Flow (perm)	2468	2958	0	3118	3164	0	620	1897	1344	580	3151	1392
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6				271			334
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			707			402	
Travel Time (s)		14.0			39.6			13.8			7.8	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)						2						1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	7%	7%	7%	2%	2%	2%
Adj. Flow (vph)	153	111	5	449	817	87	2	265	271	139	628	601
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	116	0	449	904	0	2	265	271	139	628	601
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			1			0	0		0	0
Act Effct Green (s)	12.8	38.1		23.4	48.7		38.3	33.2	33.2	50.8	49.1	49.1

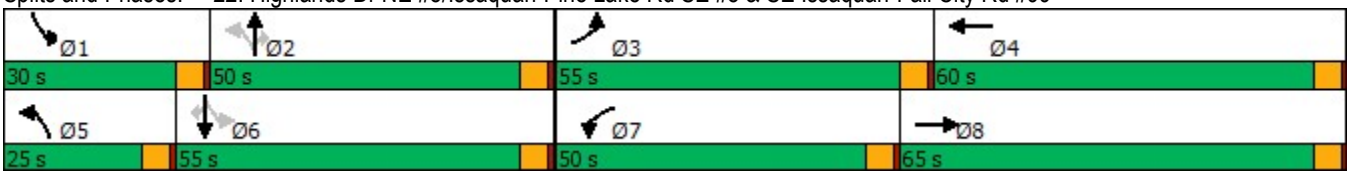
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.30		0.18	0.38		0.30	0.26	0.26	0.40	0.39	0.39
v/c Ratio	0.62	0.13		0.78	0.75		0.01	0.54	0.49	0.42	0.52	0.81
Control Delay	67.5	34.5		60.7	39.2		26.5	46.9	8.0	30.6	33.3	25.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	34.5		60.7	39.2		26.5	46.9	8.0	30.6	33.3	25.7
LOS	E	C		E	D		C	D	A	C	C	C
Approach Delay		53.3			46.3			27.3			29.7	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	71	35		179	328		1	152	0	72	194	197
Queue Length 95th (ft)	130	71		268	485		7	266	78	140	330	#523
Internal Link Dist (ft)		742			2244			627			322	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	977	1406		1110	1380		384	675	653	428	1247	752
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08		0.40	0.66		0.01	0.39	0.42	0.32	0.50	0.80

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 127.4
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 37.5 Intersection LOS: D
Intersection Capacity Utilization 81.2% ICU Level of Service D
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	16	42	833	37	154	80	875	369	58	343	48
Future Volume (vph)	27	16	42	833	37	154	80	875	369	58	343	48
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor						0.99			0.99			
Frt			0.850			0.850			0.850		0.981	
Flt Protected		0.969		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1639	1438	1580	1590	1488	1576	3151	1410	1591	3122	0
Flt Permitted		0.969		0.950	0.956		0.425			0.115		
Satd. Flow (perm)	0	1639	1438	1580	1590	1469	705	3151	1392	193	3122	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			144			378		11	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	29	17	45	896	40	166	86	941	397	62	369	52
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	46	45	466	470	166	86	941	397	62	421	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	13.0	13.0	15.0	27.3	27.3	14.0	15.0	23.3		14.0	27.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0		14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%		10.8%	28.5%	
Maximum Green (s)	9.0	9.0	17.0	51.7	51.7	9.0	17.0	39.7		9.0	31.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		8.0	19.3	51.4	51.4	59.3	52.4	44.6	130.0	52.4	43.1	
Actuated g/C Ratio		0.06	0.15	0.40	0.40	0.46	0.40	0.34	1.00	0.40	0.33	

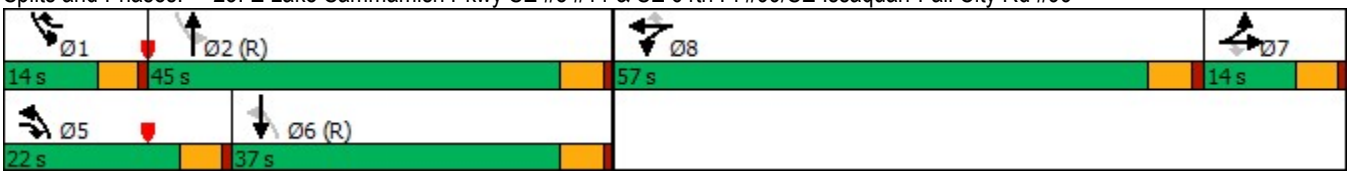
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.46	0.17	0.75	0.75	0.22	0.25	0.87	0.29	0.40	0.40	
Control Delay		73.5	6.2	42.6	42.6	3.4	35.0	57.1	0.3	28.9	32.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		73.5	6.2	42.6	42.6	3.4	35.0	57.1	0.3	28.9	32.5	
LOS		E	A	D	D	A	D	E	A	C	C	
Approach Delay		40.2			36.7			40.0			32.1	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)		38	0	350	353	7	59	363	0	31	147	
Queue Length 95th (ft)		81	20	496	501	35	m89	#555	0	m55	183	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		113	355	624	628	767	424	1079	1392	177	1041	
Starvation Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.41	0.13	0.75	0.75	0.22	0.20	0.87	0.29	0.35	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 37.6 Intersection LOS: D
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	297	457	311	218	124	260	489	130	374	791	71
Future Volume (vph)	225	297	457	311	218	124	260	489	130	374	791	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.91			0.93		0.97			1.00	
Frt			0.850			0.850		0.968			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3256	0	1710	3363	0
Flt Permitted	0.348			0.085			0.053			0.160		
Satd. Flow (perm)	639	1837	1420	156	1837	1444	96	3256	0	288	3363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			124		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	296	391	601	409	287	163	342	643	171	492	1041	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	296	391	601	409	287	163	342	814	0	492	1134	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4	6			2		
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	89.1	47.1	84.1	89.1	64.1	100.7	112.5	75.7		112.5	75.7	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.42	0.22	0.39	0.42	0.30	0.47	0.53	0.35		0.53	0.35	
v/c Ratio	0.74	0.97	0.95	1.08	0.52	0.21	1.03	0.70		1.24	0.95	
Control Delay	56.2	117.5	58.4	133.2	67.6	9.7	132.9	61.3		167.6	82.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	56.2	117.5	58.4	133.2	67.6	9.7	132.9	61.3		167.6	82.7	
LOS	E	F	E	F	E	A	F	E		F	F	
Approach Delay		75.8			87.9			82.4			108.4	
Approach LOS		E			F			F			F	
Queue Length 50th (ft)	294	565	455	~610	350	30	~471	511		~713	820	
Queue Length 95th (ft)	322	#603	446	#640	384	52	#516	468		#704	713	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	409	404	634	377	551	766	333	1266		397	1300	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.72	0.97	0.95	1.08	0.52	0.21	1.03	0.64		1.24	0.87	

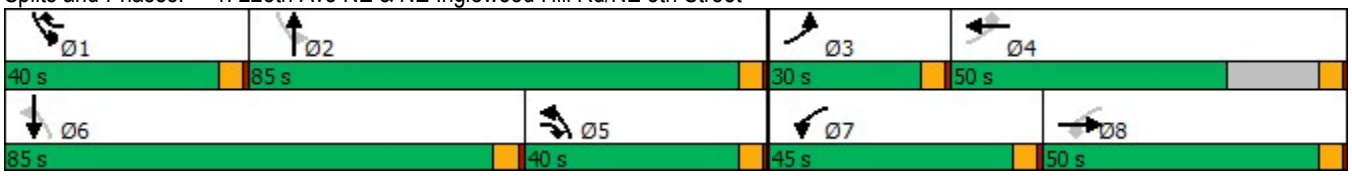
Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 213.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 90.2 Intersection LOS: F
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	16	4	18	693	22	314	10	11	878	66	6	119
Future Volume (vph)	16	4	18	693	22	314	10	11	878	66	6	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.936				0.850			0.989			
Flt Protected		0.980			0.954			0.950				0.950
Satd. Flow (prot)	0	1669	0	0	1735	1546	0	1728	3410	0	0	3351
Flt Permitted		0.489			0.722			0.080				0.950
Satd. Flow (perm)	0	833	0	0	1306	1496	0	145	3410	0	0	3329
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		21				161			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	18	5	21	797	25	361	11	13	1009	76	7	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	822	361	0	24	1085	0	0	144
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		37.6			37.6	36.6		56.7	37.1			15.3
Actuated g/C Ratio		0.38			0.38	0.37		0.58	0.38			0.16

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1234	5
Future Volume (vph)	1234	5
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1418	6
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1424	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	50.0	
Actuated g/C Ratio	0.51	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.13			1.64	0.55		0.12	0.84			0.28
Control Delay		16.9			324.5	18.7		13.0	35.1			38.0
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		16.9			324.5	18.7		13.0	35.1			38.0
LOS		B			F	B		B	D			D
Approach Delay		16.9			231.2				34.6			
Approach LOS		B			F				C			
Queue Length 50th (ft)		10			~812	103		6	334			42
Queue Length 95th (ft)		38			#1122	213		16	430			71
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		332			500	658		735	2191			1283
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.13			1.64	0.55		0.03	0.50			0.11

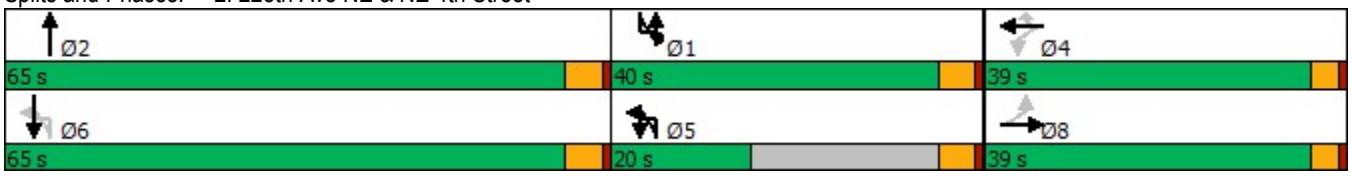
Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 98.2
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.64
Intersection Signal Delay: 90.5 Intersection LOS: F
Intersection Capacity Utilization 94.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 228th Ave NE & NE 4th Street



Lane Group	SBT	SBR
v/c Ratio	0.81	
Control Delay	24.8	
Queue Delay	0.0	
Total Delay	24.8	
LOS	C	
Approach Delay	26.0	
Approach LOS	C	
Queue Length 50th (ft)	407	
Queue Length 95th (ft)	469	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2215	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.64	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	148	2	200	47	10	21	5	97	793	12	71	30
Future Volume (vph)	148	2	200	47	10	21	5	97	793	12	71	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	300		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99	0.99					0.97		
Frt			0.850		0.897					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1806	1901	1616	1711	1600	0	0	1745	3490	1561	0	1728
Flt Permitted	0.734			0.757				0.076				0.234
Satd. Flow (perm)	1394	1901	1587	1355	1600	0	0	140	3490	1507	0	426
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			230		24					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	170	2	230	54	11	24	6	111	911	14	82	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	2	230	54	35	0	0	117	911	14	0	116
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0	-3.0	0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1467	197
Future Volume (vph)	1467	197
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.982	
Flt Protected		
Satd. Flow (prot)	3352	0
Flt Permitted		
Satd. Flow (perm)	3352	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	10	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.87	0.87
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1686	226
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1912	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						8	8		
Act Effct Green (s)	22.1	11.2	14.3	16.1	7.3			62.3	53.6	51.5		58.3
Actuated g/C Ratio	0.23	0.12	0.15	0.17	0.08			0.65	0.56	0.54		0.61
v/c Ratio	0.44	0.01	0.53	0.22	0.24			0.47	0.46	0.02		0.33
Control Delay	32.3	37.5	9.7	30.8	26.7			19.2	15.6	0.0		10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	32.3	37.5	9.7	30.8	26.7			19.2	15.6	0.0		10.7
LOS	C	D	A	C	C			B	B	A		B
Approach Delay		19.4			29.2				15.8			
Approach LOS		B			C				B			
Queue Length 50th (ft)	83	1	0	26	6			22	160	0		23
Queue Length 95th (ft)	141	8	55	56	36			86	317	0		65
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	300				190		170		380
Base Capacity (vph)	745	710	781	651	613			387	1962	868		770
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.23	0.00	0.29	0.08	0.06			0.30	0.46	0.02		0.15

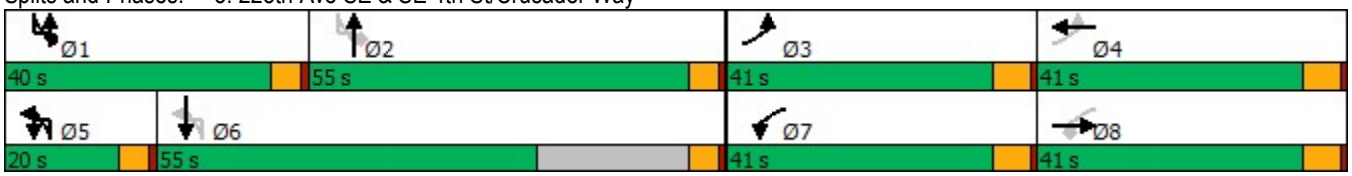
Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 95.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 35.3 Intersection LOS: D
Intersection Capacity Utilization 85.4% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	53.0	
Actuated g/C Ratio	0.56	
v/c Ratio	1.02	
Control Delay	51.1	
Queue Delay	0.0	
Total Delay	51.1	
LOS	D	
Approach Delay	48.8	
Approach LOS	D	
Queue Length 50th (ft)	~651	
Queue Length 95th (ft)	#1071	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2581	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.74	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	79	49	29	288	78	170	21	90	798	229	11	182
Future Volume (vph)	79	49	29	288	78	170	21	90	798	229	11	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			
Frt			0.850			0.850			0.967			
Flt Protected		0.970			0.962			0.950				0.950
Satd. Flow (prot)	0	1746	1530	0	1785	1577	0	1745	3336	0	0	1710
Flt Permitted		0.970			0.962			0.950				0.069
Satd. Flow (perm)	0	1746	1448	0	1737	1554	0	1743	3336	0	0	124
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			25			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	100	62	37	365	99	215	27	114	1010	290	14	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	162	37	0	464	215	0	141	1300	0	0	244
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		D.P+P	D.P+P
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4					2	2
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		21.5	19.5		42.2	42.2		17.0	58.3			82.1

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1341	130
Future Volume (vph)	1341	130
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.987	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.79	0.79
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1697	165
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1862	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	66.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.14	0.12		0.27	0.27		0.11	0.37			0.52
v/c Ratio		0.68	0.13		0.97	0.42		0.75	1.04			0.79
Control Delay		80.0	0.9		90.2	21.8		92.7	81.8			61.3
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		80.0	0.9		90.2	21.8		92.7	81.8			61.3
LOS		E	A		F	C		F	F			E
Approach Delay		65.3			68.5				82.9			
Approach LOS		E			E				F			
Queue Length 50th (ft)		161	0		492	68		146	~784			198
Queue Length 95th (ft)		221	0		#622	118		203	#782			251
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		260	306		480	515		201	1255			397
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.62	0.12		0.97	0.42		0.70	1.04			0.61

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 156.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.31
Intersection Signal Delay: 120.0 Intersection LOS: F
Intersection Capacity Utilization 91.6% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.42	
v/c Ratio	1.31	
Control Delay	181.1	
Queue Delay	0.0	
Total Delay	181.1	
LOS	F	
Approach Delay	167.2	
Approach LOS	F	
Queue Length 50th (ft)	~1346	
Queue Length 95th (ft)	#1197	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1578	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	1.18	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	68	7	299	30	1	15	28	146	1155	29	6	26
Future Volume (vph)	68	7	299	30	1	15	28	146	1155	29	6	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.853			0.858				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1545	0	1646	1487	0	0	1728	3437	0	0	1753
Flt Permitted	0.745			0.294				0.074				0.065
Satd. Flow (perm)	1368	1545	0	509	1487	0	0	135	3437	0	0	120
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					18				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	80	8	352	35	1	18	33	172	1359	34	7	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	360	0	35	19	0	0	205	1393	0	0	38
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	40.8	37.8		42.9	19.7			69.9	64.8			65.9

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1457	105
Future Volume (vph)	1457	105
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.990	
Flt Protected		
Satd. Flow (prot)	3463	0
Flt Permitted		
Satd. Flow (perm)	3463	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.85	0.85
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1714	124
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1838	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	53.5	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.33	0.30		0.34	0.16			0.56	0.52			0.53
v/c Ratio	0.15	0.77		0.16	0.08			0.71	0.78			0.29
Control Delay	26.9	53.5		30.6	16.3			43.5	30.3			19.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	26.9	53.5		30.6	16.3			43.5	30.3			19.6
LOS	C	D		C	B			D	C			B
Approach Delay		48.7			25.6				31.9			
Approach LOS		D			C				C			
Queue Length 50th (ft)	42	274		18	1			116	521			15
Queue Length 95th (ft)	76	384		41	20			186	571			30
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	687	497		683	491			367	1794			198
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.12	0.72		0.05	0.04			0.56	0.78			0.19

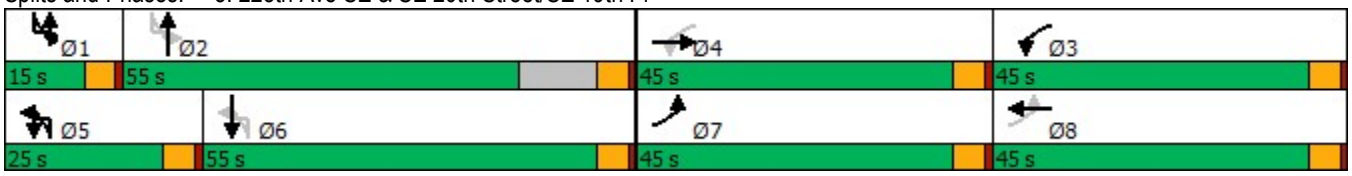
Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 125.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 87.1 Intersection LOS: F
Intersection Capacity Utilization 89.0% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.43	
v/c Ratio	1.24	
Control Delay	147.4	
Queue Delay	0.0	
Total Delay	147.4	
LOS	F	
Approach Delay	144.8	
Approach LOS	F	
Queue Length 50th (ft)	~1046	
Queue Length 95th (ft)	#1146	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1480	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	1.24	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	12	5	11	116	6	244	17	1179	136	5	447	1243
Future Volume (vph)	12	5	11	116	6	244	17	1179	136	5	447	1243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.966			0.955		0.950				0.950	
Satd. Flow (prot)	0	1774	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.966			0.955		0.123				0.950	
Satd. Flow (perm)	0	1772	1536	0	1747	1539	224	3455	1501	0	1725	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			287			147			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	14	6	13	136	7	287	20	1387	160	6	526	1462
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	13	0	143	287	20	1387	160	0	532	1493
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.9	11.9		17.3	17.3	106.0	71.5	89.5		33.5	100.5
Actuated g/C Ratio		0.09	0.09		0.12	0.12	0.77	0.52	0.65		0.24	0.73

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	26
Future Volume (vph)	26
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	31
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.13	0.06		0.66	0.65	0.08	0.78	0.16		1.27	0.60
Control Delay		62.5	0.5		74.1	13.6	7.9	33.2	1.6		182.5	14.6
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		62.5	0.5		74.1	13.6	7.9	33.2	1.6		182.5	14.6
LOS		E	A		E	B	A	C	A		F	B
Approach Delay		38.1			33.7			29.6				58.7
Approach LOS		D			C			C				E
Queue Length 50th (ft)		17	0		123	0	4	515	3		~599	354
Queue Length 95th (ft)		44	0		215	67	19	807	16		#1004	672
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		429	446		544	675	427	1851	1287		418	2498
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.05	0.03		0.26	0.43	0.05	0.75	0.12		1.27	0.60

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 138.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 91.7% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	108	28	233	126	354	65	767	221	669	538	4
Future Volume (vph)	113	108	28	233	126	354	65	767	221	669	538	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.969				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1720	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.174			0.950		
Satd. Flow (perm)	1694	1720	0	1724	1819	1546	316	3455	1525	3349	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				95			196			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	133	127	33	274	148	416	76	902	260	787	633	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	160	0	274	148	416	76	902	260	787	633	5
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	13.9	16.9		27.2	27.5	61.8	64.7	42.0	42.0	28.4	60.9	57.8
Actuated g/C Ratio	0.11	0.13		0.21	0.21	0.48	0.50	0.32	0.32	0.22	0.47	0.44

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.70		0.76	0.39	0.53	0.33	0.81	0.42	1.08	0.74	0.01
Control Delay	83.9	70.1		64.7	47.9	21.9	21.5	48.4	12.3	103.2	37.6	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.9	70.1		64.7	47.9	21.9	21.5	48.4	12.3	103.2	37.6	0.0
LOS	F	E		E	D	C	C	D	B	F	D	A
Approach Delay		76.4			40.5			39.2			73.7	
Approach LOS		E			D			D			E	
Queue Length 50th (ft)	107	123		211	106	181	29	357	37	~372	416	0
Queue Length 95th (ft)	206	213		359	180	309	72	518	112	#661	728	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	268	418		514	652	784	507	1586	806	732	851	740
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.38		0.53	0.23	0.53	0.15	0.57	0.32	1.08	0.74	0.01

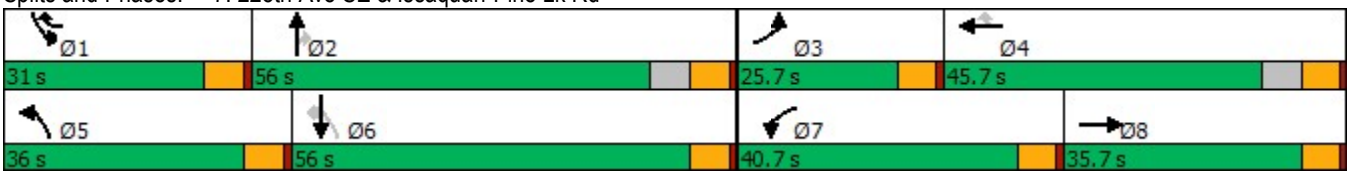
Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 130.1
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 55.3 Intersection LOS: E
Intersection Capacity Utilization 76.2% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	13	1027	107	13	770
Future Volume (vph)	57	13	1027	107	13	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975		0.987			
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1671	0	1795	0	1728	1818
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1671	0	1795	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.65	0.65	0.81	0.81	0.77	0.77
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	88	20	1268	132	17	1000
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	0	1400	0	17	1000
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 71.2% ICU Level of Service C
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	37.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	13	1027	107	13	770
Future Vol, veh/h	57	13	1027	107	13	770
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	65	81	81	77	77
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	88	20	1268	132	17	1000

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2368	1334	0	0	1400	0
Stage 1	1334	-	-	-	-	-
Stage 2	1034	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	~ 38	187	-	-	491	-
Stage 1	245	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 37	187	-	-	491	-
Mov Cap-2 Maneuver	~ 37	-	-	-	-	-
Stage 1	245	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 884.3	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	43	491	-
HCM Lane V/C Ratio	-	-	2.504	0.034	-
HCM Control Delay (s)	-	-	$ 884.3	12.6	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	11.6	0.1	-

Notes

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

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	13	21	1	26	10	645	27	55	944	7
Future Volume (vph)	10	1	13	21	1	26	10	645	27	55	944	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		1.00	1.00	
Frt		0.859			0.855			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1541	0	1745	1551	0	1711	3395	0	1728	3451	0
Flt Permitted	0.784			0.747			0.198			0.319		
Satd. Flow (perm)	1440	1541	0	1354	1551	0	356	3395	0	578	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			31			4			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	12	1	15	25	1	31	12	759	32	65	1111	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	16	0	25	32	0	12	791	0	65	1119	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

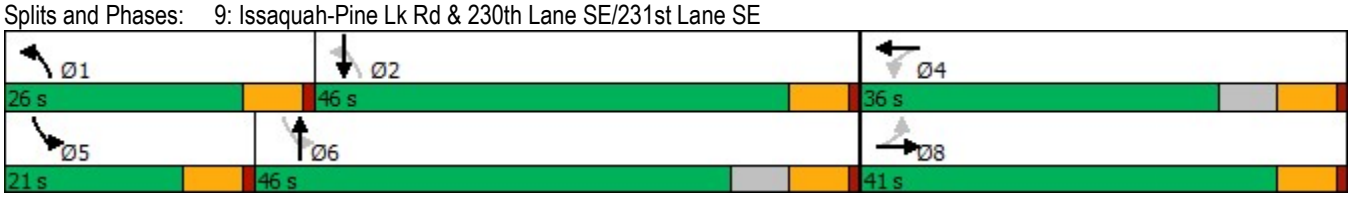
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	10.0	10.0		12.1	10.6		27.4	28.8		27.1	33.2	
Actuated g/C Ratio	0.22	0.22		0.27	0.24		0.61	0.65		0.61	0.74	
v/c Ratio	0.04	0.04		0.07	0.08		0.03	0.36		0.11	0.44	
Control Delay	20.9	11.9		20.5	9.7		6.3	11.1		5.8	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.9	11.9		20.5	9.7		6.3	11.1		5.8	8.3	
LOS	C	B		C	A		A	B		A	A	
Approach Delay		15.7			14.4			11.0			8.2	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	3	0		6	0		1	85		5	69	
Queue Length 95th (ft)	17	14		27	19		9	204		30	302	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1106	1187		1054	1198		1097	2999		1009	2867	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03		0.01	0.26		0.06	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 44.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 9.6 Intersection LOS: A
Intersection Capacity Utilization 56.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	58	55	639	756	1
Future Volume (vph)	8	58	55	639	756	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1818	0
Flt Permitted	0.950		0.193			
Satd. Flow (perm)	1745	1526	351	1818	1818	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		69				
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	10	69	65	761	900	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	69	65	761	901	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	9.8	9.8	55.9	60.1	52.3	
Actuated g/C Ratio	0.13	0.13	0.76	0.82	0.71	
v/c Ratio	0.04	0.26	0.17	0.51	0.70	

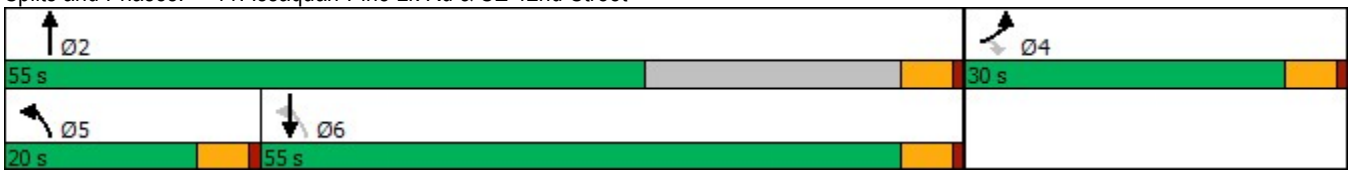
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	29.6	10.6	4.2	5.8	15.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.6	10.6	4.2	5.8	15.2	
LOS	C	B	A	A	B	
Approach Delay	13.0			5.7	15.2	
Approach LOS	B			A	B	
Queue Length 50th (ft)	4	0	4	81	235	
Queue Length 95th (ft)	16	28	23	293	#651	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	651	613	596	1655	1291	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.02	0.11	0.11	0.46	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 73.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 57.0% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	114	1	32	13	658	233	80	727	5
Future Volume (vph)	1	1	1	114	1	32	13	658	233	80	727	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.955			0.854				0.850		0.999	
Flt Protected		0.984		0.950			0.950			0.950		
Satd. Flow (prot)	0	1726	0	1711	1497	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.954		0.756			0.218			0.187		
Satd. Flow (perm)	0	1669	0	1361	1497	0	396	1818	1546	350	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			37				100			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1	1	1	133	1	37	15	765	271	93	845	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	133	38	0	15	765	271	93	851	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		17.0		17.0	17.0		68.1	53.9	53.9	64.5	64.5	
Actuated g/C Ratio		0.19		0.19	0.19		0.75	0.60	0.60	0.71	0.71	

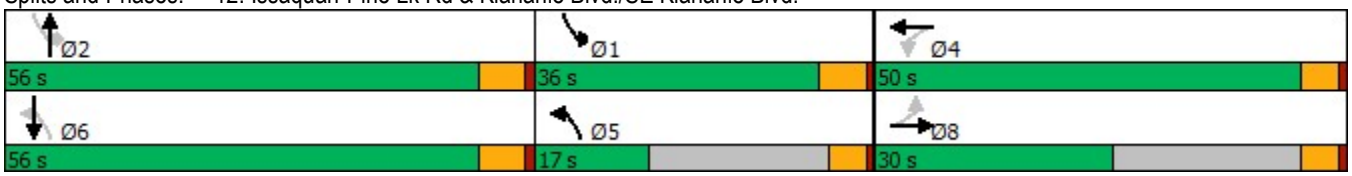
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.52	0.12		0.03	0.71	0.28	0.22	0.64	
Control Delay		25.7		40.5	11.3		4.0	18.5	7.0	7.0	12.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		25.7		40.5	11.3		4.0	18.5	7.0	7.0	12.4	
LOS		C		D	B		A	B	A	A	B	
Approach Delay		25.7			34.0			15.3			11.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		1		68	0		2	274	40	11	183	
Queue Length 95th (ft)		8		121	24		7	476	92	29	558	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		868		708	796		888	1082	960	852	1334	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.19	0.05		0.02	0.71	0.28	0.11	0.64	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 90.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 15.3 Intersection LOS: B
Intersection Capacity Utilization 65.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	8	55	1	24	4	927	102	25	817	30
Future Volume (vph)	15	1	8	55	1	24	4	927	102	25	817	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.985			0.995	
Flt Protected		0.955			0.953		0.950			0.950		
Satd. Flow (prot)	0	1754	1561	0	1750	1561	1728	1791	0	1711	1792	0
Flt Permitted		0.714			0.717		0.233			0.131		
Satd. Flow (perm)	0	1311	1561	0	1317	1561	424	1791	0	236	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			27		8			3	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	17	1	9	63	1	27	5	1053	116	28	928	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	9	0	64	27	5	1169	0	28	962	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		9.5	13.0		11.0	18.4	95.9	91.0		94.4	94.9	
Actuated g/C Ratio		0.08	0.11		0.10	0.16	0.84	0.80		0.83	0.83	
v/c Ratio		0.17	0.05		0.50	0.10	0.01	0.82		0.10	0.64	
Control Delay		53.9	11.6		65.9	14.9	2.2	16.5		2.8	8.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

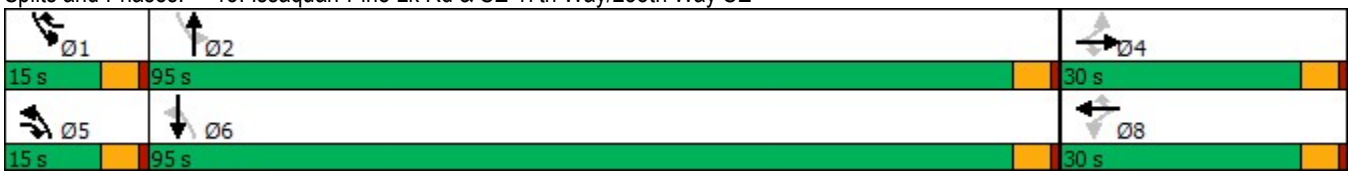
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		53.9	11.6		65.9	14.9	2.2	16.5		2.8	8.6	
LOS		D	B		E	B	A	B		A	A	
Approach Delay		39.8			50.8			16.4			8.5	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)		14	0		48	0	1	536		3	188	
Queue Length 95th (ft)		36	10		93	24	3	918		9	539	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		308	262		309	344	492	1434		348	1495	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.06	0.03		0.21	0.08	0.01	0.82		0.08	0.64	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 113.7
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 14.6 Intersection LOS: B
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

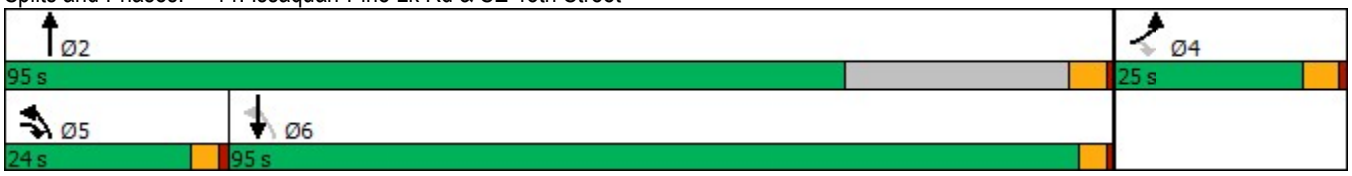
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	108	129	981	820	99
Future Volume (vph)	54	108	129	981	820	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.985	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1774	0
Flt Permitted	0.950		0.116			
Satd. Flow (perm)	1745	1561	211	1818	1774	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		124			8	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	62	124	148	1128	943	114
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	124	148	1128	1057	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	11.9	26.2	81.2	83.4	71.2	
Actuated g/C Ratio	0.11	0.25	0.78	0.80	0.69	
v/c Ratio	0.31	0.25	0.47	0.77	0.87	
Control Delay	53.9	8.1	9.3	9.6	22.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	53.9	8.1	9.3	9.6	22.3	
LOS	D	A	A	A	C	
Approach Delay	23.3			9.5	22.3	
Approach LOS	C			A	C	
Queue Length 50th (ft)	39	0	14	284	456	
Queue Length 95th (ft)	94	45	41	475	843	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	376	658	499	1729	1521	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.19	0.30	0.65	0.69	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 103.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 70.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	32	32	88	34	94	32	148	91	193	126	7
Future Volume (vph)	2	32	32	88	34	94	32	148	91	193	126	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.890			0.943			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1635	0	1745	1732	0	1745	1822	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1635	0	1745	1732	0	1745	1822	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	46	46	114	44	122	44	206	126	244	159	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	92	0	114	166	0	44	332	0	244	168	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 46.1% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	32	32	88	34	94	32	148	91	193	126	7
Future Vol, veh/h	2	32	32	88	34	94	32	148	91	193	126	7
Peak Hour Factor	0.69	0.69	0.69	0.77	0.77	0.77	0.72	0.72	0.72	0.79	0.79	0.79
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	46	46	114	44	122	44	206	126	244	159	9
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.3	12.1	15.8	13.8
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	62%	0%	50%	0%	27%	0%	95%
Vol Right, %	0%	38%	0%	50%	0%	73%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	239	2	64	88	128	193	133
LT Vol	32	0	2	0	88	0	193	0
Through Vol	0	148	0	32	0	34	0	126
RT Vol	0	91	0	32	0	94	0	7
Lane Flow Rate	44	332	3	93	114	166	244	168
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.085	0.562	0.006	0.179	0.235	0.294	0.461	0.292
Departure Headway (Hd)	6.877	6.098	7.806	6.935	7.396	6.362	6.798	6.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	588	455	513	483	562	528	571
Service Time	4.652	3.873	5.606	4.734	5.177	4.141	4.574	4.028
HCM Lane V/C Ratio	0.085	0.565	0.007	0.181	0.236	0.295	0.462	0.294
HCM Control Delay	10.3	16.5	10.7	11.3	12.5	11.8	15.3	11.6
HCM Lane LOS	B	C	B	B	B	B	C	B
HCM 95th-tile Q	0.3	3.5	0	0.6	0.9	1.2	2.4	1.2

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	6	522	39	10	607
Future Volume (vph)	43	6	522	39	10	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1802	0	1728	1818
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1802	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.45	0.45	0.73	0.73	0.74	0.74
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	96	13	715	53	14	820
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	13	768	0	14	820
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.9% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	6	522	39	10	607
Future Vol, veh/h	43	6	522	39	10	607
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	45	45	73	73	74	74
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	96	13	715	53	14	820

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1591	743	0	0	769	0
Stage 1	743	-	-	-	-	-
Stage 2	848	-	-	-	-	-
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	118	415	-	-	850	-
Stage 1	470	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	415	-	-	849	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.9	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	253	415	849	-
HCM Lane V/C Ratio	-	-	0.378	0.032	0.016	-
HCM Control Delay (s)	-	-	27.6	14	9.3	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.1	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	691	0	2	603	245	1	1	1	135	2	7
Future Volume (vph)	13	691	0	2	603	245	1	1	1	135	2	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.955			0.994	
Flt Protected		0.999						0.984			0.955	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1726	0	0	1743	0
Flt Permitted		0.986			0.999			0.907			0.955	
Satd. Flow (perm)	0	1775	0	0	1817	1513	0	1591	0	0	1743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								1			3	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	833	0	2	727	295	1	1	1	163	2	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	849	0	0	729	295	0	3	0	0	173	0
Turn Type	Perm	NA		Perm	NA	pm+ov	D.Pm	NA		Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		32.3			32.3	45.8		10.8			10.8	
Actuated g/C Ratio		0.63			0.63	0.89		0.21			0.21	
v/c Ratio		0.76			0.64	0.22		0.01			0.47	

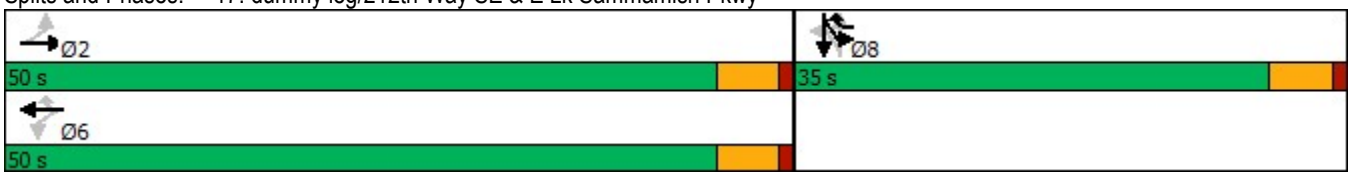
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		12.3			9.0	0.5		18.5			24.6	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		12.3			9.0	0.5		18.5			24.6	
LOS		B			A	A		B			C	
Approach Delay		12.3			6.6			18.5			24.6	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)		138			104	0		1			43	
Queue Length 95th (ft)		279			208	0		6			108	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1557			1594	1479		1012			1109	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.55			0.46	0.20		0.00			0.16	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 51.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 69.0% ICU Level of Service C
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



PRJ19-00008 Attachment 060

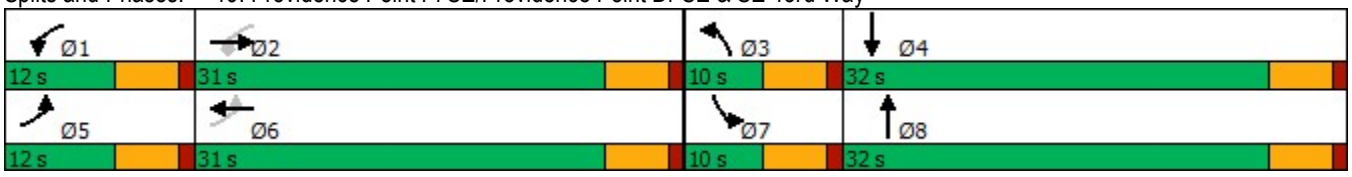
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	1026	1	19	1054	0	16	1	11	20	1	51
Future Volume (vph)	32	1026	1	19	1054	0	16	1	11	20	1	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96				1.00				0.98	
Frt			0.850					0.860			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3490	1561	1728	3455	0	1745	1688	0	1694	1597	0
Flt Permitted	0.133			0.150			0.950			0.950		
Satd. Flow (perm)	244	3490	1494	273	3455	0	1737	1688	0	1694	1597	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					14			64	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1235			169			195			164	
Travel Time (s)		21.1			2.9			6.6			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			10			5						
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	3%	3%	3%
Adj. Flow (vph)	40	1283	1	24	1318	0	20	1	14	25	1	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	1283	1	24	1318	0	20	15	0	25	65	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		5	5		5						5	
Act Effct Green (s)	37.2	39.6	39.6	38.2	37.2		5.3	8.3		5.3	8.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.69	0.73	0.73	0.70	0.69		0.10	0.15		0.10	0.15	
v/c Ratio	0.11	0.50	0.00	0.06	0.56		0.12	0.06		0.15	0.22	
Control Delay	8.1	12.4	0.0	8.2	14.7		30.8	11.8		31.1	8.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.1	12.4	0.0	8.2	14.7		30.8	11.8		31.1	8.5	
LOS	A	B	A	A	B		C	B		C	A	
Approach Delay		12.2			14.6			22.7			14.8	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	3	67	0	2	70		4	0		5	0	
Queue Length 95th (ft)	26	#473	0	18	#496		29	11		34	21	
Internal Link Dist (ft)		1155			89			115			84	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	373	2548	1132	392	2367		171	902		166	877	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.50	0.00	0.06	0.56		0.12	0.02		0.15	0.07	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 54.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 13.6 Intersection LOS: B
Intersection Capacity Utilization 47.5% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	144	341	253	93	23	214	1185	214	14	1417	149
Future Volume (vph)	361	144	341	253	93	23	214	1185	214	14	1417	149
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3206	0	1646	3292	1424
Flt Permitted	0.670			0.392			0.950			0.950		
Satd. Flow (perm)	1167	1750	1467	686	1691	0	1644	3206	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			21				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	425	169	401	298	109	27	252	1394	252	16	1667	175
Shared Lane Traffic (%)												
Lane Group Flow (vph)	425	169	401	298	136	0	252	1646	0	16	1667	517
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.5	78.1		6.0	55.5	55.5

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	291
Future Volume (vph)	291
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.85
Heavy Vehicles (%)	1%
Adj. Flow (vph)	342
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.21	0.54	1.54	0.86	0.37		0.95	0.92		0.23	1.28	0.83
Control Delay	159.6	59.6	297.7	62.5	47.5		97.9	19.1		70.0	166.6	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	7.5		0.0	0.0	0.0
Total Delay	159.6	59.6	297.7	62.5	47.5		97.9	26.6		70.0	166.6	39.4
LOS	F	E	F	E	D		F	C		E	F	D
Approach Delay		198.3			57.8			36.1			136.0	
Approach LOS		F			E			D			F	
Queue Length 50th (ft)	~436	142	~510	219	100		218	116		14	~1014	269
Queue Length 95th (ft)	#627	206	#665	#326	155		m#287	#522		m20	#1055	434
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	350	312	261	348	368		270	1797		94	1304	624
Starvation Cap Reductn	0	0	0	0	0		0	139		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.21	0.54	1.54	0.86	0.37		0.93	0.99		0.17	1.28	0.83

Intersection Summary

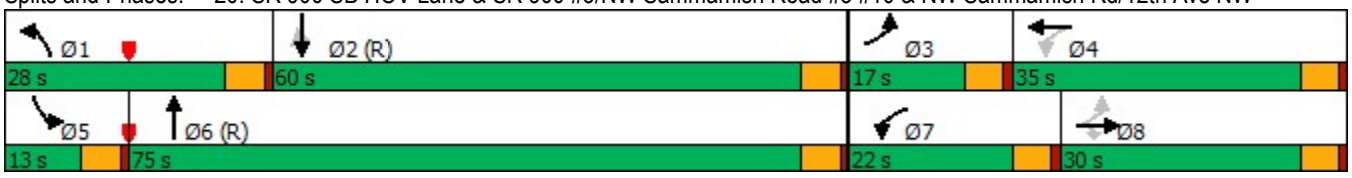
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 106.7 Intersection LOS: F
Intersection Capacity Utilization 101.9% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1054	136	418	66	154	69	257	766	8	95	468	795
Future Volume (vph)	1054	136	418	66	154	69	257	766	8	95	468	795
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.98		0.99	1.00		1.00		0.97
Frt			0.850		0.954			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1627	0	3087	3178	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2999	1692	1384	1625	1627	0	3051	3178	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177		15			1				204
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1240	160	492	78	181	81	302	901	9	112	551	935
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1240	160	492	78	262	0	302	910	0	112	551	935
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

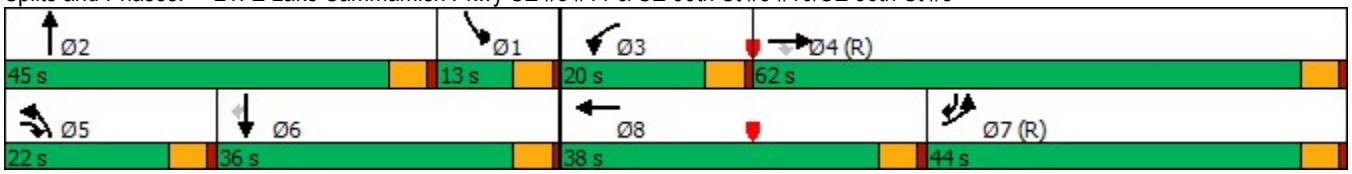
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	44.5	61.2	77.7	10.8	27.5		16.4	40.0		8.0	31.6	76.1
Actuated g/C Ratio	0.32	0.44	0.56	0.08	0.20		0.12	0.29		0.06	0.23	0.54
v/c Ratio	1.25	0.22	0.58	0.62	0.79		0.83	1.00		1.24	0.77	1.09
Control Delay	161.5	26.2	14.0	82.6	67.1		63.8	67.7		209.3	50.2	85.9
Queue Delay	0.0	0.0	0.3	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	161.5	26.2	14.3	82.6	67.1		63.8	67.7		209.3	50.2	85.9
LOS	F	C	B	F	E		E	E		F	D	F
Approach Delay		111.8			70.6			66.7			82.2	
Approach LOS		F			E			E			F	
Queue Length 50th (ft)	~773	90	159	70	208		148	~456		~122	203	~973
Queue Length 95th (ft)	#846	140	243	116	284		#175	#537		m#203	270	#1144
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	990	740	856	176	394		374	908		90	717	857
Starvation Cap Reductn	0	0	79	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.25	0.22	0.63	0.44	0.66		0.81	1.00		1.24	0.77	1.09

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 88.8 Intersection LOS: F
Intersection Capacity Utilization 101.8% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	414	482	10	303	380	78	14	472	528	60	356	489
Future Volume (vph)	414	482	10	303	380	78	14	472	528	60	356	489
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3149	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.509			0.151		
Satd. Flow (perm)	2643	3205	0	3149	3149	0	852	2010	1402	253	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			12				561			480
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	481	560	12	352	442	91	16	549	614	70	414	569
Shared Lane Traffic (%)												
Lane Group Flow (vph)	481	572	0	352	533	0	16	549	614	70	414	569
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	29.1	36.6		20.1	27.7		51.4	45.8	45.8	59.1	55.2	55.2
Actuated g/C Ratio	0.22	0.28		0.15	0.21		0.39	0.35	0.35	0.45	0.42	0.42

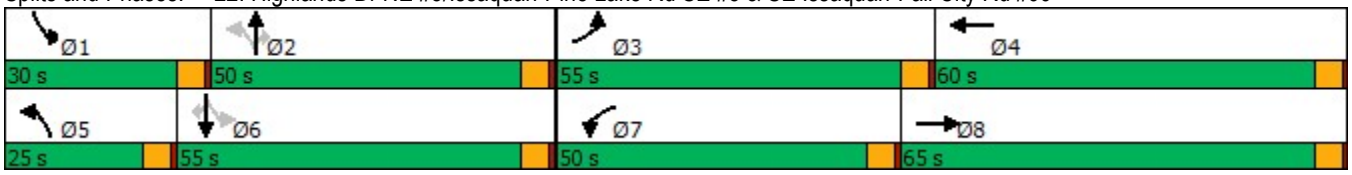
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.82	0.64		0.73	0.79		0.04	0.78	0.72	0.35	0.31	0.66
Control Delay	61.1	45.1		63.7	57.8		25.7	50.0	10.8	29.5	29.8	10.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	45.1		63.7	57.8		25.7	50.0	10.8	29.5	29.8	10.7
LOS	E	D		E	E		C	D	B	C	C	B
Approach Delay		52.4			60.2			29.2			19.4	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	231	221		146	219		7	340	30	33	112	43
Queue Length 95th (ft)	330	300		220	308		26	#614	152	78	216	186
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	1032	1489		1097	1347		499	700	854	373	1343	870
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.38		0.32	0.40		0.03	0.78	0.72	0.19	0.31	0.65

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 131.3
Natural Cycle: 105
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 39.2 Intersection LOS: D
Intersection Capacity Utilization 67.2% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	33	74	532	10	126	14	869	838	234	728	19
Future Volume (vph)	37	33	74	532	10	126	14	869	838	234	728	19
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98					1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.220			0.117		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	372	3214	1438	196	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			135			797		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	44	39	87	626	12	148	16	1022	986	275	856	22
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	83	87	319	319	148	16	1022	986	275	878	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.3	15.6	39.1	39.1	55.7	70.0	53.4	140.0	70.0	64.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.69	0.35	0.72	0.72	0.22	0.07	0.83	0.69	1.07	0.61	
Control Delay		90.2	7.6	56.3	56.1	4.3	20.1	40.2	3.8	109.3	24.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	
Total Delay		90.2	7.6	56.3	56.1	4.3	20.1	41.8	3.8	109.3	24.0	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		48.0			46.4			23.1			44.3	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		75	0	280	278	5	9	522	0	~207	233	
Queue Length 95th (ft)		125	19	374	373	33	m9	m482	m0	m#320	m211	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	276	445	446	670	263	1225	1438	257	1450	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.59	0.32	0.72	0.72	0.22	0.06	0.90	0.69	1.07	0.61	

Intersection Summary

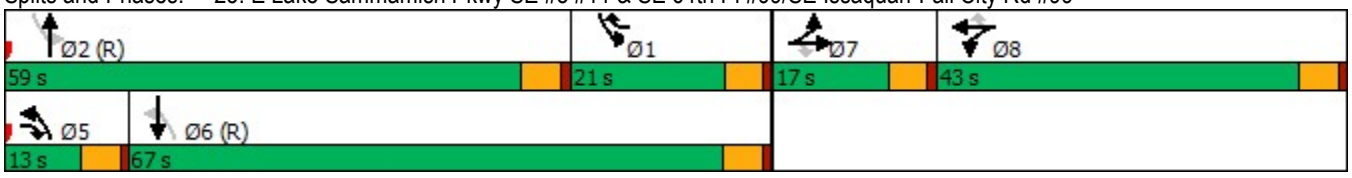
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 34.5 Intersection LOS: C
Intersection Capacity Utilization 76.6% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	282	342	235	207	163	342	642	170	279	593	52
Future Volume (vph)	296	282	342	235	207	163	342	642	170	279	593	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			2%	
Storage Length (ft)	300		250	250		230	310		0	360		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.91			0.93	0.99	0.97		0.97	1.00	
Frt			0.850			0.850		0.969			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1837	1561	1745	1837	1561	1728	3260	0	1710	3364	0
Flt Permitted	0.329			0.148			0.950			0.950		
Satd. Flow (perm)	604	1837	1420	272	1837	1444	1704	3260	0	1663	3364	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			83		17			5	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1480			637			1340			709	
Travel Time (s)		28.8			12.4			26.1			13.8	
Confl. Peds. (#/hr)	19		20	20		19	6		16	16		6
Confl. Bikes (#/hr)			5			3			5			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	348	332	402	276	244	192	402	755	200	328	698	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	332	402	276	244	192	402	955	0	328	759	0
Turn Type	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	8	5	7	4	1	5	2		1	6	
Permitted Phases	4		8	8		4						
Detector Phase	3	8	5	7	4	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	10.0	22.0	10.0	10.0	25.0	10.0	10.0	22.0		10.0	22.0	
Total Split (s)	30.0	50.0	40.0	45.0	50.0	40.0	40.0	85.0		40.0	85.0	
Total Split (%)	13.6%	22.7%	18.2%	20.5%	22.7%	18.2%	18.2%	38.6%		18.2%	38.6%	
Maximum Green (s)	25.0	45.0	35.0	40.0	45.0	35.0	35.0	80.0		35.0	80.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.4	-2.0	-2.0	-2.3		-2.0	-2.3	
Total Lost Time (s)	3.0	3.0	3.0	3.0	2.6	3.0	3.0	2.7		3.0	2.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		10.0			13.0			10.0			10.0	
Pedestrian Calls (#/hr)		19			6			16			20	
Act Effct Green (s)	66.5	38.0	86.5	66.5	40.7	78.5	48.5	58.4		38.2	48.1	

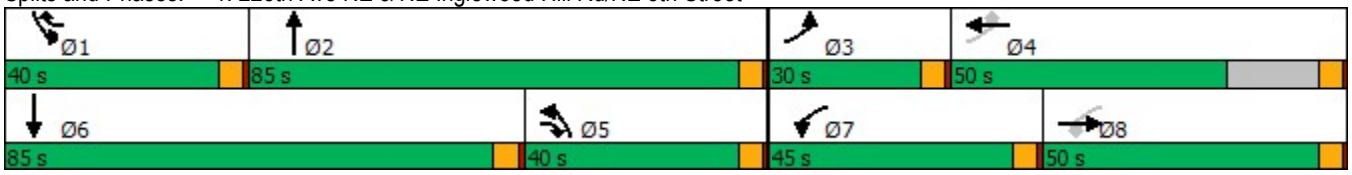
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.38	0.22	0.49	0.38	0.23	0.45	0.28	0.33		0.22	0.27	
v/c Ratio	0.87	0.83	0.50	0.81	0.57	0.27	0.84	0.87		0.88	0.82	
Control Delay	64.2	85.9	13.5	62.7	65.6	17.7	78.6	64.1		91.6	68.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	64.2	85.9	13.5	62.7	65.6	17.7	78.6	64.1		91.6	68.2	
LOS	E	F	B	E	E	B	E	E		F	E	
Approach Delay		52.0			51.6			68.4			75.3	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	299	367	116	233	251	73	446	537		375	432	
Queue Length 95th (ft)	#450	554	201	365	364	138	#752	670		#699	554	
Internal Link Dist (ft)		1400			557			1260			629	
Turn Bay Length (ft)	300		250	250		230	310			360		
Base Capacity (vph)	413	508	805	471	675	717	478	1589		373	1633	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.84	0.65	0.50	0.59	0.36	0.27	0.84	0.60		0.88	0.46	

Intersection Summary

Area Type: Other
Cycle Length: 220
Actuated Cycle Length: 175.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 63.1 Intersection LOS: E
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: 228th Ave NE & NE Inglewood Hill Rd/NE 8th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	21	4	13	351	11	157	10	14	1150	86	6	89
Future Volume (vph)	21	4	13	351	11	157	10	14	1150	86	6	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		125		0		275
Storage Lanes	0		0	0		1		1		0		2
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	0.97
Ped Bike Factor		0.99			0.99	0.97			1.00			0.99
Frt		0.954				0.850			0.990			
Flt Protected		0.973			0.954			0.950				0.950
Satd. Flow (prot)	0	1694	0	0	1735	1546	0	1728	3413	0	0	3351
Flt Permitted		0.807			0.729			0.181				0.950
Satd. Flow (perm)	0	1401	0	0	1318	1496	0	329	3413	0	0	3334
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		13				159			7			
Link Speed (mph)		25			25				35			
Link Distance (ft)		322			1306				1370			
Travel Time (s)		8.8			35.6				26.7			
Confl. Peds. (#/hr)	9		4	4		9		5		8		8
Confl. Bikes (#/hr)			1			7						
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
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	21	4	13	358	11	160	10	14	1173	88	6	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	369	160	0	24	1261	0	0	97
Turn Type	Perm	NA		Perm	NA	Perm	D.P+P	D.P+P	NA		Prot	Prot
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	6	6				
Detector Phase	8	8		4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	10.0		5.0	5.0
Minimum Split (s)	31.0	31.0		31.0	31.0	31.0	10.0	10.0	24.0		10.0	10.0
Total Split (s)	39.0	39.0		39.0	39.0	39.0	20.0	20.0	65.0		40.0	40.0
Total Split (%)	27.1%	27.1%		27.1%	27.1%	27.1%	13.9%	13.9%	45.1%		27.8%	27.8%
Maximum Green (s)	35.0	35.0		35.0	35.0	35.0	15.0	15.0	60.0		35.0	35.0
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-2.0			-2.0	-1.0		-2.0	-2.0			-2.0
Total Lost Time (s)		2.0			2.0	3.0		3.0	3.0			3.0
Lead/Lag							Lag	Lag	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None	None	None	None	Min		None	None
Walk Time (s)	4.0	4.0		4.0	4.0	4.0			7.0			
Flash Dont Walk (s)	23.0	23.0		23.0	23.0	23.0			12.0			
Pedestrian Calls (#/hr)	4	4		9	9	9			8			
Act Effct Green (s)		37.4			37.4	36.3		51.2	40.5			8.7
Actuated g/C Ratio		0.39			0.39	0.38		0.54	0.43			0.09

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	929	4
Future Volume (vph)	929	4
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.999	
Flt Protected		
Satd. Flow (prot)	3451	0
Flt Permitted		
Satd. Flow (perm)	3451	0
Right Turn on Red		Yes
Satd. Flow (RTOR)		
Link Speed (mph)	35	
Link Distance (ft)	1340	
Travel Time (s)	26.1	
Confl. Peds. (#/hr)		5
Confl. Bikes (#/hr)		5
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	948	4
Shared Lane Traffic (%)		
Lane Group Flow (vph)	952	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	24.0	
Total Split (s)	65.0	
Total Split (%)	45.1%	
Maximum Green (s)	60.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	12.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	44.4	
Actuated g/C Ratio	0.47	

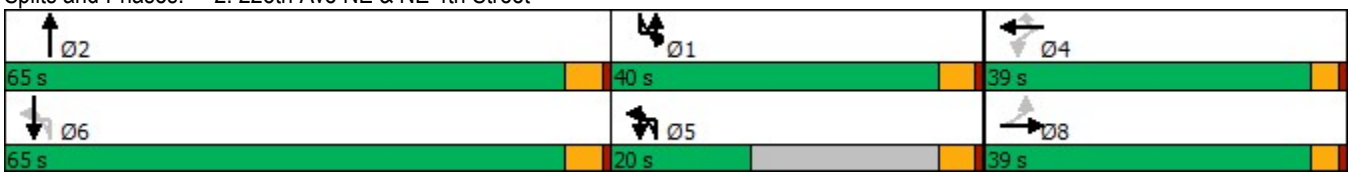
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
v/c Ratio		0.07			0.71	0.24		0.07	0.86			0.31
Control Delay		16.5			35.7	5.1		10.4	31.1			45.2
Queue Delay		0.0			0.0	0.0		0.0	0.0			0.0
Total Delay		16.5			35.7	5.1		10.4	31.1			45.2
LOS		B			D	A		B	C			D
Approach Delay		16.5			26.4				30.8			
Approach LOS		B			C				C			
Queue Length 50th (ft)		9			183	0		6	345			28
Queue Length 95th (ft)		35			#398	46		16	451			59
Internal Link Dist (ft)		242			1226				1290			
Turn Bay Length (ft)								125				275
Base Capacity (vph)		560			519	672		794	2258			1321
Starvation Cap Reductn		0			0	0		0	0			0
Spillback Cap Reductn		0			0	0		0	0			0
Storage Cap Reductn		0			0	0		0	0			0
Reduced v/c Ratio		0.07			0.71	0.24		0.03	0.56			0.07

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 94.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 27.5 Intersection LOS: C
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 228th Ave NE & NE 4th Street



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
v/c Ratio	0.59	
Control Delay	22.2	
Queue Delay	0.0	
Total Delay	22.2	
LOS	C	
Approach Delay	24.4	
Approach LOS	C	
Queue Length 50th (ft)	173	
Queue Length 95th (ft)	368	
Internal Link Dist (ft)	1260	
Turn Bay Length (ft)		
Base Capacity (vph)	2281	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.42	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	185	2	159	35	10	28	5	184	1044	16	71	23
Future Volume (vph)	185	2	159	35	10	28	5	184	1044	16	71	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-7%			0%				-2%			
Storage Length (ft)	340		300	300		0		190		170		380
Storage Lanes	1		1	1		0		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99	0.99					0.97		
Frt			0.850		0.888					0.850		
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1806	1901	1616	1711	1583	0	0	1745	3490	1561	0	1728
Flt Permitted	0.732			0.757				0.087				0.183
Satd. Flow (perm)	1391	1901	1587	1355	1583	0	0	160	3490	1507	0	333
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			162		29					117		
Link Speed (mph)		25			25				35			
Link Distance (ft)		1592			794				1375			
Travel Time (s)		43.4			21.7				26.8			
Confl. Peds. (#/hr)	1		3	3		1		15		8		8
Confl. Bikes (#/hr)										1		
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
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	189	2	162	36	10	29	5	188	1065	16	72	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	2	162	36	39	0	0	193	1065	16	0	95
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	D.P+P	NA	Perm	D.P+P	D.P+P
Protected Phases	3	8		7	4		5	5	2		1	1
Permitted Phases	4		8	8			6	6		2	2	2
Detector Phase	3	8	8	7	4		5	5	2	2	1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0
Minimum Split (s)	11.0	32.0	32.0	11.0	11.0		10.0	10.0	24.0	24.0	10.0	10.0
Total Split (s)	41.0	41.0	41.0	41.0	41.0		20.0	20.0	55.0	55.0	40.0	40.0
Total Split (%)	23.2%	23.2%	23.2%	23.2%	23.2%		11.3%	11.3%	31.1%	31.1%	22.6%	22.6%
Maximum Green (s)	35.0	35.0	35.0	35.0	35.0		15.0	15.0	50.0	50.0	35.0	35.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0	0.0	-3.0	0.0	0.0			-2.0	-2.0	0.0		0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0			3.0	3.0	5.0		5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	10.0	10.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None		None	None	Min	Min	None	None
Walk Time (s)		7.0	7.0						7.0	7.0		

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1091	176
Future Volume (vph)	1091	176
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	0.99	
Frt	0.979	
Flt Protected		
Satd. Flow (prot)	3334	0
Flt Permitted		
Satd. Flow (perm)	3334	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	12	
Link Speed (mph)	35	
Link Distance (ft)	1306	
Travel Time (s)	25.4	
Confl. Peds. (#/hr)		15
Confl. Bikes (#/hr)		1
Peak Hour Factor	0.98	0.98
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1113	180
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1293	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	21.0	
Total Split (s)	55.0	
Total Split (%)	31.1%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-2.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Minimum Gap (s)	0.2	
Time Before Reduce (s)	0.0	
Time To Reduce (s)	0.0	
Recall Mode	Min	
Walk Time (s)	7.0	

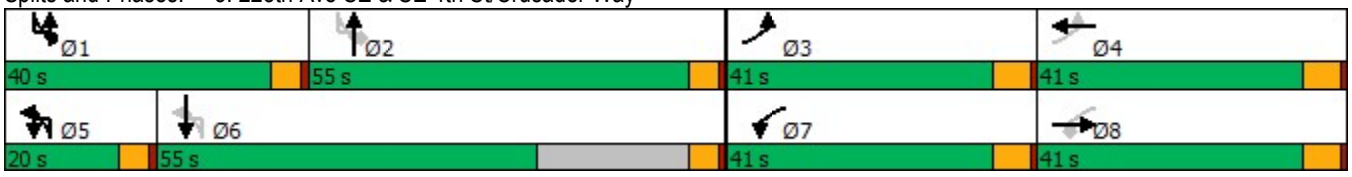
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Flash Dont Walk (s)		19.0	19.0						12.0	12.0		
Pedestrian Calls (#/hr)		3	3						8	8		
Act Effct Green (s)	21.3	13.5	16.6	16.6	7.0			61.4	53.2	51.1		57.3
Actuated g/C Ratio	0.23	0.14	0.18	0.18	0.07			0.66	0.57	0.55		0.61
v/c Ratio	0.49	0.01	0.39	0.14	0.27			0.53	0.54	0.02		0.32
Control Delay	34.6	38.0	9.0	31.0	26.8			23.5	15.7	0.1		10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0		0.0
Total Delay	34.6	38.0	9.0	31.0	26.8			23.5	15.7	0.1		10.9
LOS	C	D	A	C	C			C	B	A		B
Approach Delay		22.8			28.8				16.7			
Approach LOS		C			C				B			
Queue Length 50th (ft)	97	1	0	18	6			56	204	0		20
Queue Length 95th (ft)	167	9	54	44	40			161	386	0		56
Internal Link Dist (ft)		1512			714				1295			
Turn Bay Length (ft)	340		300	300				190		170		380
Base Capacity (vph)	773	741	765	676	635			407	2135	936		766
Starvation Cap Reductn	0	0	0	0	0			0	0	0		0
Spillback Cap Reductn	0	0	0	0	0			0	0	0		0
Storage Cap Reductn	0	0	0	0	0			0	0	0		0
Reduced v/c Ratio	0.24	0.00	0.21	0.05	0.06			0.47	0.50	0.02		0.12

Intersection Summary

Area Type: Other
Cycle Length: 177
Actuated Cycle Length: 93.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: 228th Ave SE & SE 4th St/Crusader Way



Lane Group	SBT	SBR
Flash Dont Walk (s)	9.0	
Pedestrian Calls (#/hr)	15	
Act Effct Green (s)	46.0	
Actuated g/C Ratio	0.49	
v/c Ratio	0.79	
Control Delay	26.1	
Queue Delay	0.0	
Total Delay	26.1	
LOS	C	
Approach Delay	25.0	
Approach LOS	C	
Queue Length 50th (ft)	346	
Queue Length 95th (ft)	#583	
Internal Link Dist (ft)	1226	
Turn Bay Length (ft)		
Base Capacity (vph)	2635	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.49	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	104	46	22	198	39	95	21	118	1065	301	11	133
Future Volume (vph)	104	46	22	198	39	95	21	118	1065	301	11	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%				-2%			
Storage Length (ft)	0		50	0		200		275		0		150
Storage Lanes	0		1	0		1		1		0		1
Taper Length (ft)	0			0				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor			0.95		0.97	0.99		1.00	0.99			1.00
Frt			0.850			0.850			0.967			
Flt Protected		0.967			0.960			0.950				0.950
Satd. Flow (prot)	0	1741	1530	0	1781	1577	0	1745	3336	0	0	1710
Flt Permitted		0.967			0.960			0.950				0.950
Satd. Flow (perm)	0	1741	1448	0	1731	1554	0	1740	3336	0	0	1704
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)			126			133			24			
Link Speed (mph)		35			35				40			
Link Distance (ft)		283			1315				959			
Travel Time (s)		5.5			25.6				16.3			
Confl. Peds. (#/hr)			19	19				4		9		9
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	117	52	25	222	44	107	24	133	1197	338	12	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	25	0	266	107	0	157	1535	0	0	161
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	Prot	NA		Prot	Prot
Protected Phases	8	8		4	4		5	5	2		1	1
Permitted Phases			8			4						
Detector Phase	8	8	8	4	4	4	5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	27.0	27.0	27.0	11.0	11.0	11.0	11.0	11.0	29.0		11.0	11.0
Total Split (s)	23.0	23.0	23.0	44.0	44.0	44.0	21.0	21.0	61.0		36.0	36.0
Total Split (%)	14.0%	14.0%	14.0%	26.8%	26.8%	26.8%	12.8%	12.8%	37.2%		22.0%	22.0%
Maximum Green (s)	18.0	18.0	18.0	40.0	40.0	40.0	15.0	15.0	55.0		30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	3.0	3.0	3.0	5.0	5.0	5.0		5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)		-3.0	-1.0		-2.0	-2.0		-3.0	-3.0			-2.5
Total Lost Time (s)		2.0	4.0		2.0	2.0		3.0	3.0			3.5
Lead/Lag							Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	None	None	None	None	None	None	None		None	None
Walk Time (s)	4.0	4.0	4.0						7.0			
Flash Dont Walk (s)	18.0	18.0	18.0						16.0			
Pedestrian Calls (#/hr)	19	19	19						9			
Act Effct Green (s)		21.2	19.2		27.1	27.1		17.3	58.9			20.1

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1008	100
Future Volume (vph)	1008	100
Ideal Flow (vphpl)	1900	1900
Grade (%)	2%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.987	
Flt Protected		
Satd. Flow (prot)	3366	0
Flt Permitted		
Satd. Flow (perm)	3366	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	8	
Link Speed (mph)	40	
Link Distance (ft)	1375	
Travel Time (s)	23.4	
Confl. Peds. (#/hr)		4
Confl. Bikes (#/hr)		
Peak Hour Factor	0.89	0.89
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1133	112
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1245	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	29.0	
Total Split (s)	61.0	
Total Split (%)	37.2%	
Maximum Green (s)	55.0	
Yellow Time (s)	5.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	3.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	4	
Act Effct Green (s)	62.2	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio		0.15	0.14		0.20	0.20		0.13	0.43			0.15
v/c Ratio		0.63	0.08		0.76	0.26		0.72	1.07			0.65
Control Delay		68.2	0.5		68.0	5.0		79.2	82.0			70.1
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0			0.0
Total Delay		68.2	0.5		68.0	5.0		79.2	82.0			70.1
LOS		E	A		E	A		E	F			E
Approach Delay		59.5			49.9				81.8			
Approach LOS		E			D				F			
Queue Length 50th (ft)		143	0		234	0		140	~839			142
Queue Length 95th (ft)		253	0		353	27		#282	#1184			235
Internal Link Dist (ft)		203			1235				879			
Turn Bay Length (ft)			50			200		275				150
Base Capacity (vph)		297	332		550	572		231	1438			409
Starvation Cap Reductn		0	0		0	0		0	0			0
Spillback Cap Reductn		0	0		0	0		0	0			0
Storage Cap Reductn		0	0		0	0		0	0			0
Reduced v/c Ratio		0.57	0.08		0.48	0.19		0.68	1.07			0.39

Intersection Summary

Area Type: Other
Cycle Length: 164
Actuated Cycle Length: 138
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 62.6 Intersection LOS: E
Intersection Capacity Utilization 79.4% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: 228th Ave SE & SE 8th St.

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.45	
v/c Ratio	0.82	
Control Delay	40.0	
Queue Delay	0.0	
Total Delay	40.0	
LOS	D	
Approach Delay	43.5	
Approach LOS	D	
Queue Length 50th (ft)	533	
Queue Length 95th (ft)	705	
Internal Link Dist (ft)	1295	
Turn Bay Length (ft)		
Base Capacity (vph)	1812	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.69	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	91	7	226	23	1	19	28	160	1501	39	6	19
Future Volume (vph)	91	7	226	23	1	19	28	160	1501	39	6	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				0%			
Storage Length (ft)	240		0	170		0		230		0		175
Storage Lanes	1		0	1		0		1		0		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95	1.00
Ped Bike Factor		0.99							1.00			
Frt		0.854			0.857				0.996			
Flt Protected	0.950			0.950				0.950				0.950
Satd. Flow (prot)	1745	1547	0	1646	1485	0	0	1728	3437	0	0	1753
Flt Permitted	0.744			0.340				0.099				0.064
Satd. Flow (perm)	1366	1547	0	589	1485	0	0	180	3437	0	0	118
Right Turn on Red			No			Yes				Yes		
Satd. Flow (RTOR)					20				2			
Link Speed (mph)		35			35				40			
Link Distance (ft)		2717			305				1161			
Travel Time (s)		52.9			5.9				19.8			
Confl. Peds. (#/hr)								3		5		5
Confl. Bikes (#/hr)			2							2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	6%	6%	6%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	96	7	238	24	1	20	29	168	1580	41	6	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	245	0	24	21	0	0	197	1621	0	0	26
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	D.P+P	NA		D.P+P	D.P+P
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases	8			4			6	6			2	2
Detector Phase	7	4		3	8		5	5	2		1	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	5.0	12.0		5.0	5.0
Minimum Split (s)	10.0	29.0		10.0	15.0		10.0	10.0	20.0		10.0	10.0
Total Split (s)	45.0	45.0		45.0	45.0		25.0	25.0	55.0		15.0	15.0
Total Split (%)	26.5%	26.5%		26.5%	26.5%		14.7%	14.7%	32.4%		8.8%	8.8%
Maximum Green (s)	40.0	40.0		40.0	40.0		20.0	20.0	50.0		10.0	10.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	-2.6	0.0		0.0	0.0			-2.6	-3.0			0.0
Total Lost Time (s)	2.4	5.0		5.0	5.0			2.4	2.0			5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag		Lead	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0		1.0	1.0
Recall Mode	None	None		None	None		None	None	Min		None	None
Walk Time (s)		7.0							7.0			
Flash Dont Walk (s)		17.0							8.0			
Pedestrian Calls (#/hr)		0							5			
Act Effct Green (s)	27.8	20.6		25.7	14.6			68.6	66.0			65.7

PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1140	88
Future Volume (vph)	1140	88
Ideal Flow (vphpl)	1900	1900
Grade (%)	-3%	
Storage Length (ft)		0
Storage Lanes		0
Taper Length (ft)		
Lane Util. Factor	0.95	0.95
Ped Bike Factor	1.00	
Frt	0.989	
Flt Protected		
Satd. Flow (prot)	3459	0
Flt Permitted		
Satd. Flow (perm)	3459	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	5	
Link Speed (mph)	40	
Link Distance (ft)	770	
Travel Time (s)	13.1	
Confl. Peds. (#/hr)		3
Confl. Bikes (#/hr)		
Peak Hour Factor	0.95	0.95
Heavy Vehicles (%)	1%	1%
Adj. Flow (vph)	1200	93
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1293	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	12.0	
Minimum Split (s)	20.0	
Total Split (s)	55.0	
Total Split (%)	32.4%	
Maximum Green (s)	50.0	
Yellow Time (s)	4.0	
All-Red Time (s)	1.0	
Lost Time Adjust (s)	-3.0	
Total Lost Time (s)	2.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	1.0	
Recall Mode	Min	
Walk Time (s)	7.0	
Flash Dont Walk (s)	8.0	
Pedestrian Calls (#/hr)	3	
Act Effct Green (s)	54.3	

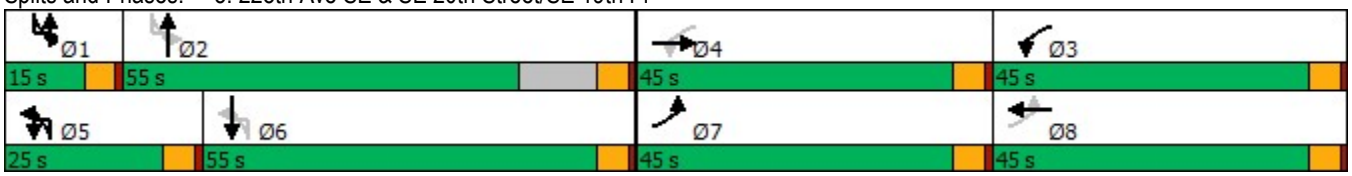
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Actuated g/C Ratio	0.27	0.20		0.25	0.14			0.66	0.63			0.63
v/c Ratio	0.22	0.81		0.12	0.09			0.59	0.75			0.17
Control Delay	29.9	61.6		31.6	17.9			24.1	20.2			11.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay	29.9	61.6		31.6	17.9			24.1	20.2			11.7
LOS	C	E		C	B			C	C			B
Approach Delay		52.7			25.2				20.6			
Approach LOS		D			C				C			
Queue Length 50th (ft)	49	165		12	1			62	476			7
Queue Length 95th (ft)	96	275		34	24			155	700			21
Internal Link Dist (ft)		2637			225				1081			
Turn Bay Length (ft)	240			170				230				175
Base Capacity (vph)	729	606		761	594			464	2184			237
Starvation Cap Reductn	0	0		0	0			0	0			0
Spillback Cap Reductn	0	0		0	0			0	0			0
Storage Cap Reductn	0	0		0	0			0	0			0
Reduced v/c Ratio	0.13	0.40		0.03	0.04			0.42	0.74			0.11

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 104.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: 228th Ave SE & SE 20th Street/SE 19th Pl



PRJ19-00008 Attachment 060

Lane Group	SBT	SBR
Actuated g/C Ratio	0.52	
v/c Ratio	0.72	
Control Delay	25.6	
Queue Delay	0.0	
Total Delay	25.6	
LOS	C	
Approach Delay	25.3	
Approach LOS	C	
Queue Length 50th (ft)	376	
Queue Length 95th (ft)	604	
Internal Link Dist (ft)	690	
Turn Bay Length (ft)		
Base Capacity (vph)	1798	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.72	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	16	5	9	86	6	321	22	1502	179	5	334	982
Future Volume (vph)	16	5	9	86	6	321	22	1502	179	5	334	982
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		300	220		320		350	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	0			0			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor		1.00	0.98		1.00	0.99			0.97		1.00	1.00
Frt			0.850			0.850			0.850			0.997
Flt Protected		0.963			0.955		0.950				0.950	
Satd. Flow (prot)	0	1769	1561	0	1754	1561	1728	3455	1546	0	1728	3443
Flt Permitted		0.963			0.955		0.237				0.950	
Satd. Flow (perm)	0	1766	1536	0	1747	1539	431	3455	1501	0	1725	3443
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			98			334			152			1
Link Speed (mph)		25			25			45				45
Link Distance (ft)		256			466			797				1161
Travel Time (s)		7.0			12.7			12.1				17.6
Confl. Peds. (#/hr)	1		2	2		1			2		2	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	17	5	9	90	6	334	23	1565	186	5	348	1023
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	9	0	96	334	23	1565	186	0	353	1043
Turn Type	Split	NA	Perm	Split	NA	Perm	D.P+P	NA	pm+ov	Prot	Prot	NA
Protected Phases	3	3		4	4		5	2	4	1	1	6
Permitted Phases			3			4	6		2			
Detector Phase	3	3	3	4	4	4	5	2	4	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	5.0	10.0
Minimum Split (s)	33.0	33.0	33.0	28.3	28.3	28.3	11.0	24.0	28.3	11.0	11.0	21.0
Total Split (s)	35.0	35.0	35.0	45.0	45.0	45.0	25.0	75.0	45.0	35.0	35.0	75.0
Total Split (%)	18.4%	18.4%	18.4%	23.7%	23.7%	23.7%	13.2%	39.5%	23.7%	18.4%	18.4%	39.5%
Maximum Green (s)	30.0	30.0	30.0	40.0	40.0	40.0	20.0	70.0	40.0	30.0	30.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		-3.0	-3.0		-2.3	-2.3	-3.0	-3.0	-3.0		-3.0	-2.0
Total Lost Time (s)		2.0	2.0		2.7	2.7	2.0	2.0	2.0		2.0	3.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None	None	None	None	None	None	Min	None	None	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0			7.0
Flash Dont Walk (s)	20.0	20.0	20.0	16.0	16.0	16.0		11.0	16.0			8.0
Pedestrian Calls (#/hr)	2	2	2	1	1	1		2	1			0
Act Effct Green (s)		11.9	11.9		14.2	14.2	108.5	74.1	89.0		33.5	102.9
Actuated g/C Ratio		0.09	0.09		0.10	0.10	0.79	0.54	0.64		0.24	0.75

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	19
Future Volume (vph)	19
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	4
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	20
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
v/c Ratio		0.14	0.04		0.53	0.73	0.06	0.84	0.18		0.84	0.41
Control Delay		62.0	0.3		71.5	16.0	7.0	34.3	2.1		69.6	10.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay		62.0	0.3		71.5	16.0	7.0	34.3	2.1		69.6	10.5
LOS		E	A		E	B	A	C	A		E	B
Approach Delay		44.1			28.4			30.6				25.4
Approach LOS		D			C			C				C
Queue Length 50th (ft)		19	0		82	0	4	596	8		299	180
Queue Length 95th (ft)		50	0		161	102	21	#1136	25		#642	428
Internal Link Dist (ft)		176			386			717				1081
Turn Bay Length (ft)			50			300	220		320		350	
Base Capacity (vph)		429	446		545	708	561	1854	1316		419	2567
Starvation Cap Reductn		0	0		0	0	0	0	0		0	0
Spillback Cap Reductn		0	0		0	0	0	0	0		0	0
Storage Cap Reductn		0	0		0	0	0	0	0		0	0
Reduced v/c Ratio		0.05	0.02		0.18	0.47	0.04	0.84	0.14		0.84	0.41

Intersection Summary

Area Type: Other
Cycle Length: 190
Actuated Cycle Length: 138
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 28.5 Intersection LOS: C
Intersection Capacity Utilization 99.0% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: 228th Ave SE & SE 24th St

PRJ19-00008 Attachment 060

Lane Group	SBR
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	103	26	173	120	463	37	960	258	503	432	18
Future Volume (vph)	150	103	26	173	120	463	37	960	258	503	432	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			0%			0%	
Storage Length (ft)	120		0	310		0	155		250	300		125
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Ped Bike Factor		1.00		1.00					0.99	1.00		0.97
Frt		0.970				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1722	0	1728	1819	1546	1728	3455	1546	3351	1818	1546
Flt Permitted	0.950			0.950			0.367			0.950		
Satd. Flow (perm)	1694	1722	0	1724	1819	1546	667	3455	1525	3349	1818	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				69			183			130
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		839			470			403			1347	
Travel Time (s)		16.3			9.2			7.9			26.2	
Confl. Peds. (#/hr)			1	1			2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	158	108	27	182	126	487	39	1011	272	529	455	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	135	0	182	126	487	39	1011	272	529	455	19
Turn Type	Prot	NA		Prot	NA	pm+ov	D.P+P	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4	1	5	2		1	6	
Permitted Phases						4	6		2			6
Detector Phase	3	8		7	4	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	10.7	37.7		10.7	10.7	11.0	11.0	38.0	38.0	11.0	26.0	26.0
Total Split (s)	25.7	35.7		40.7	45.7	31.0	36.0	56.0	56.0	31.0	56.0	56.0
Total Split (%)	15.3%	21.2%		24.2%	27.1%	18.4%	21.4%	33.3%	33.3%	18.4%	33.3%	33.3%
Maximum Green (s)	20.0	30.0		35.0	40.0	25.0	30.0	50.0	50.0	25.0	50.0	50.0
Yellow Time (s)	4.7	4.7		4.7	4.7	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		-2.6	0.0	-2.6	0.0	-3.0	-3.0	-2.6	-3.0	0.0
Total Lost Time (s)	5.7	5.7		3.1	5.7	3.4	6.0	3.0	3.0	3.4	3.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0						10.0	10.0		4.0	4.0
Flash Dont Walk (s)		25.0						22.0	22.0		16.0	16.0
Pedestrian Calls (#/hr)		1						1	1		2	2
Act Effct Green (s)	15.6	14.8		19.9	16.5	49.3	64.7	42.0	42.0	26.9	63.7	60.6
Actuated g/C Ratio	0.13	0.12		0.17	0.14	0.41	0.54	0.35	0.35	0.23	0.53	0.51

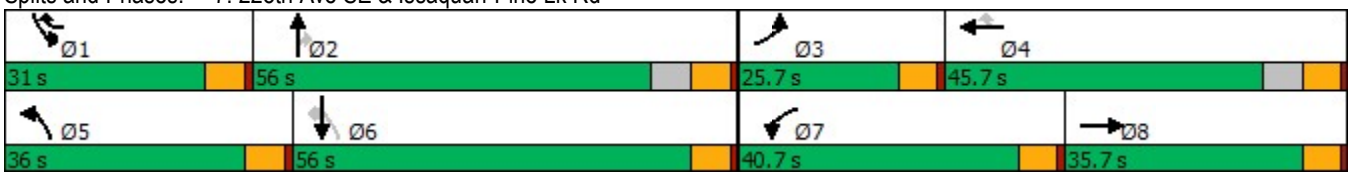
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.72	0.62		0.63	0.50	0.72	0.10	0.83	0.42	0.70	0.47	0.02
Control Delay	72.2	61.8		60.1	56.5	32.9	14.6	43.9	13.1	51.3	22.7	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	61.8		60.1	56.5	32.9	14.6	43.9	13.1	51.3	22.7	0.1
LOS	E	E		E	E	C	B	D	B	D	C	A
Approach Delay		67.4			42.9			36.7			37.3	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	117	95		131	93	272	12	364	46	191	209	0
Queue Length 95th (ft)	#264	184		258	169	465	41	608	151	#379	454	0
Internal Link Dist (ft)		759			390			323			1267	
Turn Bay Length (ft)	120			310			155		250	300		125
Base Capacity (vph)	295	460		567	714	702	664	1749	862	807	968	825
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29		0.32	0.18	0.69	0.06	0.58	0.32	0.66	0.47	0.02

Intersection Summary

Area Type: Other
Cycle Length: 168.4
Actuated Cycle Length: 119.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 41.0 Intersection LOS: D
Intersection Capacity Utilization 74.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 7: 228th Ave SE & Issaquah-Pine Lk Rd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	20	1217	72	21	597
Future Volume (vph)	37	20	1217	72	21	597
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	125	
Storage Lanes	1	0		0	1	
Taper Length (ft)	0				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.953		0.992			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	1645	0	1804	0	1728	1818
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	1645	0	1804	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	302		590			433
Travel Time (s)	5.9		10.1			7.4
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.73	0.73	0.91	0.91	0.87	0.87
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Adj. Flow (vph)	51	27	1337	79	24	686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	1416	0	24	686
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 78.4% ICU Level of Service D
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	8.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	20	1217	72	21	597
Future Vol, veh/h	37	20	1217	72	21	597
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	-	-	-	125	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	91	91	87	87
Heavy Vehicles, %	3	3	1	1	1	1
Mvmt Flow	51	27	1337	79	24	686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2111	1377	0	0	1416	0
Stage 1	1377	-	-	-	-	-
Stage 2	734	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.11	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.209	-
Pot Cap-1 Maneuver	56	177	-	-	484	-
Stage 1	233	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	53	177	-	-	484	-
Mov Cap-2 Maneuver	53	-	-	-	-	-
Stage 1	233	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	245.2	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	70	484	-
HCM Lane V/C Ratio	-	-	1.115	0.05	-
HCM Control Delay (s)	-	-	245.2	12.8	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	5.9	0.2	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	13	21	1	33	13	814	34	54	910	7
Future Volume (vph)	12	1	13	21	1	33	13	814	34	54	910	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	175		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98		0.99	0.99		1.00	1.00		1.00	1.00	
Frt		0.860			0.854			0.994			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1543	0	1745	1549	0	1711	3395	0	1728	3451	0
Flt Permitted	0.784			0.748			0.257			0.277		
Satd. Flow (perm)	1440	1543	0	1356	1549	0	463	3395	0	502	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			34			4			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		284			529			290			650	
Travel Time (s)		5.5			10.3			5.6			12.7	
Confl. Peds. (#/hr)			10	10			1		8	8		1
Confl. Bikes (#/hr)						1			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	13	1	14	22	1	34	14	848	35	56	948	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	15	0	22	35	0	14	883	0	56	955	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			2			6		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	12.0		5.0	12.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	32.0		11.0	38.0	
Total Split (s)	41.0	41.0		36.0	36.0		26.0	46.0		21.0	46.0	
Total Split (%)	36.3%	36.3%		31.9%	31.9%		23.0%	40.7%		18.6%	40.7%	
Maximum Green (s)	35.0	35.0		30.0	30.0		20.0	40.0		15.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		-1.0	0.0		0.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		5.0	6.0		6.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		3.0	3.0		2.0	3.0		2.0	3.0	
Minimum Gap (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Time Before Reduce (s)	10.0	10.0		10.0	10.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			19.0			25.0	

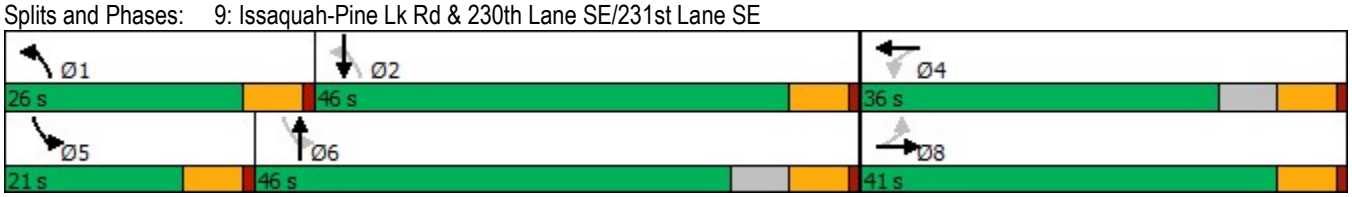
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	10	10		0	0			8			1	
Act Effct Green (s)	10.0	10.0		12.0	10.6		27.3	28.9		27.1	33.1	
Actuated g/C Ratio	0.23	0.23		0.27	0.24		0.61	0.65		0.61	0.75	
v/c Ratio	0.04	0.04		0.06	0.09		0.03	0.40		0.10	0.37	
Control Delay	20.4	11.5		20.0	9.1		6.4	11.4		5.9	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.4	11.5		20.0	9.1		6.4	11.4		5.9	7.9	
LOS	C	B		B	A		A	B		A	A	
Approach Delay		15.6			13.3			11.3			7.8	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	3	0		5	0		1	97		5	55	
Queue Length 95th (ft)	18	14		25	21		11	253		28	269	
Internal Link Dist (ft)		204			449			210			570	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)	1096	1178		1046	1187		1109	2971		995	2841	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.02	0.03		0.01	0.30		0.06	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 44.4
Natural Cycle: 85
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 55.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 9: Issaquah-Pine Lk Rd & 230th Lane SE/231st Lane SE



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	40	42	829	726	4
Future Volume (vph)	27	40	42	829	726	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	25	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	0		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1817	0
Flt Permitted	0.950		0.245			
Satd. Flow (perm)	1745	1526	446	1818	1817	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		43				
Link Speed (mph)	35			35	35	
Link Distance (ft)	1529			920	913	
Travel Time (s)	29.8			17.9	17.8	
Confl. Peds. (#/hr)		1				
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Adj. Flow (vph)	29	43	45	882	772	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	43	45	882	776	0
Turn Type	Prot	Perm	D.P+P	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	27.0	27.0	10.0	10.0	10.0	
Total Split (s)	30.0	30.0	20.0	55.0	55.0	
Total Split (%)	28.6%	28.6%	19.0%	52.4%	52.4%	
Maximum Green (s)	25.0	25.0	15.0	50.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0				
Flash Dont Walk (s)	15.0	15.0				
Pedestrian Calls (#/hr)	1	1				
Act Effct Green (s)	11.7	11.7	38.9	44.6	39.9	
Actuated g/C Ratio	0.22	0.22	0.73	0.83	0.75	
v/c Ratio	0.08	0.12	0.08	0.58	0.57	

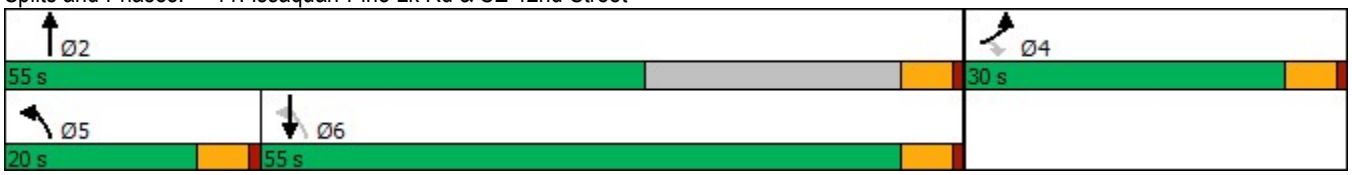
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	26.6	10.3	3.9	7.0	11.8	
Queue Delay	0.0	0.0	0.0	0.5	0.0	
Total Delay	26.6	10.3	3.9	7.5	11.8	
LOS	C	B	A	A	B	
Approach Delay	16.9			7.3	11.8	
Approach LOS	B			A	B	
Queue Length 50th (ft)	10	0	3	116	186	
Queue Length 95th (ft)	36	26	19	449	508	
Internal Link Dist (ft)	1449			840	833	
Turn Bay Length (ft)		25	150			
Base Capacity (vph)	1058	942	887	1731	1507	
Starvation Cap Reductn	0	0	0	406	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.05	0.05	0.67	0.51	

Intersection Summary

Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 53.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 11: Issaquah-Pine Lk Rd & SE 42nd Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1	1	110	1	45	17	825	299	79	681	5
Future Volume (vph)	2	1	1	110	1	45	17	825	299	79	681	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-6%	
Storage Length (ft)	0		0	200		0	160		150	165		0
Storage Lanes	0		0	1		0	1		1	1		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.97						1.00	
Frt		0.966			0.853				0.850		0.999	
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1732	0	1711	1495	0	1728	1818	1546	1779	1871	0
Flt Permitted		0.923		0.755			0.286			0.168		
Satd. Flow (perm)	0	1632	0	1359	1495	0	520	1818	1546	315	1871	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			46				102			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		418			440			304			920	
Travel Time (s)		11.4			12.0			5.9			17.9	
Confl. Peds. (#/hr)	2					2	2					2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	2	1	1	113	1	46	18	851	308	81	702	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	113	47	0	18	851	308	81	707	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA	Perm	D.P+P	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			6		2	2		
Detector Phase	8	8		4	4		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		10.0	10.0		5.0	12.0	12.0	7.0	12.0	
Minimum Split (s)	26.0	26.0		24.0	24.0		10.0	35.0	35.0	13.0	25.0	
Total Split (s)	30.0	30.0		50.0	50.0		17.0	56.0	56.0	36.0	56.0	
Total Split (%)	21.1%	21.1%		35.2%	35.2%		12.0%	39.4%	39.4%	25.4%	39.4%	
Maximum Green (s)	25.0	25.0		45.0	45.0		12.0	50.0	50.0	30.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		-2.0		-2.0	-2.0		-3.0	-3.0	-3.0	-3.0	-3.0	
Total Lost Time (s)		3.0		3.0	3.0		2.0	3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		4.0	4.0		2.0	3.0	3.0	3.0	4.0	
Recall Mode	None	None		None	None		None	Min	Min	None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	14.0	14.0		12.0	12.0			22.0	22.0		12.0	
Pedestrian Calls (#/hr)	0	0		2	2			0	0		2	
Act Effct Green (s)		15.8		15.8	15.8		66.8	56.0	56.0	66.3	60.7	
Actuated g/C Ratio		0.18		0.18	0.18		0.76	0.63	0.63	0.75	0.69	

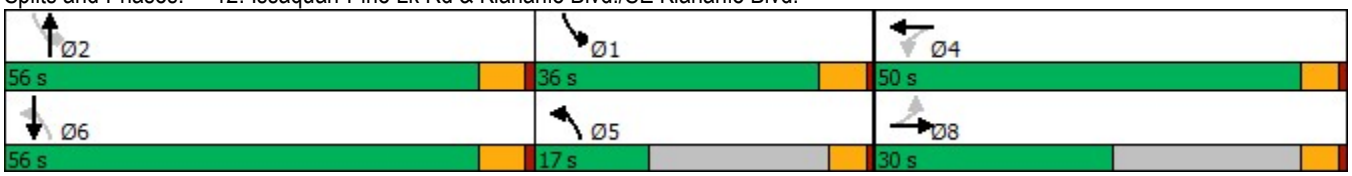
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01		0.47	0.15		0.03	0.74	0.30	0.20	0.55	
Control Delay		26.8		39.1	10.9		3.5	18.5	6.8	6.3	11.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		26.8		39.1	10.9		3.5	18.5	6.8	6.3	11.6	
LOS		C		D	B		A	B	A	A	B	
Approach Delay		26.8			30.8			15.2			11.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		1		57	0		2	316	47	9	122	
Queue Length 95th (ft)		10		110	29		8	#612	110	25	411	
Internal Link Dist (ft)		338			360			224			840	
Turn Bay Length (ft)				200			160		150	165		
Base Capacity (vph)		869		723	817		948	1151	1016	847	1297	
Starvation Cap Reductn		0		0	0		0	0	0	0	0	
Spillback Cap Reductn		0		0	0		0	0	0	0	0	
Storage Cap Reductn		0		0	0		0	0	0	0	0	
Reduced v/c Ratio		0.00		0.16	0.06		0.02	0.74	0.30	0.10	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 142
Actuated Cycle Length: 88.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 70.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Issaquah-Pine Lk Rd & Klahanie Blvd./SE Klahanie Blvd.



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1	7	54	1	34	10	1165	133	24	763	11
Future Volume (vph)	6	1	7	54	1	34	10	1165	133	24	763	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	25		50	0		50	115		0	120		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.985			0.998	
Flt Protected		0.959			0.953		0.950			0.950		
Satd. Flow (prot)	0	1761	1561	0	1750	1561	1728	1791	0	1711	1797	0
Flt Permitted		0.776			0.725		0.316			0.072		
Satd. Flow (perm)	0	1425	1561	0	1332	1561	575	1791	0	130	1797	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			16			34		8			1	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		323			261			725			1521	
Travel Time (s)		8.8			7.1			14.1			29.6	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Adj. Flow (vph)	6	1	7	55	1	34	10	1177	134	24	771	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	7	7	0	56	34	10	1311	0	24	782	0
Turn Type	Perm	NA	pm+ov	Perm	NA	pm+ov	D.P+P	NA		D.P+P	NA	
Protected Phases		4	5		8	1	5	2		1	6	
Permitted Phases	4		4	8		8	6			2		
Detector Phase	4	4	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0	10.0	26.0	26.0	10.0	10.0	28.0		10.0	26.0	
Total Split (s)	30.0	30.0	15.0	30.0	30.0	15.0	15.0	95.0		15.0	95.0	
Total Split (%)	21.4%	21.4%	10.7%	21.4%	21.4%	10.7%	10.7%	67.9%		10.7%	67.9%	
Maximum Green (s)	25.0	25.0	10.0	25.0	25.0	10.0	10.0	90.0		10.0	90.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	5.0		2.0	5.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			16.0			14.0	
Pedestrian Calls (#/hr)				0	0			0			0	
Act Effct Green (s)		7.8	9.6		10.2	18.1	101.4	95.9		99.8	99.9	
Actuated g/C Ratio		0.07	0.08		0.09	0.15	0.85	0.81		0.84	0.84	
v/c Ratio		0.08	0.05		0.49	0.13	0.02	0.91		0.13	0.52	
Control Delay		53.1	8.3		66.8	14.1	2.0	23.2		3.3	6.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	

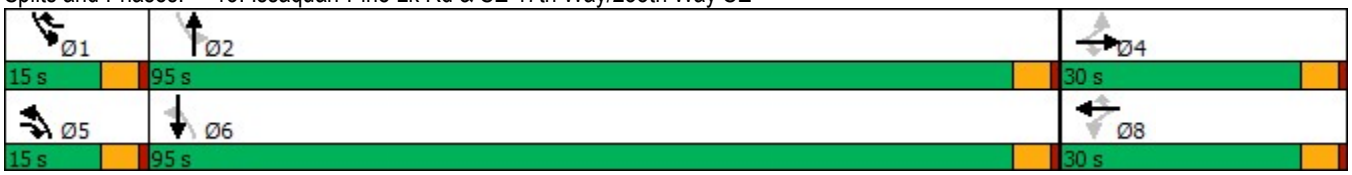
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		53.1	8.3		66.8	14.1	2.0	23.2		3.3	6.0	
LOS		D	A		E	B	A	C		A	A	
Approach Delay		30.7			46.9			23.0			6.0	
Approach LOS		C			D			C			A	
Queue Length 50th (ft)		5	0		42	0	1	750		2	117	
Queue Length 95th (ft)		20	7		86	29	4	#1354		7	357	
Internal Link Dist (ft)		243			181			645			1441	
Turn Bay Length (ft)			50			50	115			120		
Base Capacity (vph)		311	205		291	329	604	1445		259	1509	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.02	0.03		0.19	0.10	0.02	0.91		0.09	0.52	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 119
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 87.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Issaquah-Pine Lk Rd & SE 47th Way/238th Way SE



PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	52	106	192	1262	801	61
Future Volume (vph)	52	106	192	1262	801	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1561	1728	1818	1783	0
Flt Permitted	0.950		0.199			
Satd. Flow (perm)	1745	1561	362	1818	1783	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		108			5	
Link Speed (mph)	35			35	35	
Link Distance (ft)	464			1203	719	
Travel Time (s)	9.0			23.4	14.0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	1%	1%	2%	2%
Adj. Flow (vph)	53	108	196	1288	817	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	108	196	1288	879	0
Turn Type	Prot	pm+ov	D.P+P	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	6			
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	10.0	10.0	10.0	26.0	
Total Split (s)	25.0	24.0	24.0	95.0	95.0	
Total Split (%)	17.4%	16.7%	16.7%	66.0%	66.0%	
Maximum Green (s)	20.0	20.0	20.0	90.0	91.0	
Yellow Time (s)	4.0	3.0	3.0	4.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.0	3.0	3.0	4.0	3.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	2.0	2.0	4.0	4.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	12.0				14.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	11.0	23.5	68.6	70.7	60.3	
Actuated g/C Ratio	0.12	0.26	0.76	0.78	0.67	
v/c Ratio	0.25	0.22	0.49	0.91	0.74	
Control Delay	45.4	8.2	6.5	17.9	13.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

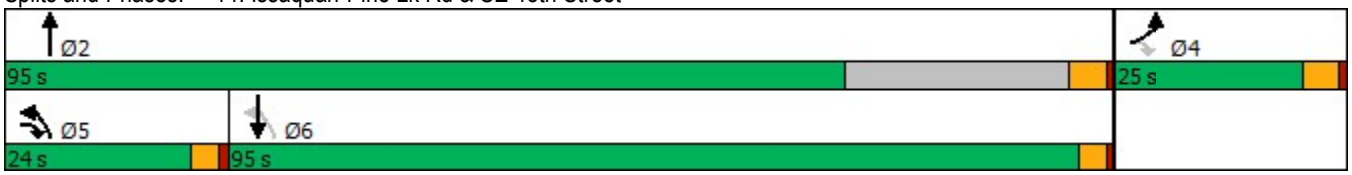
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	45.4	8.2	6.5	17.9	13.8	
LOS	D	A	A	B	B	
Approach Delay	20.4			16.4	13.8	
Approach LOS	C			B	B	
Queue Length 50th (ft)	29	0	18	391	270	
Queue Length 95th (ft)	74	44	38	#857	494	
Internal Link Dist (ft)	384			1123	639	
Turn Bay Length (ft)	140		150			
Base Capacity (vph)	433	715	626	1818	1649	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.15	0.31	0.71	0.53	

Intersection Summary

Area Type: Other
Cycle Length: 144
Actuated Cycle Length: 90.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 15.8 Intersection LOS: B
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Issaquah-Pine Lk Rd & SE 48th Street



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	36	36	118	40	93	36	184	107	226	157	9
Future Volume (vph)	2	36	36	118	40	93	36	184	107	226	157	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	200		0	165		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.925			0.895			0.945			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1699	0	1745	1644	0	1745	1736	0	1745	1822	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1745	1699	0	1745	1644	0	1745	1736	0	1745	1822	0
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		341			1236			1296			964	
Travel Time (s)		6.6			24.1			25.2			18.8	
Confl. Peds. (#/hr)	9		4	4		9	7		2	2		7
Confl. Bikes (#/hr)			1			2			2			2
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	46	46	137	47	108	44	227	132	254	176	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	92	0	137	155	0	44	359	0	254	186	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	36	36	118	40	93	36	184	107	226	157	9
Future Vol, veh/h	2	36	36	118	40	93	36	184	107	226	157	9
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	46	46	137	47	108	44	227	132	254	176	10
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	11.6	12.6	17.9	14.5
HCM LOS	B	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	63%	0%	50%	0%	30%	0%	95%
Vol Right, %	0%	37%	0%	50%	0%	70%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	291	2	72	118	133	226	166
LT Vol	36	0	2	0	118	0	226	0
Through Vol	0	184	0	36	0	40	0	157
RT Vol	0	107	0	36	0	93	0	9
Lane Flow Rate	44	359	3	92	137	155	254	187
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.086	0.621	0.006	0.186	0.288	0.281	0.488	0.33
Departure Headway (Hd)	6.997	6.227	8.137	7.263	7.556	6.545	6.922	6.374
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	508	575	442	497	472	544	518	560
Service Time	4.792	4.02	5.837	4.963	5.353	4.341	4.716	4.169
HCM Lane V/C Ratio	0.087	0.624	0.007	0.185	0.29	0.285	0.49	0.334
HCM Control Delay	10.5	18.8	10.9	11.6	13.4	11.9	16.2	12.3
HCM Lane LOS	B	C	B	B	B	B	C	B
HCM 95th-tile Q	0.3	4.2	0	0.7	1.2	1.1	2.6	1.4

PRJ19-00008 Attachment 060

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	41	9	667	55	10	586
Future Volume (vph)	41	9	667	55	10	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.990			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	1531	1800	0	1728	1818
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1711	1531	1800	0	1728	1818
Link Speed (mph)	35		40			40
Link Distance (ft)	189		1034			162
Travel Time (s)	3.7		17.6			2.8
Confl. Peds. (#/hr)				1	1	
Confl. Bikes (#/hr)				4		
Peak Hour Factor	0.51	0.51	0.82	0.82	0.83	0.83
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Adj. Flow (vph)	80	18	813	67	12	706
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	18	880	0	12	706
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 48.4% ICU Level of Service A
Analysis Period (min) 15

PRJ19-00008 Attachment 060

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	9	667	55	10	586
Future Vol, veh/h	41	9	667	55	10	586
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	51	51	82	82	83	83
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	80	18	813	67	12	706

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1578	848	0	0	881	0
Stage 1	848	-	-	-	-	-
Stage 2	730	-	-	-	-	-
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	120	361	-	-	772	-
Stage 1	420	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	118	361	-	-	771	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.6	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	256	361	771	-
HCM Lane V/C Ratio	-	-	0.314	0.049	0.016	-
HCM Control Delay (s)	-	-	25.4	15.5	9.7	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.2	0	-

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	666	0	4	780	342	1	1	1	134	2	11
Future Volume (vph)	13	666	0	4	780	342	1	1	1	134	2	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		90	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	0			0			0			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.955			0.990	
Flt Protected		0.999						0.984			0.956	
Satd. Flow (prot)	0	1799	0	0	1818	1546	0	1726	0	0	1738	0
Flt Permitted		0.984			0.997			0.907			0.956	
Satd. Flow (perm)	0	1772	0	0	1813	1513	0	1591	0	0	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								1			5	
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		684			518			106			414	
Travel Time (s)		13.3			10.1			2.1			9.4	
Confl. Bikes (#/hr)						3						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	716	0	4	839	368	1	1	1	144	2	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	730	0	0	843	368	0	3	0	0	158	0
Turn Type	Perm	NA		Perm	NA	pm+ov	D.Pm	NA		Split	NA	
Protected Phases		2			6	8!				8!	8	
Permitted Phases	2			6		6	8	8!				
Detector Phase	2	2		6	6	8	8	8		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		22.0	22.0	21.0	21.0	21.0		21.0	21.0	
Total Split (s)	50.0	50.0		50.0	50.0	35.0	35.0	35.0		35.0	35.0	
Total Split (%)	58.8%	58.8%		58.8%	58.8%	41.2%	41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	45.0	45.0		45.0	45.0	30.0	30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.5			-2.5	-2.5		0.0			0.0	
Total Lost Time (s)		2.5			2.5	2.5		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Walk Time (s)				7.0	7.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)				10.0	10.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)				0	0	0	0	0		0	0	
Act Effct Green (s)		30.2			30.2	43.2		10.3			10.3	
Actuated g/C Ratio		0.62			0.62	0.89		0.21			0.21	
v/c Ratio		0.66			0.75	0.27		0.01			0.43	

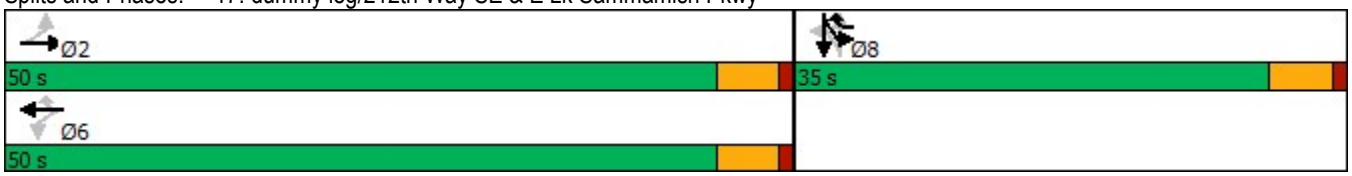
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		9.6			11.7	0.7		18.0			22.8	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		9.6			11.7	0.7		18.0			22.8	
LOS		A			B	A		B			C	
Approach Delay		9.6			8.4			18.0			22.8	
Approach LOS		A			A			B			C	
Queue Length 50th (ft)		98			125	0		1			36	
Queue Length 95th (ft)		251			323	0		7			109	
Internal Link Dist (ft)		604			438			26			334	
Turn Bay Length (ft)						90						
Base Capacity (vph)		1592			1629	1476		1070			1170	
Starvation Cap Reductn		0			0	0		0			0	
Spillback Cap Reductn		0			0	0		0			0	
Storage Cap Reductn		0			0	0		0			0	
Reduced v/c Ratio		0.46			0.52	0.25		0.00			0.14	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 48.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 9.9 Intersection LOS: A
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
! Phase conflict between lane groups.

Splits and Phases: 17: dummy leg/212th Way SE & E Lk Sammamish Pkwy



PRJ19-00008 Attachment 060

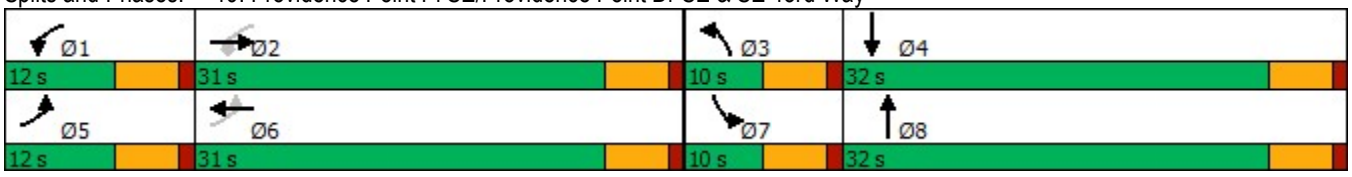
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	1291	1	15	684	0	12	1	15	15	1	38
Future Volume (vph)	41	1291	1	15	684	0	12	1	15	15	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	13	12	11	13	12
Storage Length (ft)	170		150	70		0	70		0	75		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.96				1.00				0.98	
Frt			0.850					0.858			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3490	1561	1728	3455	0	1745	1685	0	1694	1600	0
Flt Permitted	0.329			0.112			0.950			0.950		
Satd. Flow (perm)	603	3490	1494	204	3455	0	1737	1685	0	1694	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154					17			42	
Link Speed (mph)		40			40			20			20	
Link Distance (ft)		1235			169			195			164	
Travel Time (s)		21.1			2.9			6.6			5.6	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)			10			5						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	3%	3%	3%
Adj. Flow (vph)	46	1434	1	17	760	0	13	1	17	17	1	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1434	1	17	760	0	13	18	0	17	43	0
Turn Type	D.P+P	NA	Perm	D.P+P	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	6		2	2								
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	12.0	24.0	24.0	12.0	31.0		10.0	10.0		10.0	32.0	
Total Split (s)	12.0	31.0	31.0	12.0	31.0		10.0	32.0		10.0	32.0	
Total Split (%)	14.1%	36.5%	36.5%	14.1%	36.5%		11.8%	37.6%		11.8%	37.6%	
Maximum Green (s)	7.0	26.0	26.0	7.0	26.0		5.0	27.0		5.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0						7.0	
Flash Dont Walk (s)		12.0	12.0		19.0						20.0	
Pedestrian Calls (#/hr)		5	5		5						5	
Act Effct Green (s)	35.4	38.0	38.0	36.6	35.2		5.4	8.1		5.4	8.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.72	0.72	0.69	0.67		0.10	0.15		0.10	0.15	
v/c Ratio	0.08	0.57	0.00	0.05	0.33		0.07	0.07		0.10	0.15	
Control Delay	7.7	13.2	0.0	8.3	11.3		28.8	10.8		29.1	8.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.7	13.2	0.0	8.3	11.3		28.8	10.8		29.1	8.8	
LOS	A	B	A	A	B		C	B		C	A	
Approach Delay		13.0			11.3			18.3			14.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	3	80	0	1	32		3	0		4	0	
Queue Length 95th (ft)	32	#664	0	16	253		25	15		29	23	
Internal Link Dist (ft)		1155			89			115			84	
Turn Bay Length (ft)	170		150	70			70			75		
Base Capacity (vph)	568	2517	1120	358	2428		177	933		172	897	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.57	0.00	0.05	0.31		0.07	0.02		0.10	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 52.7
Natural Cycle: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 53.8% ICU Level of Service A
Analysis Period (min) 15
Description: Count from 11/1/18 w/o vols for Prov Pt Pl
Estimated vols for Prov Pt Pl
SBT&L not allowed in 2018 but estimated based on ProvPtfar north access for future analysis
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 19: Providence Point Pl SE/Providence Point Dr SE & SE 43rd Way



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	411	165	387	287	106	27	244	1341	244	16	1535	169
Future Volume (vph)	411	165	387	287	106	27	244	1341	244	16	1535	169
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	11
Storage Length (ft)	220		325			0	250		0	150		700
Storage Lanes	1		1			0	1		0	1		1
Taper Length (ft)	25						25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99		1.00		1.00	1.00				0.97
Frt			0.850		0.970			0.977				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1750	1488	1662	1691	0	1646	3206	0	1646	3292	1424
Flt Permitted	0.669			0.386			0.950			0.950		
Satd. Flow (perm)	1166	1750	1467	676	1691	0	1644	3206	0	1646	3292	1375
Right Turn on Red						Yes			Yes			
Satd. Flow (RTOR)					8			21				132
Link Speed (mph)		30			25			40			35	
Link Distance (ft)		1503			842			435			1115	
Travel Time (s)		34.2			23.0			7.4			21.7	
Confl. Peds. (#/hr)	3		1			3	3					3
Confl. Bikes (#/hr)						2			2			5
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	428	172	403	299	110	28	254	1397	254	17	1599	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	428	172	403	299	138	0	254	1651	0	17	1599	489
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4								2
Detector Phase	3	8	8	7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	5.0	7.0	7.0	5.0	7.0		5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	15.0	30.0	30.0	15.0	30.0		15.0	27.0		13.0	26.0	26.0
Total Split (s)	17.0	30.0	30.0	22.0	35.0		28.0	75.0		13.0	60.0	60.0
Total Split (%)	12.1%	21.4%	21.4%	15.7%	25.0%		20.0%	53.6%		9.3%	42.9%	42.9%
Maximum Green (s)	12.0	25.0	25.0	17.0	30.0		23.0	70.0		8.0	55.0	55.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?								Yes		Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0			7.0			7.0	7.0
Flash Dont Walk (s)		19.0	19.0		19.0			14.0			14.0	14.0
Pedestrian Calls (#/hr)		1	1		3			0			3	3
Act Effct Green (s)	37.0	25.0	25.0	47.0	30.0		22.6	78.1		6.1	55.4	55.4

PRJ19-00008 Attachment 060

Lane Group	SBR2
Lane Configurations	
Traffic Volume (vph)	300
Future Volume (vph)	300
Ideal Flow (vphpl)	1750
Lane Width (ft)	12
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	1%
Adj. Flow (vph)	313
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL2	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.26	0.18	0.18	0.34	0.21		0.16	0.56		0.04	0.40	0.40
v/c Ratio	1.22	0.55	1.54	0.86	0.38		0.95	0.92		0.24	1.23	0.78
Control Delay	162.7	59.9	300.8	63.6	47.6		98.4	19.3		69.9	145.8	36.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	7.9		0.0	0.0	0.0
Total Delay	162.7	59.9	300.8	63.6	47.6		98.4	27.2		69.9	145.8	36.2
LOS	F	E	F	E	D		F	C		E	F	D
Approach Delay		200.6			58.6			36.7			119.7	
Approach LOS		F			E			D			F	
Queue Length 50th (ft)	~443	145	~514	220	102		220	116		15	~945	236
Queue Length 95th (ft)	#691	224	#722	#380	168		m#294	#877		m21	#1089	443
Internal Link Dist (ft)		1423			762			355			1035	
Turn Bay Length (ft)	220		325	180			250			150		700
Base Capacity (vph)	350	312	261	346	368		270	1797		94	1302	623
Starvation Cap Reductn	0	0	0	0	0		0	138		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.22	0.55	1.54	0.86	0.38		0.94	1.00		0.18	1.23	0.78

Intersection Summary

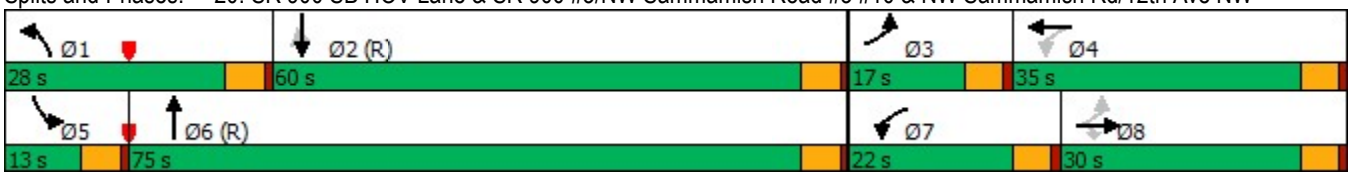
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 54 (39%), Referenced to phase 2:SBT and 6:NBT, Start of 1st Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 100.7 Intersection LOS: F
Intersection Capacity Utilization 111.2% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 20: SR 900 SB HOV Lane & SR 900 #3/NW Sammamish Road #3 #10 & NW Sammamish Rd/12th Ave NW



PRJ19-00008 Attachment 060

Lane Group	SBR2
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1193	154	475	81	175	64	320	863	27	72	526	770
Future Volume (vph)	1193	154	475	81	175	64	320	863	27	72	526	770
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width (ft)	11	11	11	12	12	12	11	11	11	11	11	11
Storage Length (ft)	215		215	150		0	400		0	230		800
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.96		0.97	0.99	0.99		0.99	1.00		1.00		0.97
Frt			0.850		0.960			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3118	1692	1426	1646	1640	0	3087	3164	0	1591	3182	1424
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2997	1692	1384	1625	1640	0	3051	3164	0	1590	3182	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		12			2				199
Link Speed (mph)		35			25			35			40	
Link Distance (ft)		534			1320			810			1825	
Travel Time (s)		10.4			36.0			15.8			31.1	
Confl. Peds. (#/hr)	25		10	10		25	10		1	1		10
Confl. Bikes (#/hr)			4			8			1			3
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 (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	1243	160	495	84	182	67	333	899	28	75	548	802
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1243	160	495	84	249	0	333	927	0	75	548	802
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	5.0		5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	15.0	32.0	15.0	15.0	38.0		15.0	30.0		13.0	34.0	15.0
Total Split (s)	44.0	62.0	22.0	20.0	38.0		22.0	45.0		13.0	36.0	44.0
Total Split (%)	31.4%	44.3%	15.7%	14.3%	27.1%		15.7%	32.1%		9.3%	25.7%	31.4%
Maximum Green (s)	39.0	57.0	17.0	15.0	33.0		17.0	40.0		8.0	31.0	39.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	3.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	C-Max	C-Max	None	None	None		None	Max		None	Max	C-Max
Walk Time (s)		5.0			5.0			7.0			7.0	
Flash Dont Walk (s)		21.0			27.0			17.0			21.0	
Pedestrian Calls (#/hr)		10			25			1			10	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	44.8	60.9	77.7	11.1	27.2		16.8	40.0		8.0	31.2	76.0
Actuated g/C Ratio	0.32	0.44	0.56	0.08	0.19		0.12	0.29		0.06	0.22	0.54
v/c Ratio	1.25	0.22	0.58	0.65	0.76		0.90	1.02		0.83	0.77	0.94
Control Delay	158.7	26.5	14.7	83.8	65.1		70.4	72.7		102.6	49.8	45.2
Queue Delay	0.0	0.0	0.4	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	158.7	26.5	15.0	83.8	65.1		70.4	72.7		102.6	49.8	45.2
LOS	F	C	B	F	E		E	E		F	D	D
Approach Delay		110.1			69.9			72.1			50.0	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	~776	90	170	75	197		164	~475		64	197	708
Queue Length 95th (ft)	#924	149	288	130	293		#238	#615		m#107	291	#990
Internal Link Dist (ft)		454			1240			730			1745	
Turn Bay Length (ft)	215		215	150			400			230		800
Base Capacity (vph)	998	735	848	176	395		374	905		90	708	855
Starvation Cap Reductn	0	0	76	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	1.25	0.22	0.64	0.48	0.63		0.89	1.02		0.83	0.77	0.94

Intersection Summary

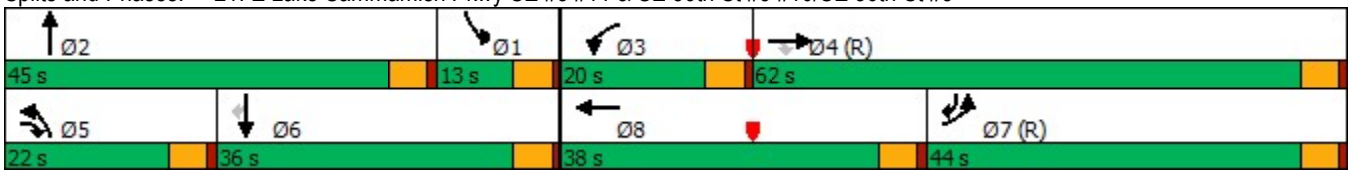
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 4:EBT and 7:EBL, Start of 1st Green, Master Intersection
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 80.2 Intersection LOS: F
Intersection Capacity Utilization 108.4% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: E Lake Sammamish Pkwy SE #5 #11 & SE 56th St #3 #10/SE 56th St #3



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	573	537	10	296	424	89	18	600	686	57	349	477
Future Volume (vph)	573	537	10	296	424	89	18	600	686	57	349	477
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-4%			0%			0%	
Storage Length (ft)	400		0	325		0	150		550	300		160
Storage Lanes	2		0	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	*0.83	0.95	0.95	0.97	0.95	0.95	1.00	*0.60	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				1.00		1.00		0.98			0.99
Frt		0.997			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2668	3205	0	3149	3149	0	1591	2010	1424	1591	3182	1424
Flt Permitted	0.950			0.950			0.510			0.087		
Satd. Flow (perm)	2643	3205	0	3149	3149	0	853	2010	1402	146	3182	1404
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13				566			478
Link Speed (mph)		40			40			35			35	
Link Distance (ft)		822			2324			1101			401	
Travel Time (s)		14.0			39.6			21.4			7.8	
Confl. Peds. (#/hr)	6					6	1		2	2		1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	591	554	10	305	437	92	19	619	707	59	360	492
Shared Lane Traffic (%)												
Lane Group Flow (vph)	591	564	0	305	529	0	19	619	707	59	360	492
Turn Type	Prot	NA		Prot	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases							2		2	6		6
Detector Phase	3	8		7	4		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	15.0	31.0		15.0	36.0		11.0	41.0	41.0	11.0	36.0	36.0
Total Split (s)	55.0	65.0		50.0	60.0		25.0	50.0	50.0	30.0	55.0	55.0
Total Split (%)	28.2%	33.3%		25.6%	30.8%		12.8%	25.6%	25.6%	15.4%	28.2%	28.2%
Maximum Green (s)	50.0	60.0		45.0	55.0		20.0	45.0	45.0	25.0	50.0	50.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		18.0			23.0			28.0	28.0		23.0	23.0
Pedestrian Calls (#/hr)		0			6			2	2		1	1
Act Effct Green (s)	37.0	47.0		18.8	28.9		50.6	46.1	46.1	55.6	50.4	50.4
Actuated g/C Ratio	0.27	0.34		0.14	0.21		0.37	0.33	0.33	0.40	0.37	0.37

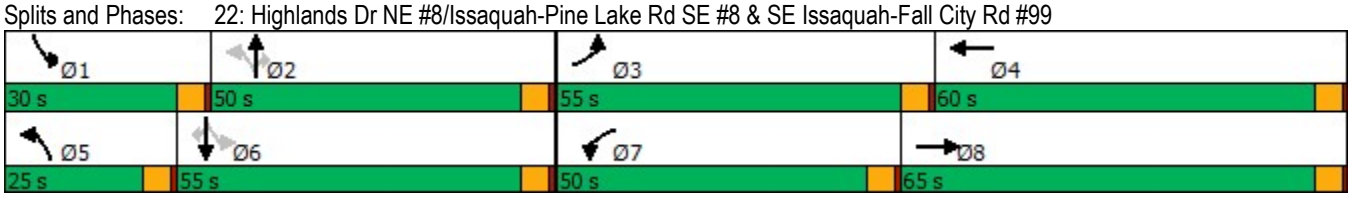
PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.83	0.52		0.71	0.79		0.06	0.92	0.84	0.41	0.31	0.60
Control Delay	58.9	38.3		68.6	60.8		29.8	66.4	19.9	37.7	35.9	7.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	38.3		68.6	60.8		29.8	66.4	19.9	37.7	35.9	7.5
LOS	E	D		E	E		C	E	B	D	D	A
Approach Delay		48.9			63.7			41.4			20.7	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	304	214		138	236		10	456	127	32	127	8
Queue Length 95th (ft)	434	297		216	343		33	#852	#477	77	214	122
Internal Link Dist (ft)		742			2244			1021			321	
Turn Bay Length (ft)	400			325			150		550	300		160
Base Capacity (vph)	991	1442		1053	1295		460	672	845	328	1215	831
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.39		0.29	0.41		0.04	0.92	0.84	0.18	0.30	0.59

Intersection Summary

Area Type: Other
Cycle Length: 195
Actuated Cycle Length: 137.8
Natural Cycle: 115
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 43.4 Intersection LOS: D
Intersection Capacity Utilization 79.5% ICU Level of Service D
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 22: Highlands Dr NE #8/Issaquah-Pine Lake Rd SE #8 & SE Issaquah-Fall City Rd #99



PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	37	85	612	11	143	16	1027	1002	265	828	21
Future Volume (vph)	42	37	85	612	11	143	16	1027	1002	265	828	21
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Grade (%)		0%			-9%			0%			0%	
Storage Length (ft)	0		150	0		200	200		400	325		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98					1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.974		0.950	0.954		0.950			0.950		
Satd. Flow (prot)	0	1648	1438	1595	1602	1503	1607	3214	1438	1591	3167	0
Flt Permitted		0.974		0.950	0.954		0.217			0.099		
Satd. Flow (perm)	0	1643	1438	1595	1602	1473	367	3214	1438	166	3167	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			131			806		2	
Link Speed (mph)		25			40			35			35	
Link Distance (ft)		475			686			638			1057	
Travel Time (s)		13.0			11.7			12.4			20.6	
Confl. Peds. (#/hr)	4					4	2					2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Adj. Flow (vph)	44	39	89	638	11	149	17	1070	1044	276	863	22
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	83	89	325	324	149	17	1070	1044	276	885	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	D.P+P	NA	Free	D.P+P	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	6		Free	2		
Detector Phase	7	7	5	8	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	5.0	8.0	8.0	5.0	5.0	8.0		5.0	8.0	
Minimum Split (s)	15.0	15.0	13.0	27.3	27.3	15.0	13.0	23.3		15.0	27.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0		21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%		15.0%	47.9%	
Maximum Green (s)	12.0	12.0	8.0	37.7	37.7	16.0	8.0	53.7		16.0	61.7	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3		4.0	4.3	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.3	0.3	0.0	0.0	0.3		0.0	0.3	
Total Lost Time (s)		5.0	5.0	5.6	5.6	5.0	5.0	5.6		5.0	5.6	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0		2.0	3.0	
Recall Mode	None	None	None	Max	Max	None	None	C-Max		None	C-Max	
Walk Time (s)				7.0	7.0			7.0			7.0	
Flash Dont Walk (s)				14.0	14.0			10.0			14.0	
Pedestrian Calls (#/hr)				4	4			0			2	
Act Effct Green (s)		10.3	15.7	39.1	39.1	55.7	70.0	53.4	140.0	70.0	64.1	

PRJ19-00008 Attachment 060

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.07	0.11	0.28	0.28	0.40	0.50	0.38	1.00	0.50	0.46	
v/c Ratio		0.69	0.36	0.73	0.73	0.22	0.07	0.87	0.73	1.13	0.61	
Control Delay		90.2	7.9	57.1	56.8	4.6	20.2	41.4	5.2	129.0	24.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	
Total Delay		90.2	7.9	57.1	56.8	4.6	20.2	44.5	5.2	129.0	24.1	
LOS		F	A	E	E	A	C	D	A	F	C	
Approach Delay		47.6			47.1			25.1			49.0	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		75	0	286	285	7	10	546	7	~232	237	
Queue Length 95th (ft)		#135	24	#415	411	41	m9	m505	m28	m#377	m233	
Internal Link Dist (ft)		395			606			558			977	
Turn Bay Length (ft)			150			200	200		400	325		
Base Capacity (vph)		141	276	445	446	668	261	1225	1438	245	1449	
Starvation Cap Reductn		0	0	0	0	0	0	86	0	0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn		0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.59	0.32	0.73	0.73	0.22	0.07	0.94	0.73	1.13	0.61	

Intersection Summary

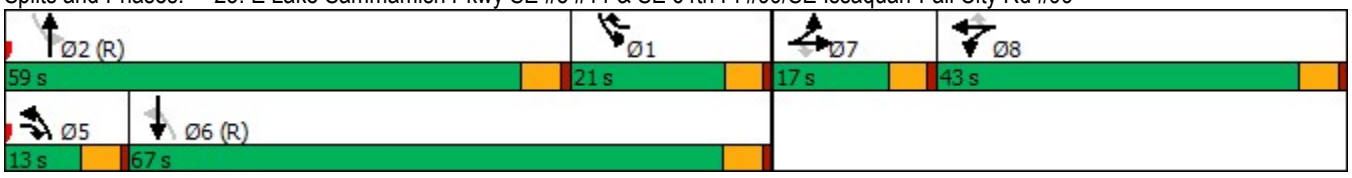
Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBSB and 6:NBSB, Start of 1st Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 23: E Lake Sammamish Pkwy SE #5 #11 & SE 64th Pl #99/SE Issaquah-Fall City Rd #99



USER REPORT FOR SITE

All Movement Classes

Project: Iss-Pine Lk Road - SE 32nd Way - All Conditions **Template: Default Site User Report**

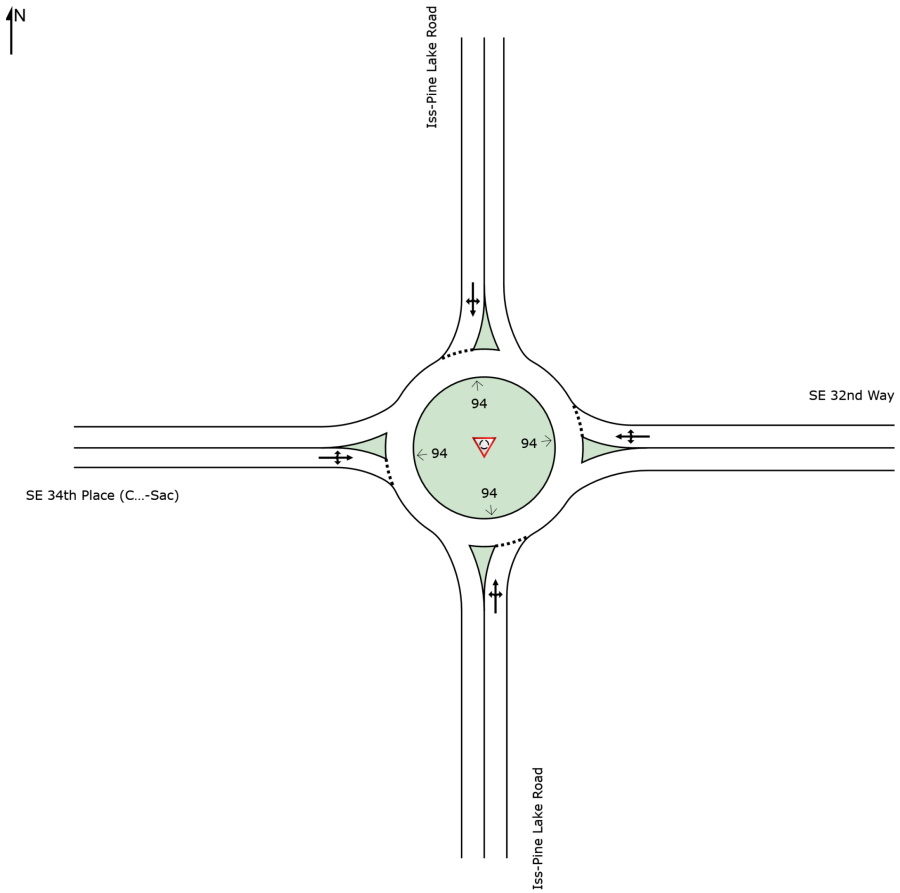
Site: [Existing AM Peak (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

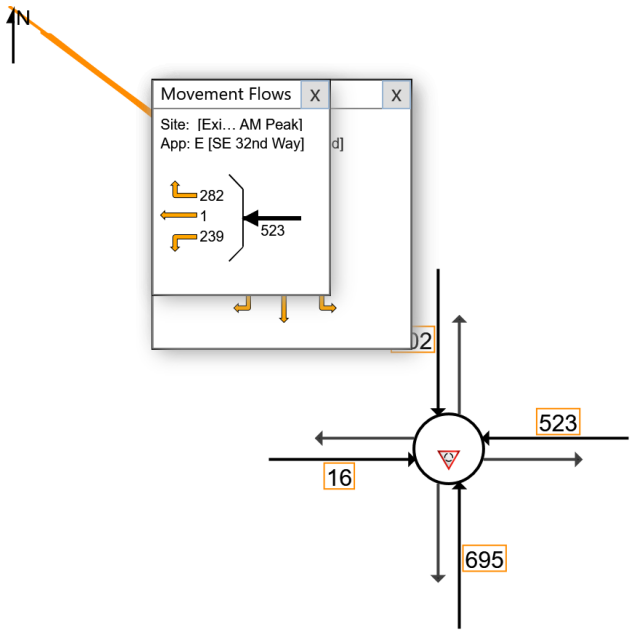
PRJ19-00008 Attachment 060



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups

PRJ19-00008 Attachment 060



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: Iss-Pine Lake Road														
3	L2	3	2.0	3	2.0	0.581	8.0	LOS A	5.1	129.3	0.46	0.34	0.46	29.7
8	T1	565	2.0	621	2.0	0.581	2.5	LOS A	5.1	129.3	0.46	0.34	0.46	29.4
18	R2	64	2.0	70	2.0	0.581	3.1	LOS A	5.1	129.3	0.46	0.34	0.46	28.6

PRJ19-00008 Attachment 060

Approach		632	2.0	695	2.0	0.581	2.6	LOS A	5.1	129.3	0.46	0.34	0.46	29.3
East: SE 32nd Way														
1	L2	189	3.0	239	3.0	0.667	18.1	LOS B	6.9	174.7	0.90	1.06	1.21	32.1
6	T1	1	3.0	1	3.0	0.667	12.3	LOS B	6.9	174.7	0.90	1.06	1.21	32.1
16	R2	223	0.0	282	0.0	0.667	12.2	LOS B	6.9	174.7	0.90	1.06	1.21	31.3
Approach		413	1.4	523	1.4	0.667	14.9	LOS B	6.9	174.7	0.90	1.06	1.21	31.6
North: Iss-Pine Lake Road														
7	L2	77	5.0	90	5.0	0.588	12.6	LOS B	5.0	129.5	0.70	0.72	0.73	35.2
4	T1	353	5.0	410	5.0	0.588	6.8	LOS A	5.0	129.5	0.70	0.72	0.73	35.1
14	R2	2	5.0	2	5.0	0.588	6.9	LOS A	5.0	129.5	0.70	0.72	0.73	34.0
Approach		432	5.0	502	5.0	0.588	7.8	LOS A	5.0	129.5	0.70	0.72	0.73	35.1
West: SE 34th Place (Cul-de-Sac)														
5	L2	7	0.4	13	0.4	0.025	14.2	LOS B	0.1	3.7	0.74	0.70	0.74	33.2
2	T1	1	0.0	2	0.0	0.025	8.4	LOS A	0.1	3.7	0.74	0.70	0.74	33.1
12	R2	1	0.0	2	0.0	0.025	8.5	LOS A	0.1	3.7	0.74	0.70	0.74	32.3
Approach		9	0.3	16	0.3	0.025	13.0	LOS B	0.1	3.7	0.74	0.70	0.74	33.0
All Vehicles		1486	2.7	1736	2.7	0.667	7.9	LOS A	6.9	174.7	0.67	0.67	0.77	31.6

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.

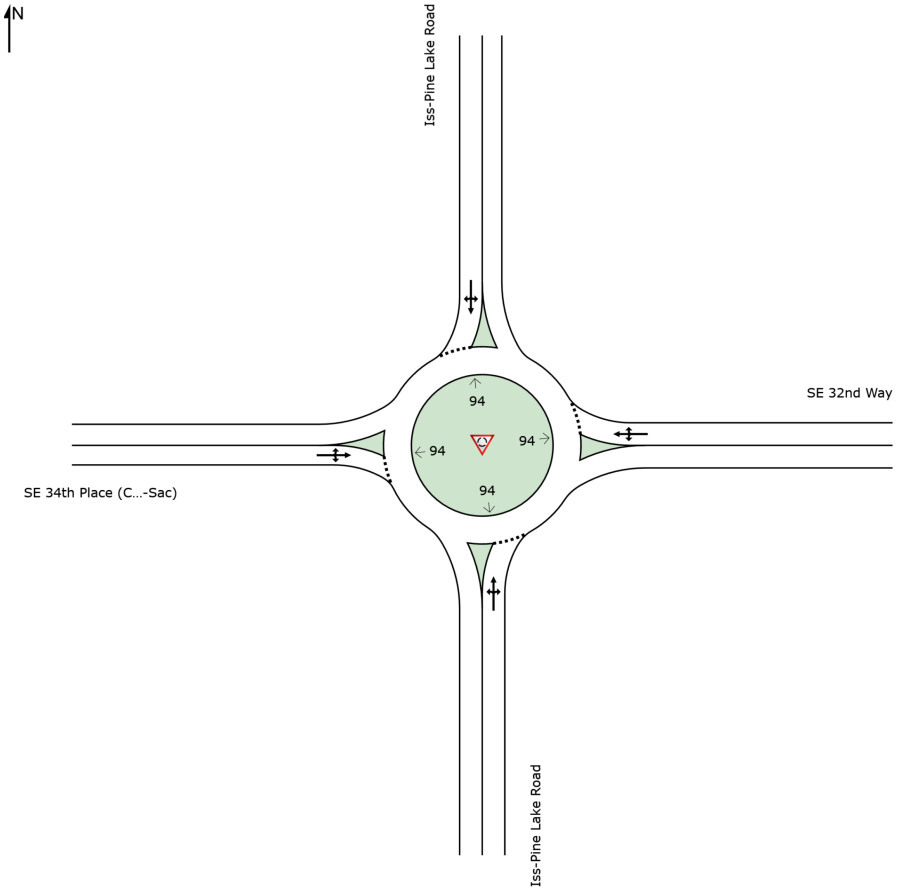
PRJ19-00008 Attachment 060

Site: [2024 Without Project - AM (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

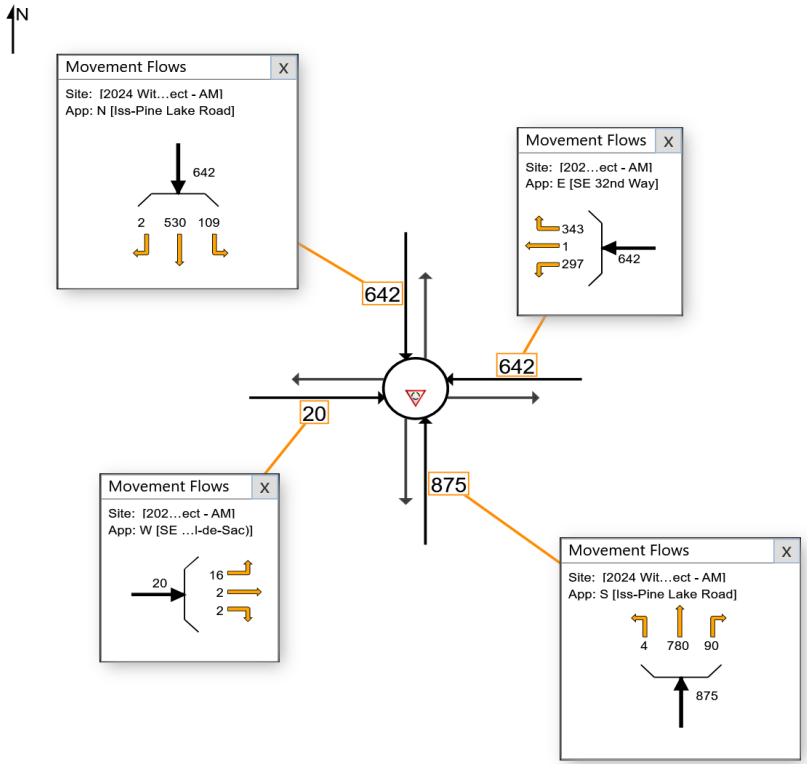
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	4	2.0	4	2.0	0.753	8.7	LOS A	9.2	234.6	0.72	0.43	0.72	29.1
8	T1	710	2.0	780	2.0	0.753	3.2	LOS A	9.2	234.6	0.72	0.43	0.72	28.9

PRJ19-00008 Attachment 060

18	R2	82	2.0	90	2.0	0.753	3.8	LOS A	9.2	234.6	0.72	0.43	0.72	28.1
Approach		796	2.0	875	2.0	0.753	3.3	LOS A	9.2	234.6	0.72	0.43	0.72	28.8
East: SE 32nd Way														
1	L2	235	3.0	297	3.0	1.071	75.1	LOS F	35.0	896.6	1.00	2.08	3.85	17.7
6	T1	1	3.0	1	3.0	1.071	69.3	LOS F	35.0	896.6	1.00	2.08	3.85	17.6
16	R2	271	3.0	343	3.0	1.071	69.4	LOS F	35.0	896.6	1.00	2.08	3.85	17.4
Approach		507	3.0	642	3.0	1.071	72.1	LOS E	35.0	896.6	1.00	2.08	3.85	17.5
North: Iss-Pine Lake Road														
7	L2	94	5.0	109	5.0	0.796	17.4	LOS B	11.0	286.3	0.94	0.96	1.20	33.3
4	T1	456	5.0	530	5.0	0.796	11.5	LOS B	11.0	286.3	0.94	0.96	1.20	33.2
14	R2	2	5.0	2	5.0	0.796	11.7	LOS B	11.0	286.3	0.94	0.96	1.20	32.3
Approach		552	5.0	642	5.0	0.796	12.5	LOS B	11.0	286.3	0.94	0.96	1.20	33.2
West: SE 34th Place (Cul-de-Sac)														
5	L2	9	0.0	16	0.0	0.041	16.6	LOS B	0.3	6.8	0.87	0.77	0.87	32.0
2	T1	1	0.0	2	0.0	0.041	10.7	LOS B	0.3	6.8	0.87	0.77	0.87	31.9
12	R2	1	0.0	2	0.0	0.041	10.9	LOS B	0.3	6.8	0.87	0.77	0.87	31.1
Approach		11	0.0	20	0.0	0.041	15.5	LOS B	0.3	6.8	0.87	0.77	0.87	31.9
All Vehicles		1866	3.1	2178	3.2	1.071	26.4	LOS C	35.0	896.6	0.87	1.08	1.78	25.0

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.

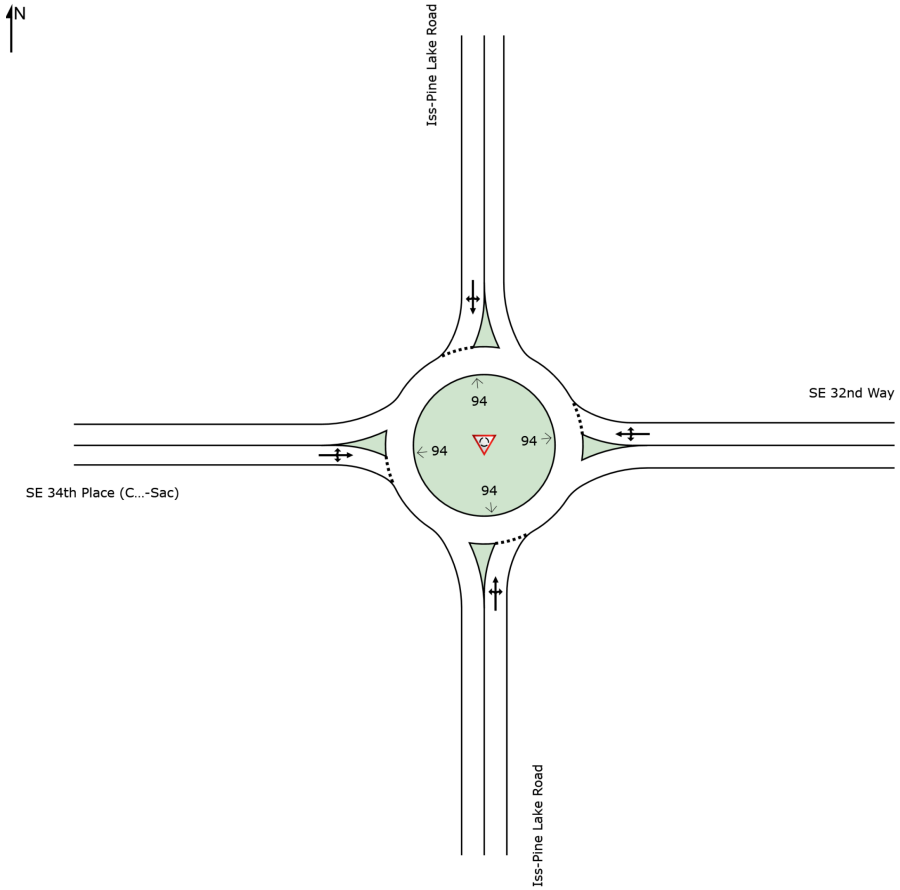
PRJ19-00008 Attachment 060

Site: [2024 With Project - AM (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

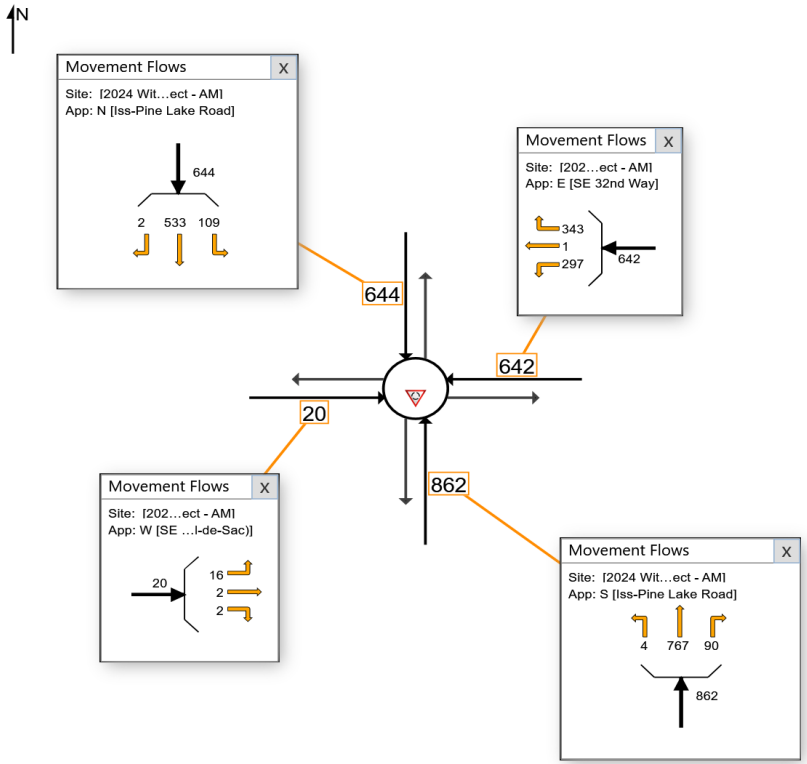
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	4	2.0	4	2.0	0.742	8.6	LOS A	8.9	226.1	0.70	0.42	0.70	29.2
8	T1	698	2.0	767	2.0	0.742	3.1	LOS A	8.9	226.1	0.70	0.42	0.70	28.9

PRJ19-00008 Attachment 060

18	R2	82	2.0	90	2.0	0.742	3.7	LOS A	8.9	226.1	0.70	0.42	0.70	28.1
Approach		784	2.0	862	2.0	0.742	3.2	LOS A	8.9	226.1	0.70	0.42	0.70	28.8
East: SE 32nd Way														
1	L2	235	3.0	297	3.0	1.048	67.2	LOS F	32.1	820.7	1.00	1.98	3.58	18.8
6	T1	1	3.0	1	3.0	1.048	61.4	LOS F	32.1	820.7	1.00	1.98	3.58	18.8
16	R2	271	3.0	343	3.0	1.048	61.5	LOS F	32.1	820.7	1.00	1.98	3.58	18.5
Approach		507	3.0	642	3.0	1.048	64.2	LOS E	32.1	820.7	1.00	1.98	3.58	18.7
North: Iss-Pine Lake Road														
7	L2	94	5.0	109	5.0	0.803	17.7	LOS B	11.3	294.4	0.96	0.98	1.23	33.1
4	T1	458	5.0	533	5.0	0.803	11.9	LOS B	11.3	294.4	0.96	0.98	1.23	33.0
14	R2	2	5.0	2	5.0	0.803	12.0	LOS B	11.3	294.4	0.96	0.98	1.23	32.1
Approach		554	5.0	644	5.0	0.803	12.9	LOS B	11.3	294.4	0.96	0.98	1.23	33.0
West: SE 34th Place (Cul-de-Sac)														
5	L2	9	0.0	16	0.0	0.041	16.7	LOS B	0.3	6.9	0.87	0.77	0.87	31.9
2	T1	1	0.0	2	0.0	0.041	10.9	LOS B	0.3	6.9	0.87	0.77	0.87	31.9
12	R2	1	0.0	2	0.0	0.041	11.0	LOS B	0.3	6.9	0.87	0.77	0.87	31.1
Approach		11	0.0	20	0.0	0.041	15.7	LOS B	0.3	6.9	0.87	0.77	0.87	31.8
All Vehicles		1856	3.2	2167	3.2	1.048	24.2	LOS C	32.1	820.7	0.87	1.05	1.71	25.7

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.

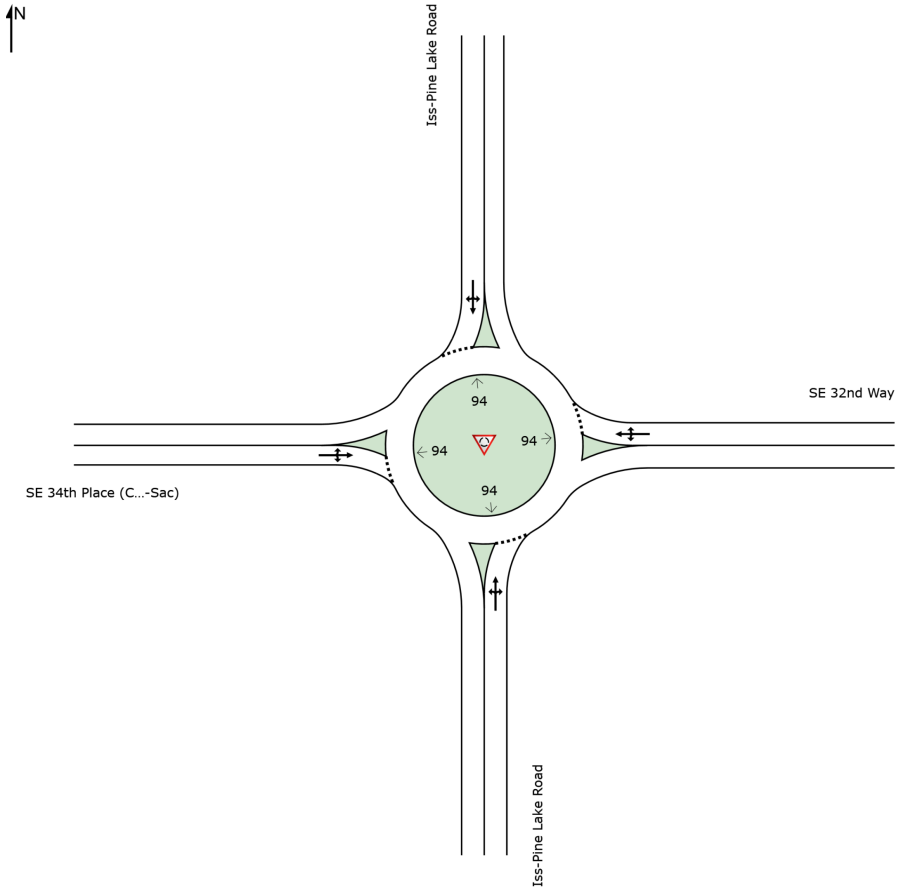
PRJ19-00008 Attachment 060

Site: [Existing - Afternoon (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

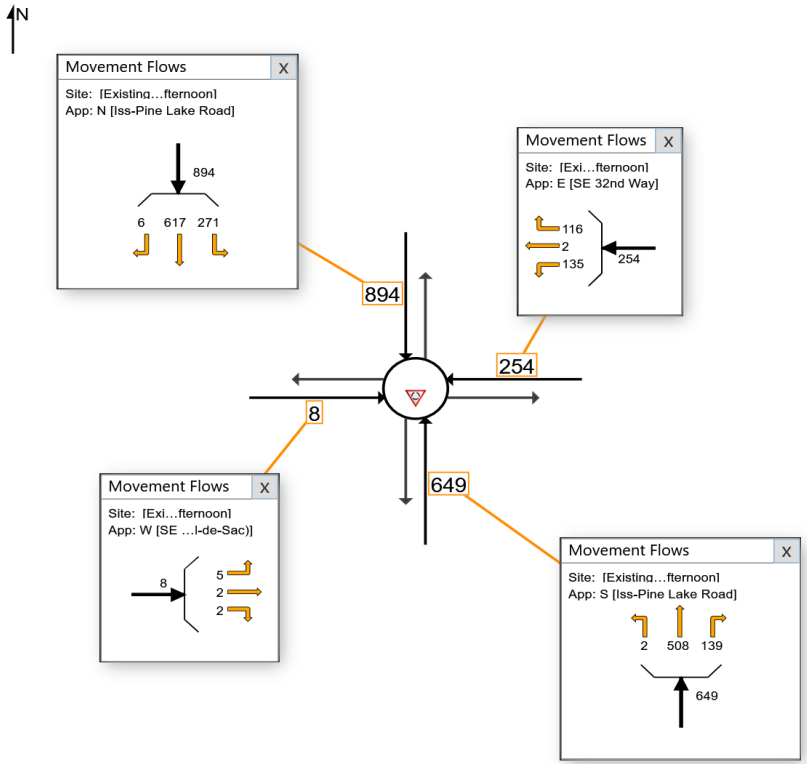
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	2	1.0	2	1.0	0.635	9.9	LOS A	6.2	156.3	0.75	0.63	0.79	29.1
8	T1	483	1.0	508	1.0	0.635	4.4	LOS A	6.2	156.3	0.75	0.63	0.79	28.8

PRJ19-00008 Attachment 060

18	R2	132	1.0	139	1.0	0.635	5.0	LOS A	6.2	156.3	0.75	0.63	0.79	28.0
Approach		617	1.0	649	1.0	0.635	4.5	LOS A	6.2	156.3	0.75	0.63	0.79	28.6
East: SE 32nd Way														
1	L2	126	1.0	135	1.0	0.301	12.4	LOS B	1.9	47.6	0.68	0.78	0.68	34.6
6	T1	2	1.0	2	1.0	0.301	6.6	LOS A	1.9	47.6	0.68	0.78	0.68	34.6
16	R2	108	1.0	116	1.0	0.301	6.7	LOS A	1.9	47.6	0.68	0.78	0.68	33.6
Approach		236	1.0	254	1.0	0.301	9.8	LOS A	1.9	47.6	0.68	0.78	0.68	34.2
North: Iss-Pine Lake Road														
7	L2	233	1.0	271	1.0	0.889	16.0	LOS D	18.8	472.6	1.00	0.76	1.14	33.6
4	T1	531	1.0	617	1.0	0.889	10.1	LOS D	18.8	472.6	1.00	0.76	1.14	33.6
14	R2	5	1.0	6	1.0	0.889	10.3	LOS D	18.8	472.6	1.00	0.76	1.14	32.7
Approach		769	1.0	894	1.0	0.889	11.9	LOS B	18.8	472.6	1.00	0.76	1.14	33.6
West: SE 34th Place (Cul-de-Sac)														
5	L2	3	0.0	5	0.0	0.020	17.9	LOS B	0.1	3.6	0.93	0.73	0.93	31.9
2	T1	1	0.0	2	0.0	0.020	12.0	LOS B	0.1	3.6	0.93	0.73	0.93	31.9
12	R2	1	0.0	2	0.0	0.020	12.1	LOS B	0.1	3.6	0.93	0.73	0.93	31.1
Approach		5	0.0	8	0.0	0.020	15.6	LOS B	0.1	3.6	0.93	0.73	0.93	31.7
All Vehicles		1627	1.0	1805	1.0	0.889	9.0	LOS A	18.8	472.6	0.86	0.72	0.95	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.

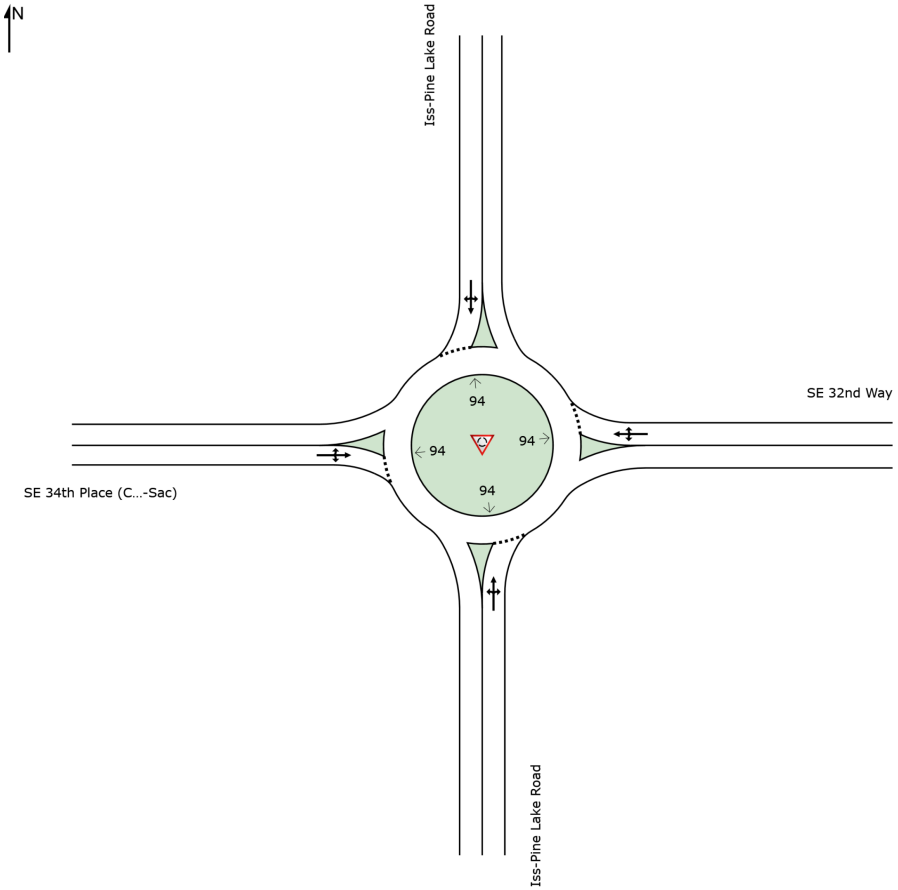
PRJ19-00008 Attachment 060

Site: [2024 Without Project - Afternoon (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

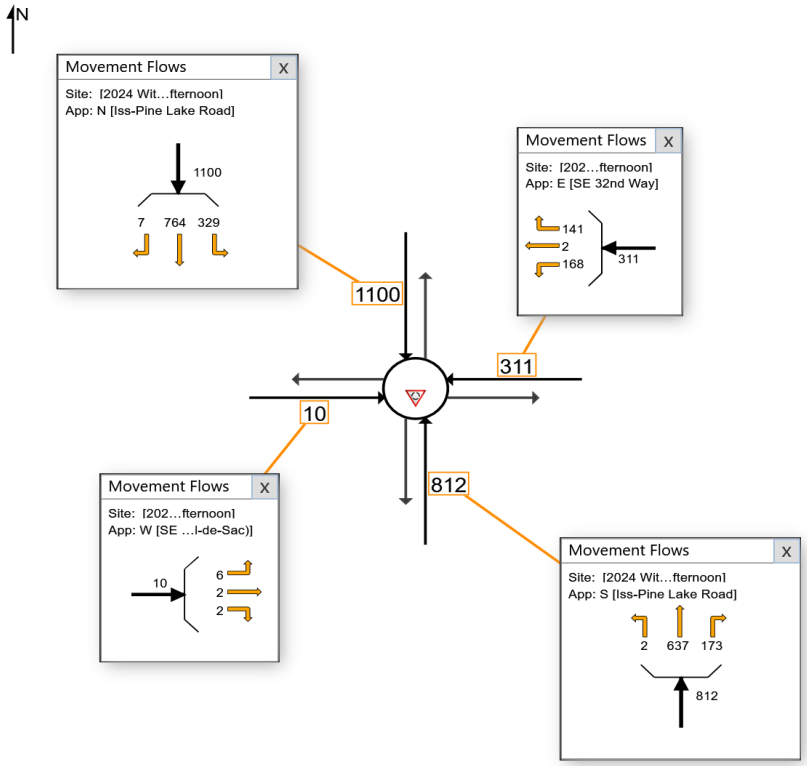
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	2	1.0	2	1.0	0.809	13.3	LOS B	12.3	310.0	0.95	0.93	1.17	28.3
8	T1	605	1.0	637	1.0	0.809	7.8	LOS A	12.3	310.0	0.95	0.93	1.17	28.0

PRJ19-00008 Attachment 060

18	R2	164	1.0	173	1.0	0.809	8.4	LOS A	12.3	310.0	0.95	0.93	1.17	27.3
Approach		771	1.0	812	1.0	0.809	8.0	LOS A	12.3	310.0	0.95	0.93	1.17	27.9
East: SE 32nd Way														
1	L2	156	1.0	168	1.0	0.442	14.1	LOS B	3.4	84.4	0.85	0.90	0.89	33.8
6	T1	2	1.0	2	1.0	0.442	8.3	LOS A	3.4	84.4	0.85	0.90	0.89	33.7
16	R2	131	1.0	141	1.0	0.442	8.4	LOS A	3.4	84.4	0.85	0.90	0.89	32.8
Approach		289	1.0	311	1.0	0.442	11.5	LOS B	3.4	84.4	0.85	0.90	0.89	33.3
North: Iss-Pine Lake Road														
7	L2	283	1.0	329	1.0	1.137	81.5	LOS F	73.9	1862.1	1.00	1.86	3.02	17.0
4	T1	657	1.0	764	1.0	1.137	75.6	LOS F	73.9	1862.1	1.00	1.86	3.02	17.0
14	R2	6	1.0	7	1.0	1.137	75.8	LOS F	73.9	1862.1	1.00	1.86	3.02	16.8
Approach		946	1.0	1100	1.0	1.137	77.4	LOS E	73.9	1862.1	1.00	1.86	3.02	17.0
West: SE 34th Place (Cul-de-Sac)														
5	L2	4	0.0	6	0.0	0.029	20.2	LOS C	0.2	5.2	0.97	0.78	0.97	30.8
2	T1	1	0.0	2	0.0	0.029	14.4	LOS B	0.2	5.2	0.97	0.78	0.97	30.7
12	R2	1	0.0	2	0.0	0.029	14.5	LOS B	0.2	5.2	0.97	0.78	0.97	30.0
Approach		6	0.0	10	0.0	0.029	18.3	LOS B	0.2	5.2	0.97	0.78	0.97	30.6
All Vehicles		2012	1.0	2232	1.0	1.137	42.7	LOS D	73.9	1862.1	0.96	1.38	2.04	21.6

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.

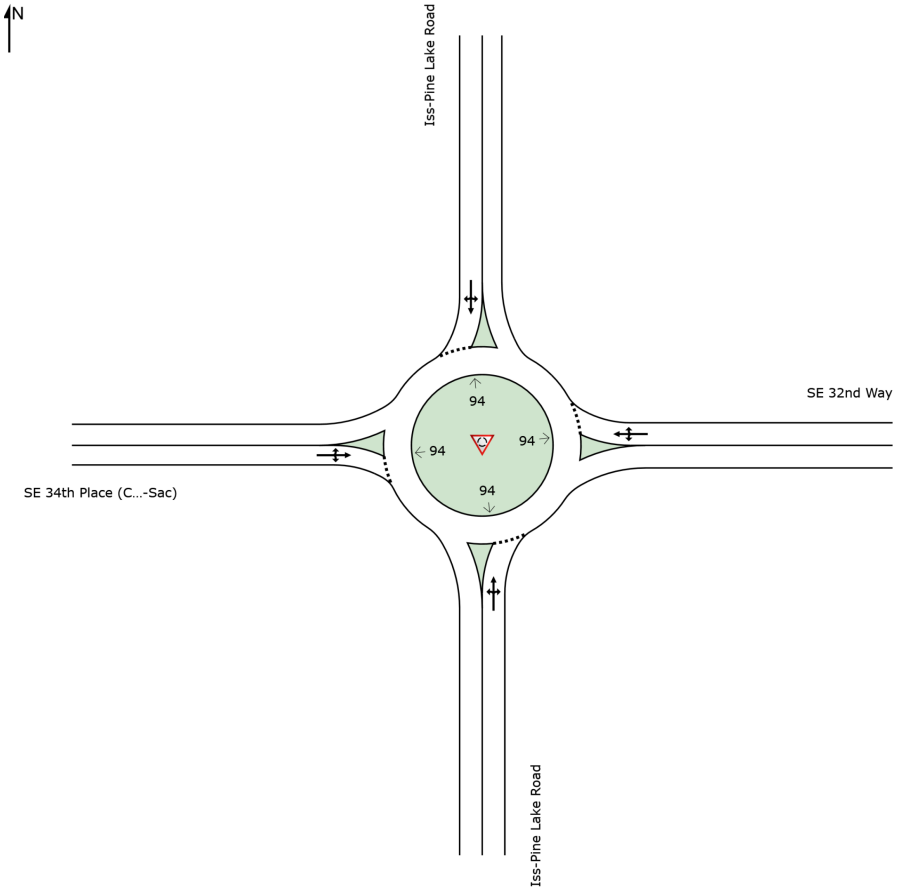
PRJ19-00008 Attachment 060

Site: [2024 With Project - Afternoon (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

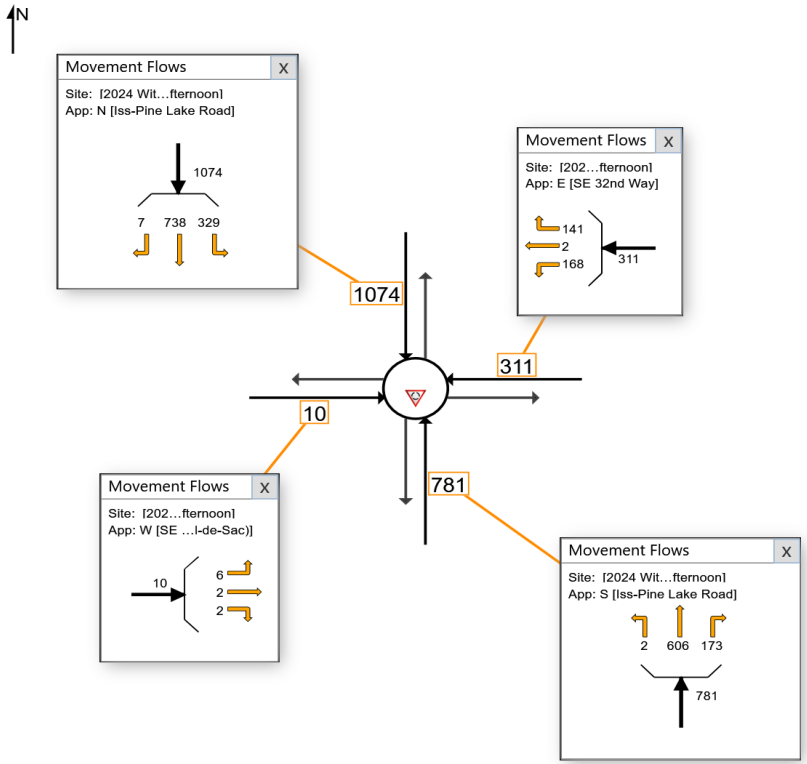
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	2	1.0	2	1.0	0.784	12.8	LOS B	11.0	278.4	0.92	0.89	1.12	28.5
8	T1	576	1.0	606	1.0	0.784	7.3	LOS A	11.0	278.4	0.92	0.89	1.12	28.2

PRJ19-00008 Attachment 060

18	R2	164	1.0	173	1.0	0.784	7.9	LOS A	11.0	278.4	0.92	0.89	1.12	27.5
Approach		742	1.0	781	1.0	0.784	7.4	LOS A	11.0	278.4	0.92	0.89	1.12	28.1
East: SE 32nd Way														
1	L2	156	1.0	168	1.0	0.423	13.6	LOS B	3.1	77.4	0.82	0.87	0.84	34.0
6	T1	2	1.0	2	1.0	0.423	7.7	LOS A	3.1	77.4	0.82	0.87	0.84	34.0
16	R2	131	1.0	141	1.0	0.423	7.9	LOS A	3.1	77.4	0.82	0.87	0.84	33.1
Approach		289	1.0	311	1.0	0.423	11.0	LOS B	3.1	77.4	0.82	0.87	0.84	33.6
North: Iss-Pine Lake Road														
7	L2	283	1.0	329	1.0	1.109	70.0	LOS F	65.9	1660.7	1.00	1.70	2.73	18.6
4	T1	635	1.0	738	1.0	1.109	64.2	LOS F	65.9	1660.7	1.00	1.70	2.73	18.6
14	R2	6	1.0	7	1.0	1.109	64.3	LOS F	65.9	1660.7	1.00	1.70	2.73	18.3
Approach		924	1.0	1074	1.0	1.109	66.0	LOS E	65.9	1660.7	1.00	1.70	2.73	18.6
West: SE 34th Place (Cul-de-Sac)														
5	L2	4	0.0	6	0.0	0.029	20.3	LOS C	0.2	5.3	0.97	0.78	0.97	30.7
2	T1	1	0.0	2	0.0	0.029	14.4	LOS B	0.2	5.3	0.97	0.78	0.97	30.7
12	R2	1	0.0	2	0.0	0.029	14.5	LOS B	0.2	5.3	0.97	0.78	0.97	30.0
Approach		6	0.0	10	0.0	0.029	18.3	LOS B	0.2	5.3	0.97	0.78	0.97	30.6
All Vehicles		1961	1.0	2176	1.0	1.109	36.9	LOS D	65.9	1660.7	0.95	1.29	1.87	22.9

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.

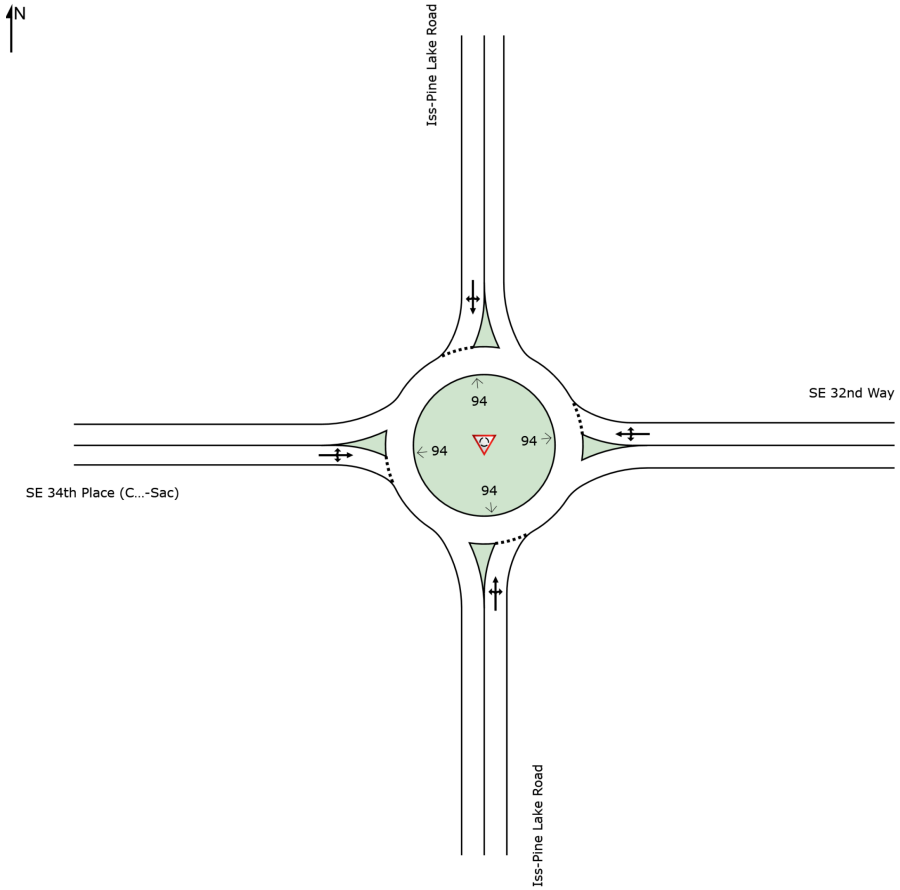
PRJ19-00008 Attachment 060

Site: [Existing - PM (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

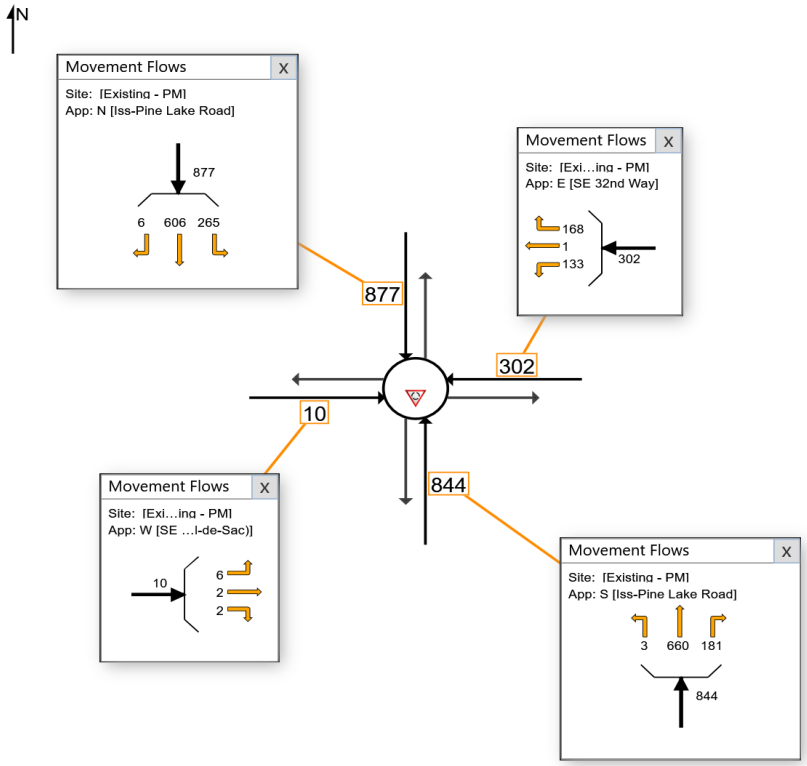
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	3	1.0	3	1.0	0.822	13.2	LOS B	13.1	330.9	0.96	0.91	1.17	28.4
8	T1	627	1.0	660	1.0	0.822	7.7	LOS A	13.1	330.9	0.96	0.91	1.17	28.1

PRJ19-00008 Attachment 060

18	R2	172	1.0	181	1.0	0.822	8.3	LOS A	13.1	330.9	0.96	0.91	1.17	27.3
Approach		802	1.0	844	1.0	0.822	7.9	LOS A	13.1	330.9	0.96	0.91	1.17	27.9
East: SE 32nd Way														
1	L2	124	1.0	133	1.0	0.445	14.4	LOS B	3.4	85.9	0.87	0.92	0.92	33.9
6	T1	1	1.0	1	1.0	0.445	8.6	LOS A	3.4	85.9	0.87	0.92	0.92	33.8
16	R2	156	1.0	168	1.0	0.445	8.7	LOS A	3.4	85.9	0.87	0.92	0.92	32.9
Approach		281	1.0	302	1.0	0.445	11.2	LOS B	3.4	85.9	0.87	0.92	0.92	33.3
North: Iss-Pine Lake Road														
7	L2	228	1.0	265	1.0	0.876	15.2	LOS D	17.5	441.9	1.00	0.75	1.11	33.9
4	T1	521	1.0	606	1.0	0.876	9.3	LOS D	17.5	441.9	1.00	0.75	1.11	33.8
14	R2	5	1.0	6	1.0	0.876	9.5	LOS D	17.5	441.9	1.00	0.75	1.11	32.9
Approach		754	1.0	877	1.0	0.876	11.1	LOS B	17.5	441.9	1.00	0.75	1.11	33.8
West: SE 34th Place (Cul-de-Sac)														
5	L2	4	0.0	6	0.0	0.024	17.5	LOS B	0.2	4.2	0.92	0.74	0.92	31.9
2	T1	1	0.0	2	0.0	0.024	11.6	LOS B	0.2	4.2	0.92	0.74	0.92	31.9
12	R2	1	0.0	2	0.0	0.024	11.8	LOS B	0.2	4.2	0.92	0.74	0.92	31.1
Approach		6	0.0	10	0.0	0.024	15.5	LOS B	0.2	4.2	0.92	0.74	0.92	31.8
All Vehicles		1843	1.0	2033	1.0	0.876	9.8	LOS A	17.5	441.9	0.96	0.84	1.11	31.0

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.

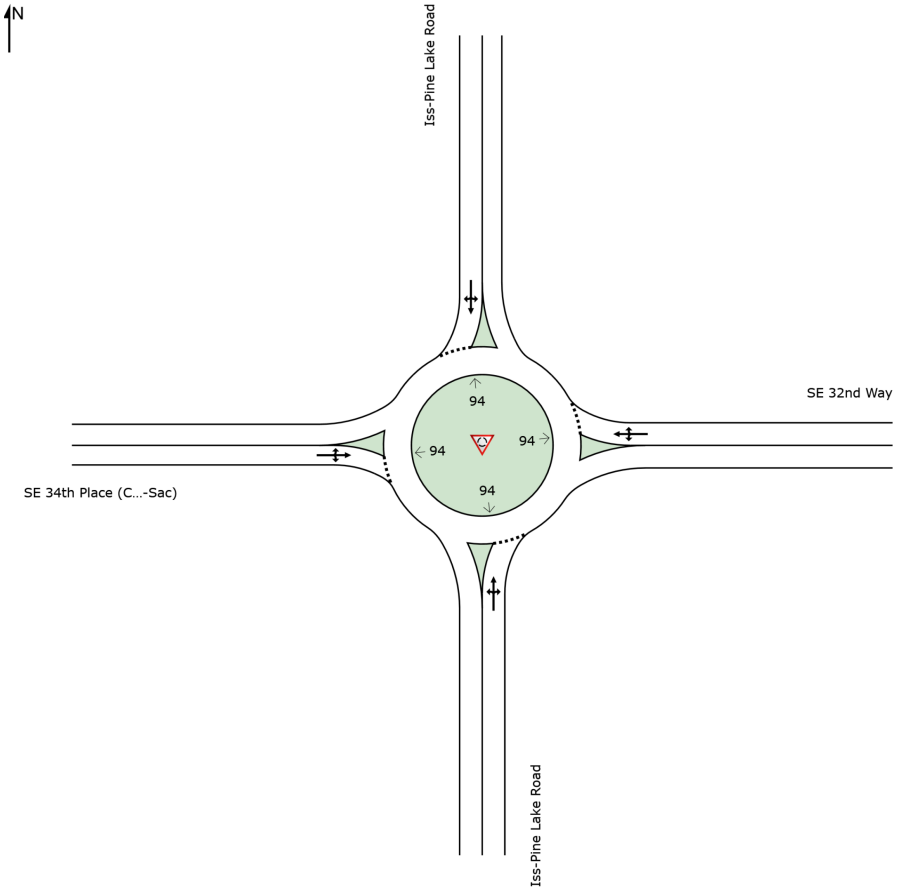
PRJ19-00008 Attachment 060

Site: [2024 Without Project - PM (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

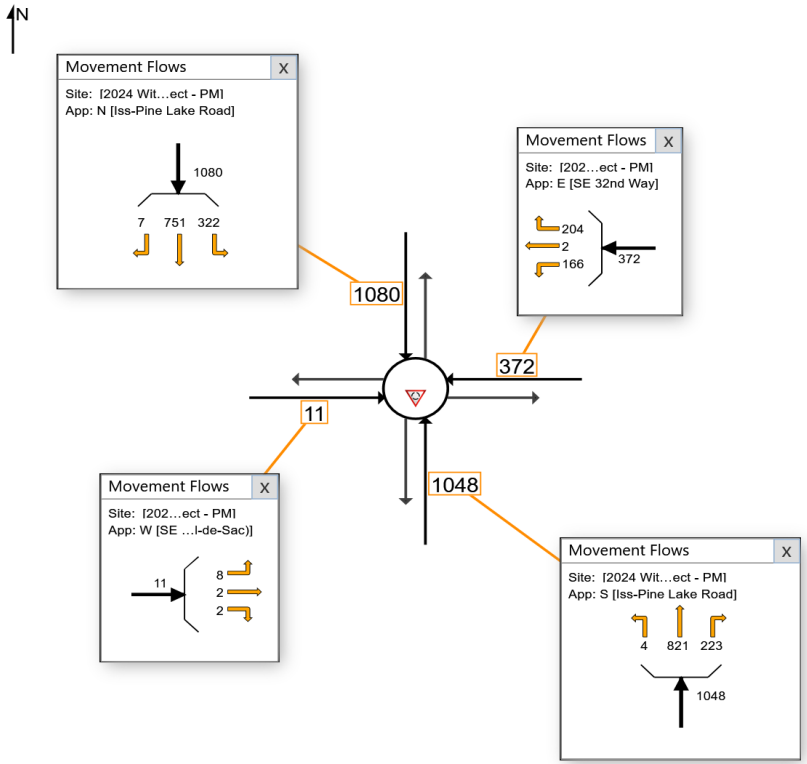
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	4	1.0	4	1.0	1.044	44.5	LOS F	44.5	1120.6	1.00	1.81	2.59	20.3
8	T1	780	1.0	821	1.0	1.044	39.0	LOS F	44.5	1120.6	1.00	1.81	2.59	20.2

PRJ19-00008 Attachment 060

18	R2	212	1.0	223	1.0	1.044	39.6	LOS F	44.5	1120.6	1.00	1.81	2.59	19.8
Approach		996	1.0	1048	1.0	1.044	39.2	LOS D	44.5	1120.6	1.00	1.81	2.59	20.1
East: SE 32nd Way														
1	L2	154	1.0	166	1.0	0.666	20.9	LOS C	6.9	175.1	1.00	1.13	1.34	30.9
6	T1	2	1.0	2	1.0	0.666	15.1	LOS B	6.9	175.1	1.00	1.13	1.34	30.8
16	R2	190	1.0	204	1.0	0.666	15.2	LOS B	6.9	175.1	1.00	1.13	1.34	30.1
Approach		346	1.0	372	1.0	0.666	17.8	LOS B	6.9	175.1	1.00	1.13	1.34	30.4
North: Iss-Pine Lake Road														
7	L2	277	1.0	322	1.0	1.123	75.8	LOS F	69.8	1758.4	1.00	1.78	2.86	17.8
4	T1	646	1.0	751	1.0	1.123	70.0	LOS F	69.8	1758.4	1.00	1.78	2.86	17.8
14	R2	6	1.0	7	1.0	1.123	70.1	LOS F	69.8	1758.4	1.00	1.78	2.86	17.5
Approach		929	1.0	1080	1.0	1.123	71.7	LOS E	69.8	1758.4	1.00	1.78	2.86	17.8
West: SE 34th Place (Cul-de-Sac)														
5	L2	5	0.0	8	0.0	0.034	20.0	LOS C	0.2	6.0	0.97	0.79	0.97	30.7
2	T1	1	0.0	2	0.0	0.034	14.2	LOS B	0.2	6.0	0.97	0.79	0.97	30.7
12	R2	1	0.0	2	0.0	0.034	14.3	LOS B	0.2	6.0	0.97	0.79	0.97	30.0
Approach		7	0.0	11	0.0	0.034	18.4	LOS B	0.2	6.0	0.97	0.79	0.97	30.6
All Vehicles		2278	1.0	2512	1.0	1.123	49.9	LOS D	69.8	1758.4	1.00	1.69	2.52	20.0

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.

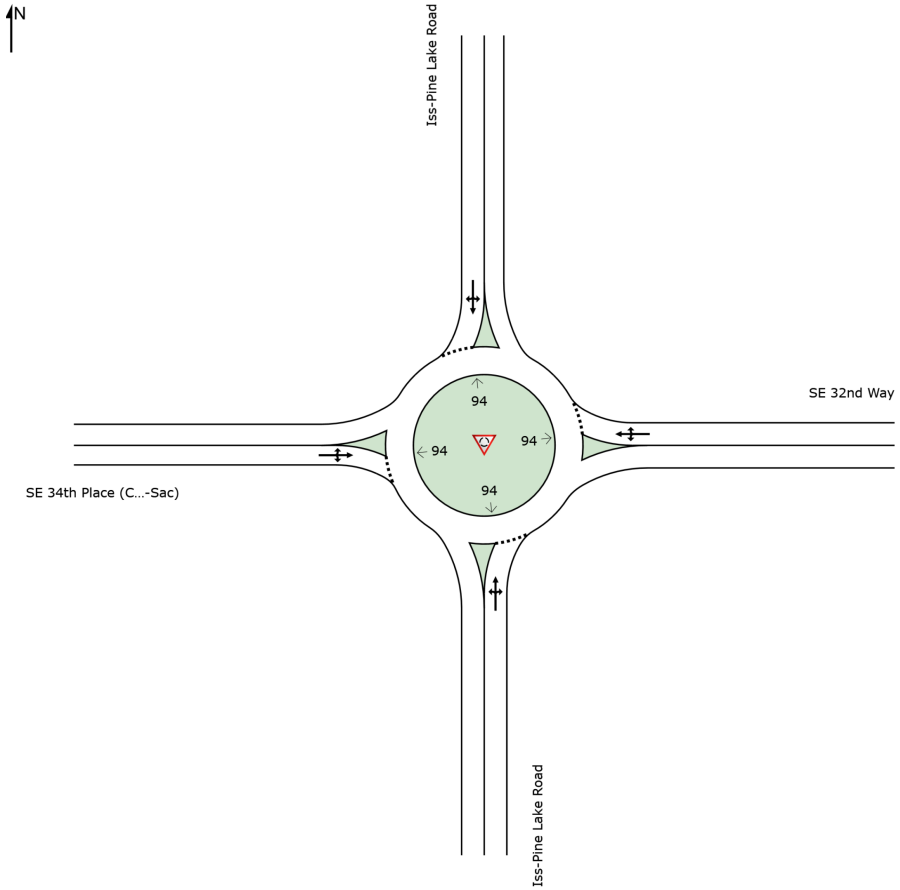
PRJ19-00008 Attachment 060

Site: [2024 With Project - PM (Site Folder: General)]

Issaquah-Pine Lake Road / SE 32nd Way
Site Category: (None)
Roundabout

Site Layout

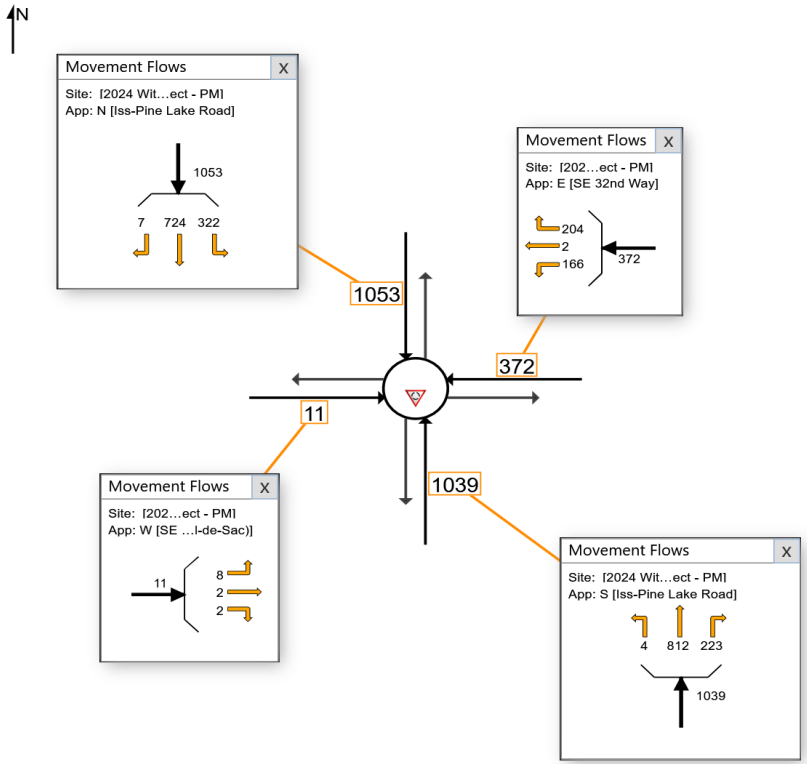
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: Iss-Pine Lake Road														
3	L2	4	1.0	4	1.0	1.041	43.9	LOS F	43.5	1096.6	1.00	1.80	2.58	20.4
8	T1	771	1.0	812	1.0	1.041	38.4	LOS F	43.5	1096.6	1.00	1.80	2.58	20.3

PRJ19-00008 Attachment 060

18	R2	212	1.0	223	1.0	1.041	39.0	LOS F	43.5	1096.6	1.00	1.80	2.58	19.9
Approach		987	1.0	1039	1.0	1.041	38.5	LOS D	43.5	1096.6	1.00	1.80	2.58	20.2
East: SE 32nd Way														
1	L2	154	1.0	166	1.0	0.659	20.5	LOS C	6.8	171.7	1.00	1.12	1.33	31.0
6	T1	2	1.0	2	1.0	0.659	14.7	LOS B	6.8	171.7	1.00	1.12	1.33	31.0
16	R2	190	1.0	204	1.0	0.659	14.9	LOS B	6.8	171.7	1.00	1.12	1.33	30.2
Approach		346	1.0	372	1.0	0.659	17.4	LOS B	6.8	171.7	1.00	1.12	1.33	30.6
North: Iss-Pine Lake Road														
7	L2	277	1.0	322	1.0	1.095	64.6	LOS F	61.9	1561.1	1.00	1.62	2.58	19.5
4	T1	623	1.0	724	1.0	1.095	58.7	LOS F	61.9	1561.1	1.00	1.62	2.58	19.5
14	R2	6	1.0	7	1.0	1.095	58.9	LOS F	61.9	1561.1	1.00	1.62	2.58	19.2
Approach		906	1.0	1053	1.0	1.095	60.5	LOS E	61.9	1561.1	1.00	1.62	2.58	19.5
West: SE 34th Place (Cul-de-Sac)														
5	L2	5	0.0	8	0.0	0.034	20.0	LOS C	0.2	6.0	0.97	0.79	0.97	30.7
2	T1	1	0.0	2	0.0	0.034	14.2	LOS B	0.2	6.0	0.97	0.79	0.97	30.7
12	R2	1	0.0	2	0.0	0.034	14.3	LOS B	0.2	6.0	0.97	0.79	0.97	30.0
Approach		7	0.0	11	0.0	0.034	18.4	LOS B	0.2	6.0	0.97	0.79	0.97	30.6
All Vehicles		2246	1.0	2476	1.0	1.095	44.6	LOS D	61.9	1561.1	1.00	1.62	2.39	21.0

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.

PRJ19-00008 Attachment 060

USER REPORT FOR SITE

All Movement Classes

Project: ELSP-43rd_All Conditions - No Slip Lane **Template: Default Site User Report**

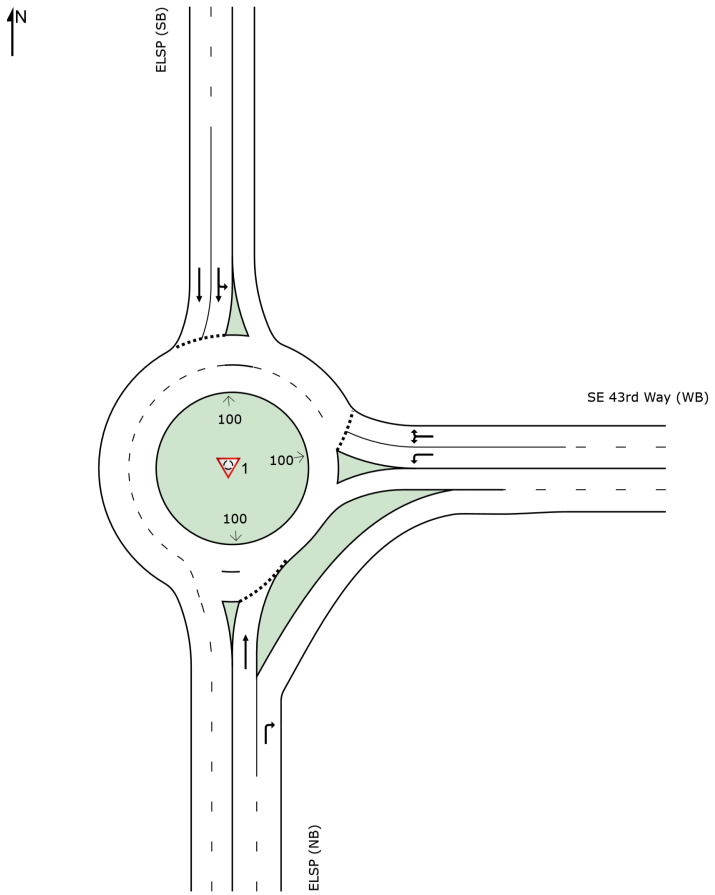
Site: 1 [Existing - AM (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

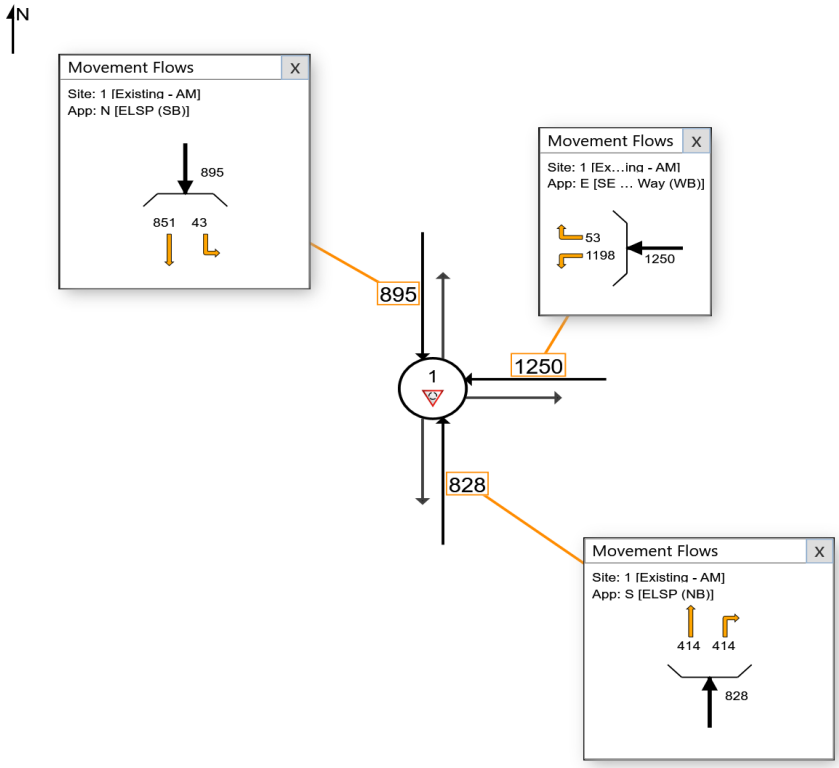
PRJ19-00008 Attachment 060



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups

PRJ19-00008 Attachment 060



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: ELSP (NB)														
8	T1	389	4.0	414	4.0	0.291	4.0	LOS A	1.5	39.4	0.16	0.37	0.16	37.5
18	R2	389	0.0	414	0.0	0.247	3.7	LOS A	0.0	0.0	0.00	0.44	0.00	37.2
Approach		778	2.0	828	2.0	0.291	3.9	LOS A	1.5	39.4	0.08	0.41	0.08	37.4

PRJ19-00008 Attachment 060

East: SE 43rd Way (WB)													
1	L2	958	1.0	1198	1.0	0.521	12.4	LOS B	3.9	98.2	0.66	0.77	0.68	33.6
16	R2	42	1.0	53	1.0	0.521	6.3	LOS A	3.9	98.2	0.65	0.74	0.65	32.6
Approach		1000	1.0	1250	1.0	0.521	12.2	LOS B	3.9	98.2	0.66	0.77	0.68	33.5
North: ELSP (SB)													
7	L2	40	1.0	43	1.0	0.605	15.7	LOS B	3.8	95.9	0.82	0.97	1.06	34.7
4	T1	783	1.0	851	1.0	0.605	9.1	LOS A	4.2	105.7	0.83	0.91	1.05	34.8
Approach		823	1.0	895	1.0	0.605	9.4	LOS A	4.2	105.7	0.83	0.92	1.05	34.8
All Vehicles		2601	1.3	2972	1.3	0.605	9.0	LOS A	4.2	105.7	0.55	0.71	0.62	34.9

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.

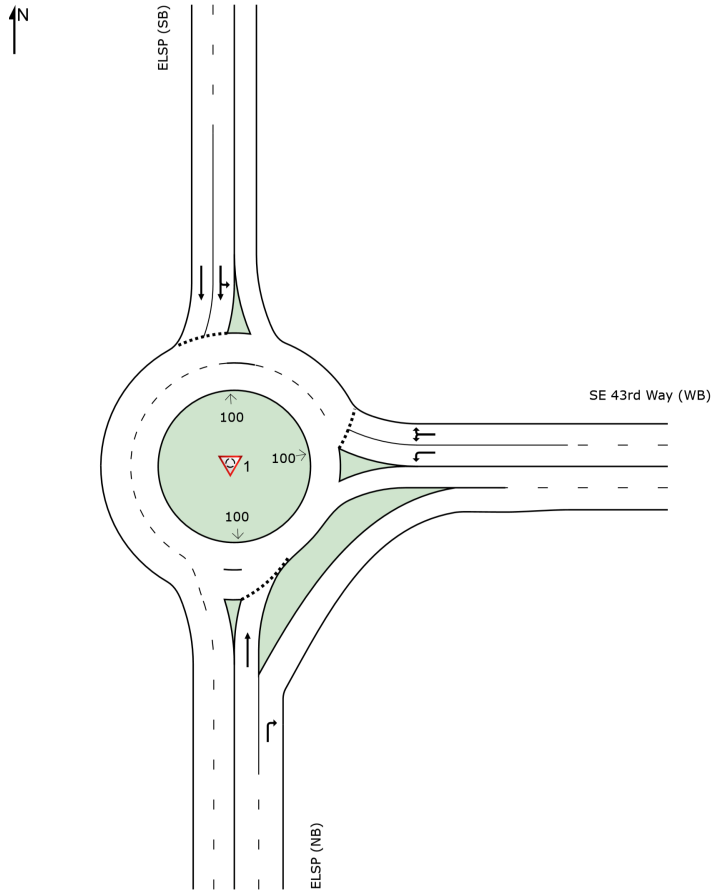
PRJ19-00008 Attachment 060

Site: 1 [2024 without Project - AM (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

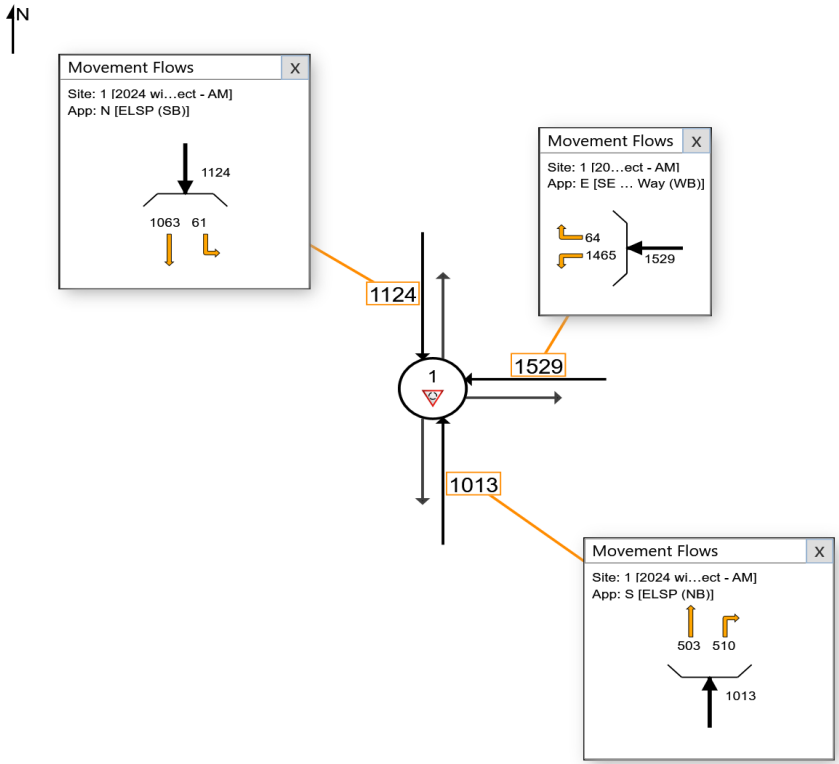
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	473	4.0	503	4.0	0.359	4.1	LOS A	2.2	55.7	0.22	0.39	0.22	37.3
18	R2	479	0.0	510	0.0	0.304	3.7	LOS A	0.0	0.0	0.00	0.44	0.00	37.2

PRJ19-00008 Attachment 060

Approach		952	2.0	1013	2.0	0.359	3.9	LOS A	2.2	55.7	0.11	0.41	0.11	37.2
East: SE 43rd Way (WB)														
1	L2	1172	1.0	1465	1.0	0.684	15.6	LOS B	8.0	202.4	0.83	0.94	1.06	32.3
16	R2	51	1.0	64	1.0	0.684	9.2	LOS A	8.0	202.4	0.82	0.90	1.02	31.6
Approach		1223	1.0	1529	1.0	0.684	15.4	LOS B	8.0	202.4	0.83	0.94	1.05	32.3
North: ELSP (SB)														
7	L2	56	1.0	61	1.0	0.973	38.7	LOS E	12.9	325.6	0.99	1.49	2.57	25.7
4	T1	978	1.0	1063	1.0	0.973	30.5	LOS E	15.6	393.2	1.00	1.52	2.60	26.4
Approach		1034	1.0	1124	1.0	0.973	30.9	LOS C	15.6	393.2	1.00	1.52	2.60	26.4
All Vehicles		3209	1.3	3665	1.3	0.973	17.0	LOS B	15.6	393.2	0.68	0.97	1.27	31.3

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.

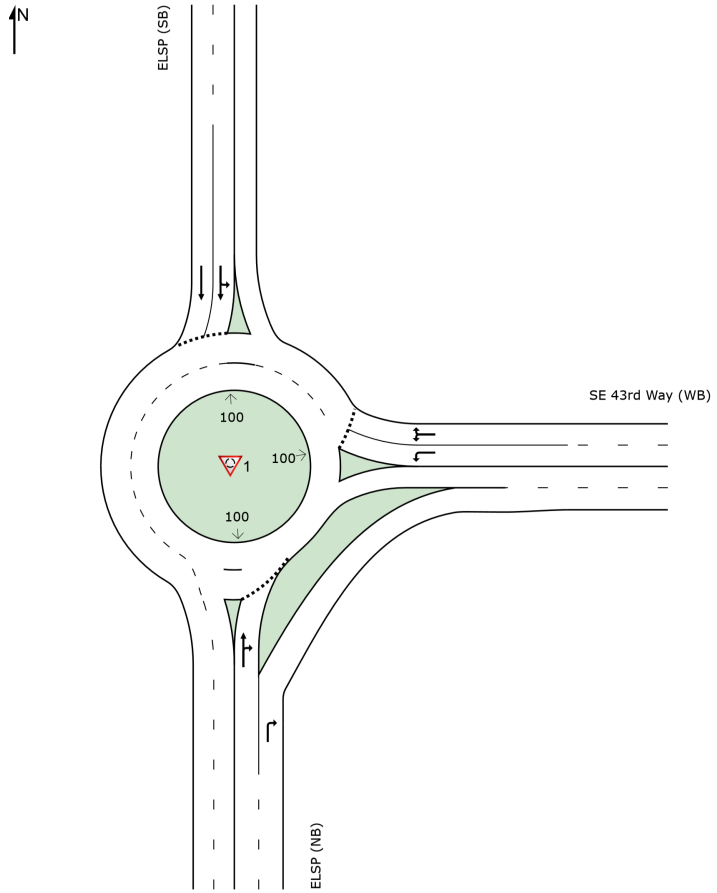
PRJ19-00008 Attachment 060

Site: 1 [2024 with Project - AM (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

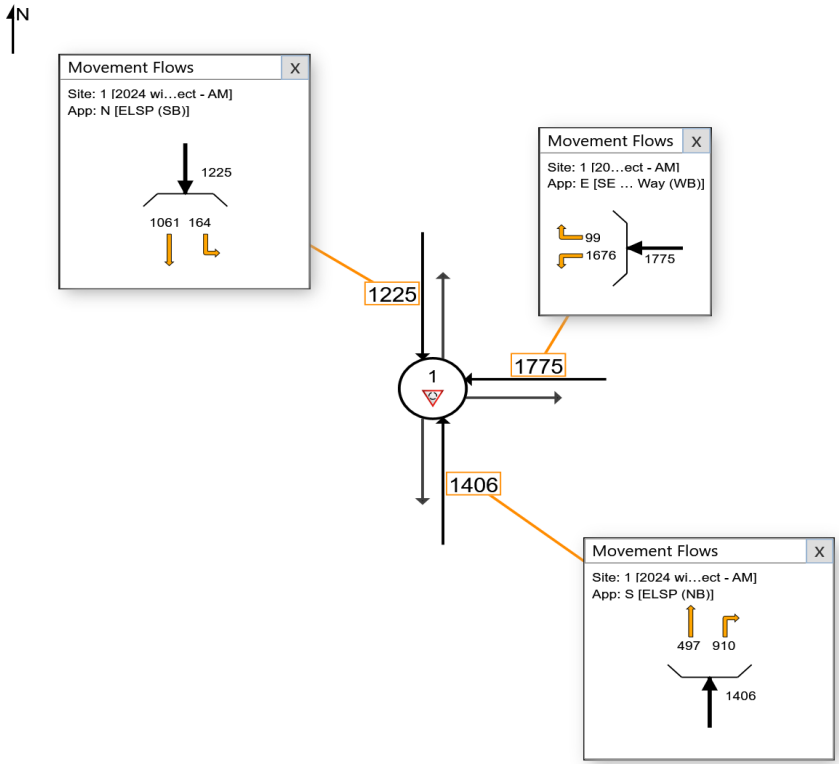
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	467	4.0	497	4.0	0.465	4.4	LOS A	3.1	79.4	0.36	0.43	0.36	36.9
18	R2	855	0.0	910	0.0	0.465	3.8	LOS A	3.1	79.4	0.05	0.44	0.05	36.9

PRJ19-00008 Attachment 060

Approach		1322	1.4	1406	1.4	0.465	4.0	LOS A	3.1	79.4	0.16	0.44	0.16	36.9
East: SE 43rd Way (WB)														
1	L2	1341	1.0	1676	1.0	0.809	18.9	LOS B	13.3	336.0	0.95	1.07	1.39	31.0
16	R2	79	1.0	99	1.0	0.809	12.2	LOS B	13.3	336.0	0.94	1.03	1.34	30.5
Approach		1420	1.0	1775	1.0	0.809	18.5	LOS B	13.3	336.0	0.95	1.07	1.39	30.9
North: ELSP (SB)														
7	L2	151	1.0	164	1.0	1.332	173.8	LOS F	49.4	1243.9	1.00	2.89	7.18	10.1
4	T1	976	1.0	1061	1.0	1.332	166.2	LOS F	67.2	1693.1	1.00	3.22	7.86	10.2
Approach		1127	1.0	1225	1.0	1.332	167.3	LOS F	67.2	1693.1	1.00	3.17	7.77	10.2
All Vehicles		3869	1.1	4406	1.1	1.332	55.2	LOS E	67.2	1693.1	0.71	1.45	2.77	20.4

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.

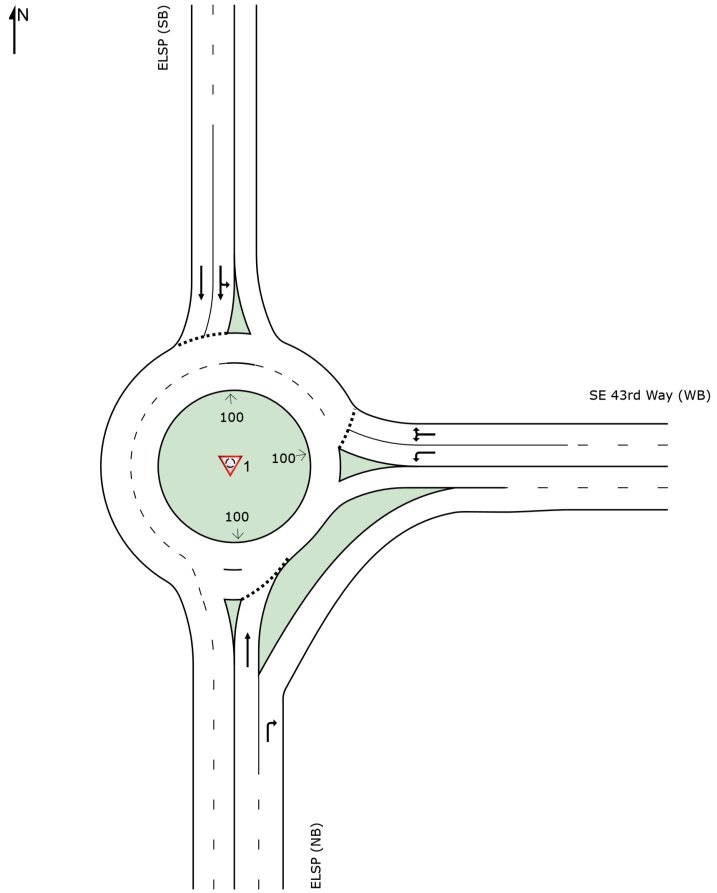
PRJ19-00008 Attachment 060

Site: 1 [Existing - Afternoon (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

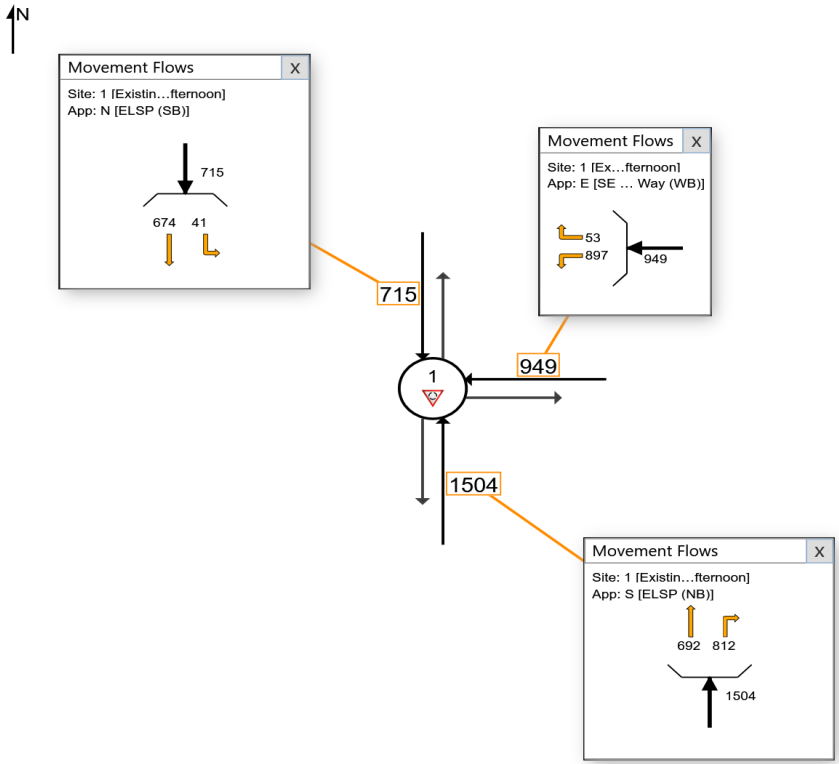
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	616	1.0	692	1.0	0.471	4.0	LOS A	3.1	76.9	0.19	0.38	0.19	37.5
18	R2	723	1.0	812	1.0	0.490	3.8	LOS A	0.0	0.0	0.00	0.44	0.00	37.1

PRJ19-00008 Attachment 060

Approach		1339	1.0	1504	1.0	0.490	3.9	LOS A	3.1	76.9	0.09	0.41	0.09	37.3
East: SE 43rd Way (WB)														
1	L2	816	2.0	897	2.0	0.487	14.8	LOS B	4.0	101.2	0.80	0.89	0.87	32.7
16	R2	48	2.0	53	2.0	0.487	8.4	LOS A	4.0	101.2	0.79	0.85	0.85	32.0
Approach		864	2.0	949	2.0	0.487	14.4	LOS B	4.0	101.2	0.80	0.88	0.87	32.7
North: ELSP (SB)														
7	L2	40	2.0	41	2.0	0.432	13.1	LOS B	2.3	59.4	0.72	0.74	0.80	35.2
4	T1	654	2.0	674	2.0	0.432	6.8	LOS A	2.5	63.1	0.72	0.68	0.78	35.3
Approach		694	2.0	715	2.0	0.432	7.2	LOS A	2.5	63.1	0.72	0.68	0.78	35.3
All Vehicles		2897	1.5	3169	1.5	0.490	7.8	LOS A	4.0	101.2	0.44	0.61	0.48	35.3

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.

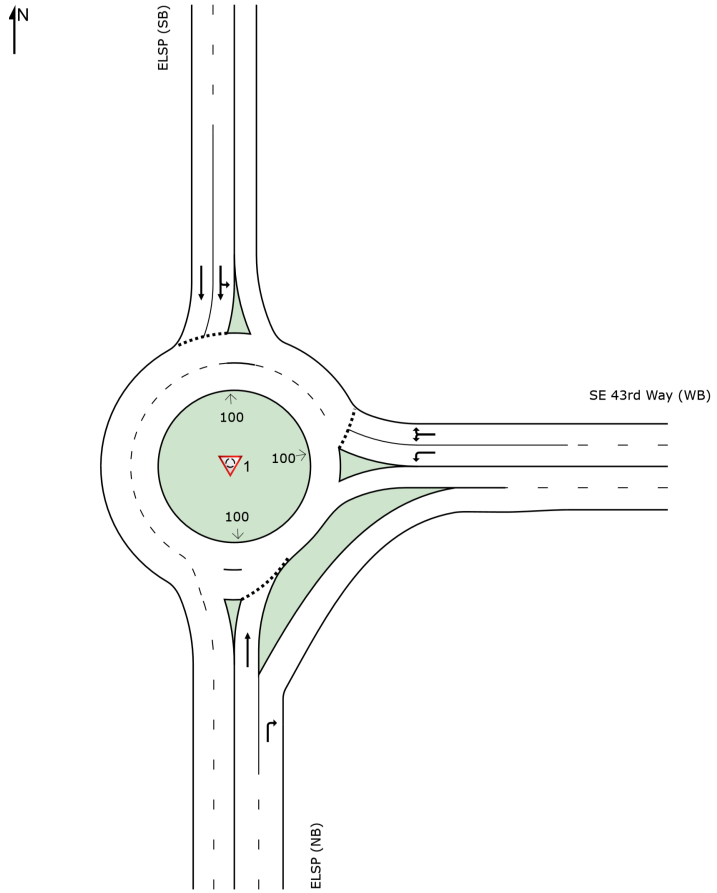
PRJ19-00008 Attachment 060

Site: 1 [2024 Without Proj - Afternoon (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

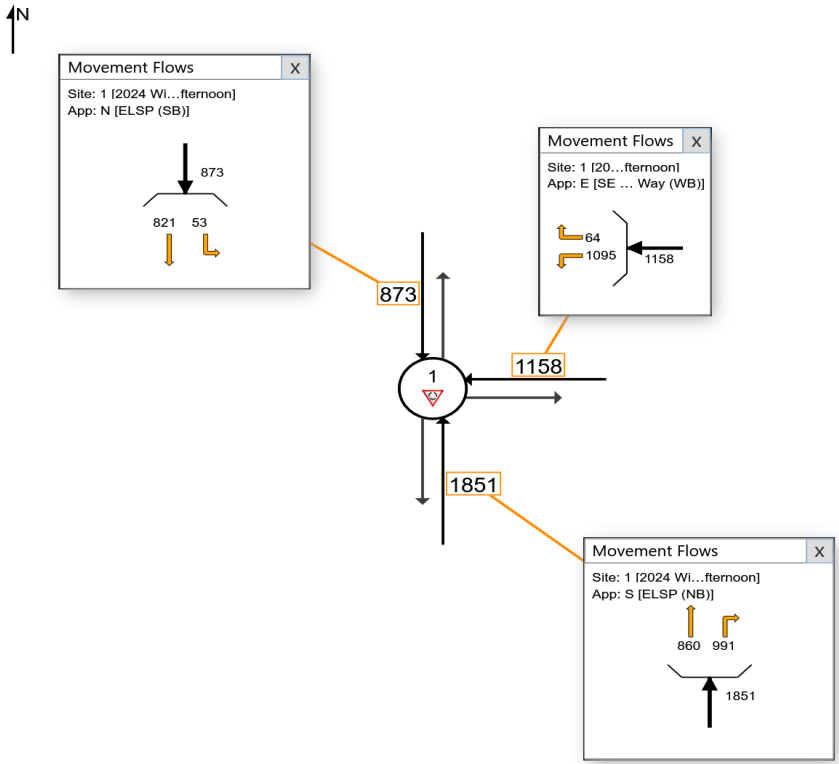
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	765	1.0	860	1.0	0.590	4.1	LOS A	4.9	123.7	0.27	0.39	0.27	37.1
18	R2	882	1.0	991	1.0	0.598	3.9	LOS A	0.0	0.0	0.00	0.44	0.00	36.9

PRJ19-00008 Attachment 060

Approach		1647	1.0	1851	1.0	0.598	4.0	LOS A	4.9	123.7	0.13	0.41	0.13	37.0
East: SE 43rd Way (WB)														
1	L2	996	2.0	1095	2.0	0.707	23.1	LOS C	10.0	254.1	0.99	1.18	1.54	29.3
16	R2	58	2.0	64	2.0	0.707	16.2	LOS B	10.0	254.1	1.00	1.16	1.53	28.9
Approach		1054	2.0	1158	2.0	0.707	22.7	LOS C	10.0	254.1	0.99	1.18	1.54	29.3
North: ELSP (SB)														
7	L2	51	2.0	53	2.0	0.648	15.9	LOS B	4.4	112.4	0.87	1.01	1.11	34.4
4	T1	796	2.0	821	2.0	0.648	9.4	LOS A	4.9	124.2	0.88	0.96	1.11	34.6
Approach		847	2.0	873	2.0	0.648	9.8	LOS A	4.9	124.2	0.88	0.96	1.11	34.6
All Vehicles		3548	1.5	3882	1.5	0.707	10.9	LOS B	10.0	254.1	0.55	0.77	0.77	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.

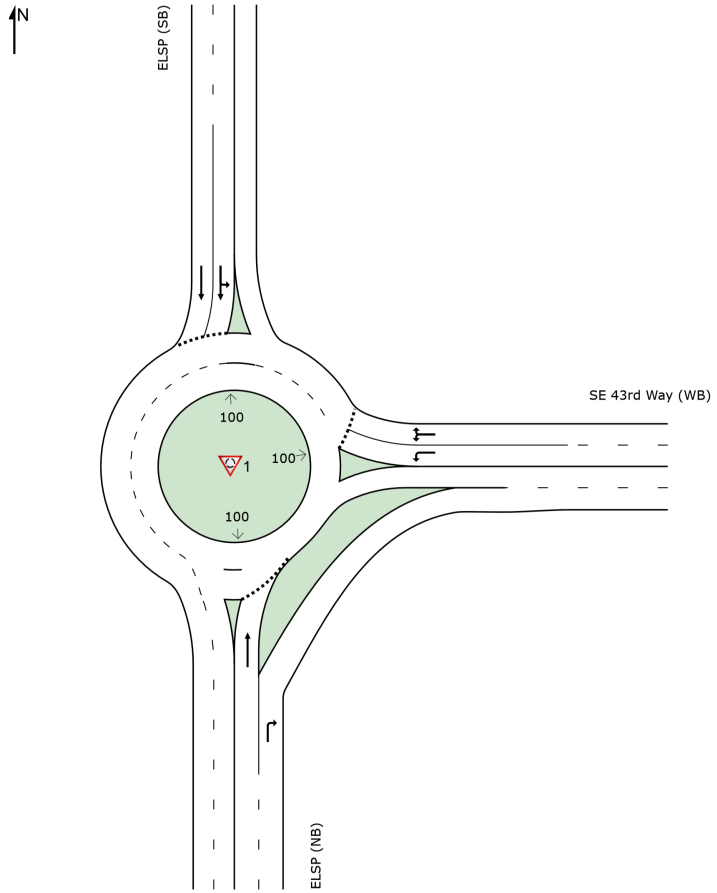
PRJ19-00008 Attachment 060

Site: 1 [2024 With Proj - Afternoon (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

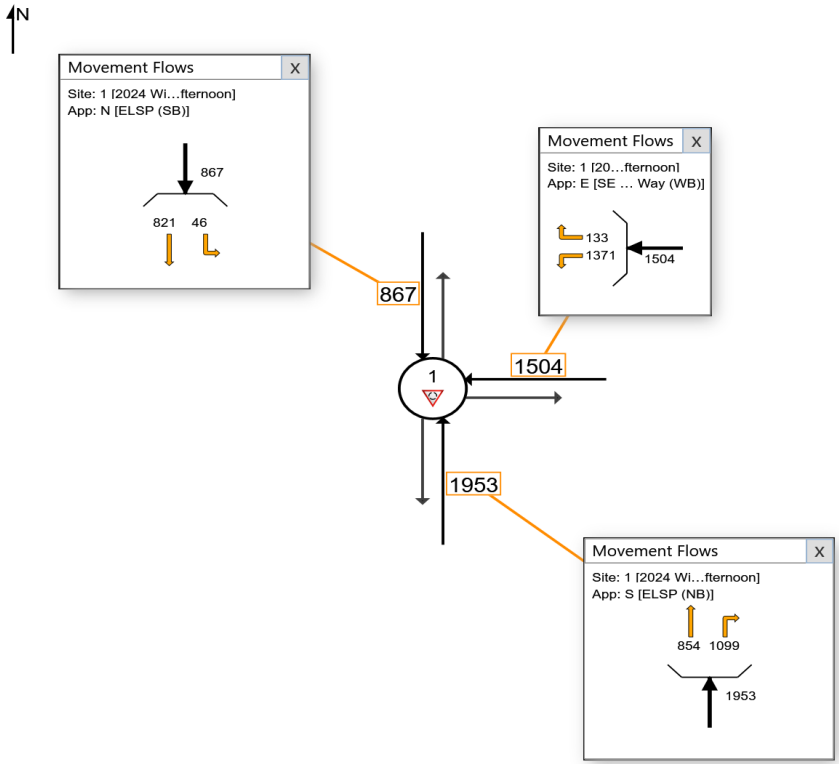
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	760	1.0	854	1.0	0.585	4.1	LOS A	5.0	125.1	0.26	0.38	0.26	37.2
18	R2	978	1.0	1099	1.0	0.663	4.0	LOS A	0.0	0.0	0.00	0.44	0.00	36.8

PRJ19-00008 Attachment 060

Approach		1738	1.0	1953	1.0	0.663	4.0	LOS A	5.0	125.1	0.11	0.41	0.11	37.0
East: SE 43rd Way (WB)														
1	L2	1248	2.0	1371	2.0	0.909	38.3	LOS D	23.5	596.4	1.00	1.58	2.50	24.6
16	R2	121	2.0	133	2.0	0.909	30.7	LOS D	23.5	596.4	1.00	1.58	2.48	24.6
Approach		1369	2.0	1504	2.0	0.909	37.6	LOS D	23.5	596.4	1.00	1.58	2.49	24.6
North: ELSP (SB)														
7	L2	45	2.0	46	2.0	0.797	21.9	LOS C	6.1	155.5	0.94	1.12	1.42	31.6
4	T1	796	2.0	821	2.0	0.797	14.8	LOS B	7.0	178.7	0.96	1.13	1.42	32.3
Approach		841	2.0	867	2.0	0.797	15.2	LOS B	7.0	178.7	0.96	1.13	1.42	32.2
All Vehicles		3948	1.6	4324	1.5	0.909	18.0	LOS B	23.5	596.4	0.59	0.96	1.20	30.6

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.

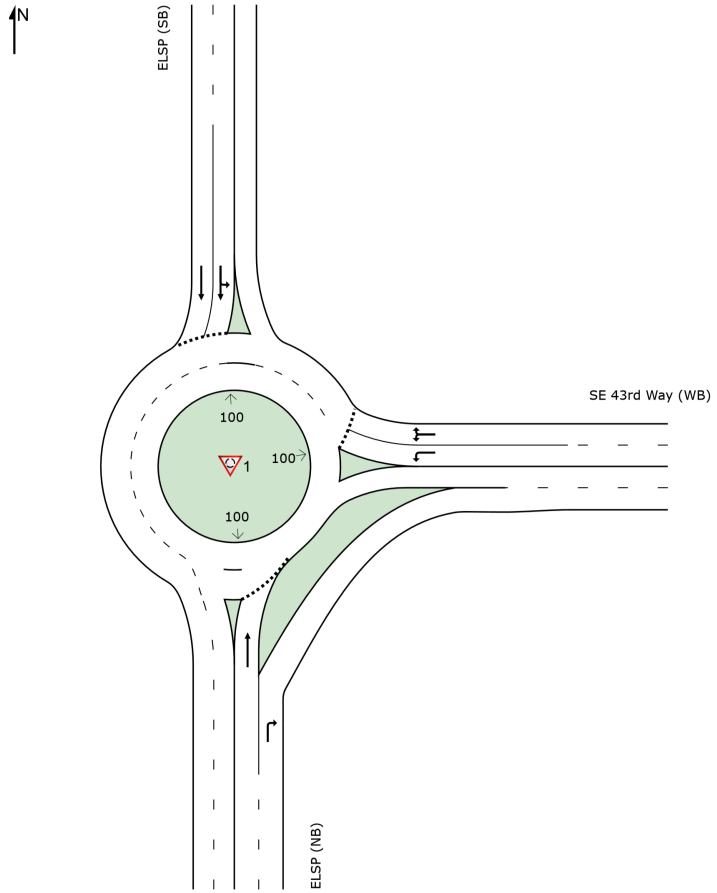
PRJ19-00008 Attachment 060

Site: 1 [Existing - PM (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

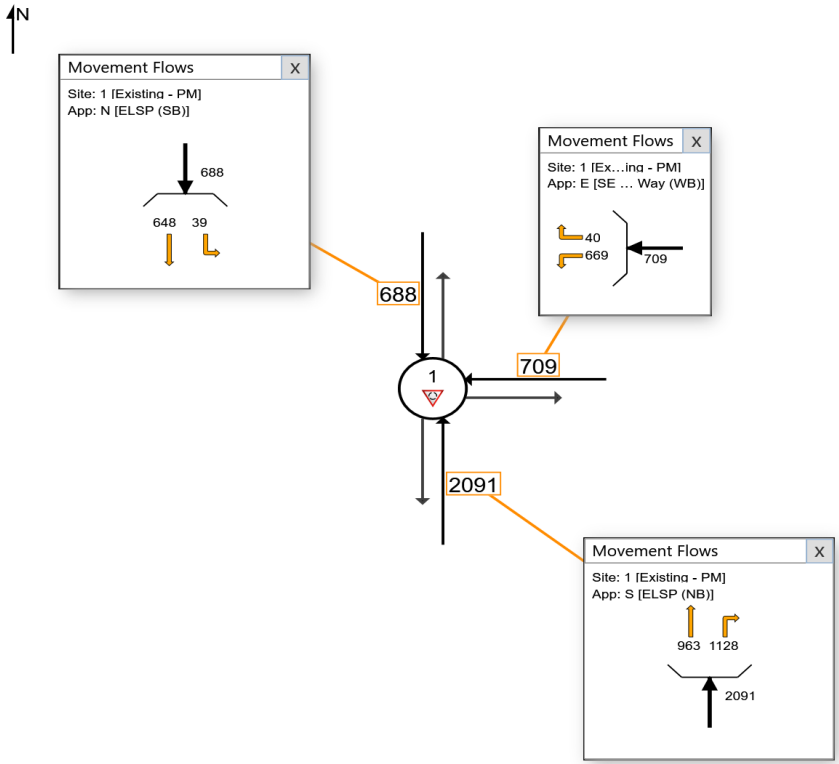
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	857	4.0	963	4.0	0.673	4.1	LOS A	6.2	161.0	0.26	0.38	0.26	37.1
18	R2	1004	0.0	1128	0.0	0.674	4.0	LOS A	0.0	0.0	0.00	0.44	0.00	36.9

PRJ19-00008 Attachment 060

Approach		1861	1.8	2091	1.8	0.674	4.1	LOS A	6.2	161.0	0.12	0.41	0.12	37.0
East: SE 43rd Way (WB)														
1	L2	609	2.0	669	2.0	0.493	19.8	LOS B	4.8	121.3	0.95	1.02	1.15	30.5
16	R2	36	2.0	40	2.0	0.493	12.9	LOS B	4.8	121.3	0.96	0.99	1.13	30.1
Approach		645	2.0	709	2.0	0.493	19.4	LOS B	4.8	121.3	0.95	1.02	1.14	30.5
North: ELSP (SB)														
7	L2	38	2.0	39	2.0	0.374	12.0	LOS B	1.9	49.1	0.66	0.63	0.67	35.5
4	T1	629	2.0	648	2.0	0.374	5.9	LOS A	2.0	51.5	0.65	0.58	0.66	35.6
Approach		667	2.0	688	2.0	0.374	6.3	LOS A	2.0	51.5	0.66	0.58	0.66	35.6
All Vehicles		3173	1.9	3487	1.9	0.674	7.6	LOS A	6.2	161.0	0.39	0.57	0.43	35.2

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.

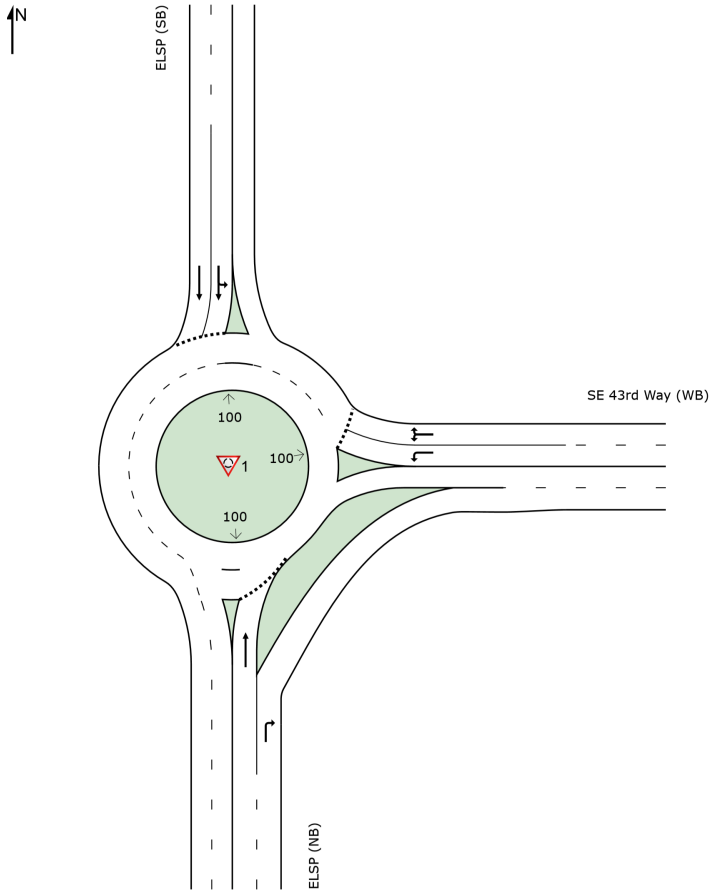
PRJ19-00008 Attachment 060

Site: 1 [2024 Without Project - PM (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

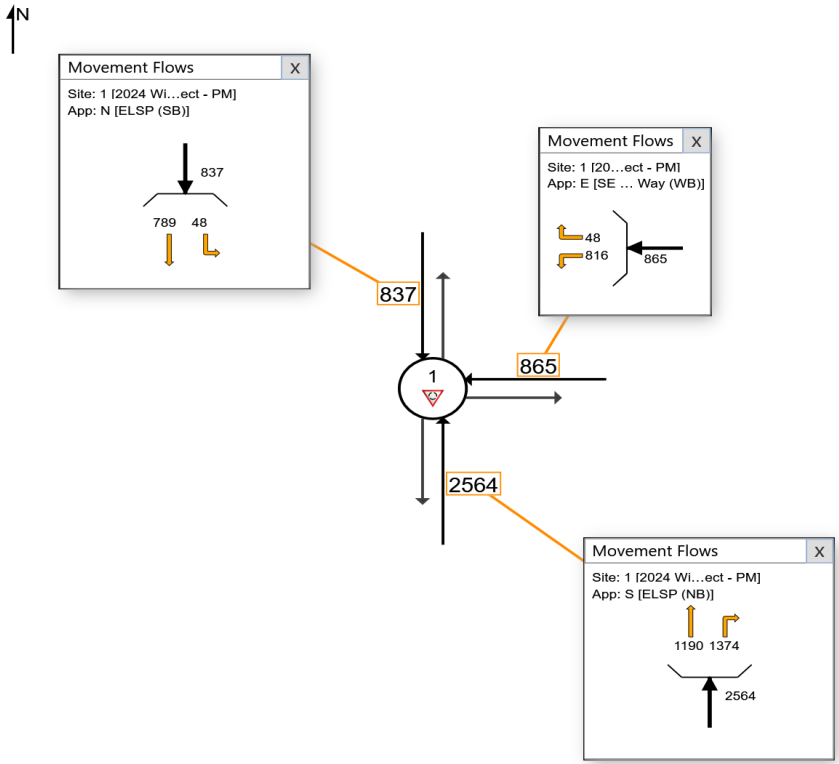
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	1059	1.0	1190	1.0	0.814	4.3	LOS A	12.1	303.8	0.45	0.40	0.45	36.5
18	R2	1223	1.0	1374	1.0	0.829	4.5	LOS A	0.0	0.0	0.00	0.43	0.00	36.3

PRJ19-00008 Attachment 060

Approach		2282	1.0	2564	1.0	0.829	4.4	LOS A	12.1	303.8	0.21	0.41	0.21	36.4
East: SE 43rd Way (WB)														
1	L2	743	2.0	816	2.0	0.858	56.3	LOS E	18.7	473.7	1.00	1.56	2.48	20.7
16	R2	44	2.0	48	2.0	0.858	48.3	LOS D	18.7	473.7	1.00	1.60	2.52	20.7
Approach		787	2.0	865	2.0	0.858	55.8	LOS E	18.7	473.7	1.00	1.57	2.48	20.7
North: ELSP (SB)														
7	L2	47	2.0	48	2.0	0.510	13.4	LOS B	3.1	79.4	0.77	0.78	0.87	35.1
4	T1	765	2.0	789	2.0	0.510	7.1	LOS A	3.3	84.6	0.77	0.72	0.86	35.1
Approach		812	2.0	837	2.0	0.510	7.5	LOS A	3.3	84.6	0.77	0.72	0.86	35.1
All Vehicles		3881	1.4	4266	1.4	0.858	15.4	LOS B	18.7	473.7	0.48	0.71	0.80	31.2

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.

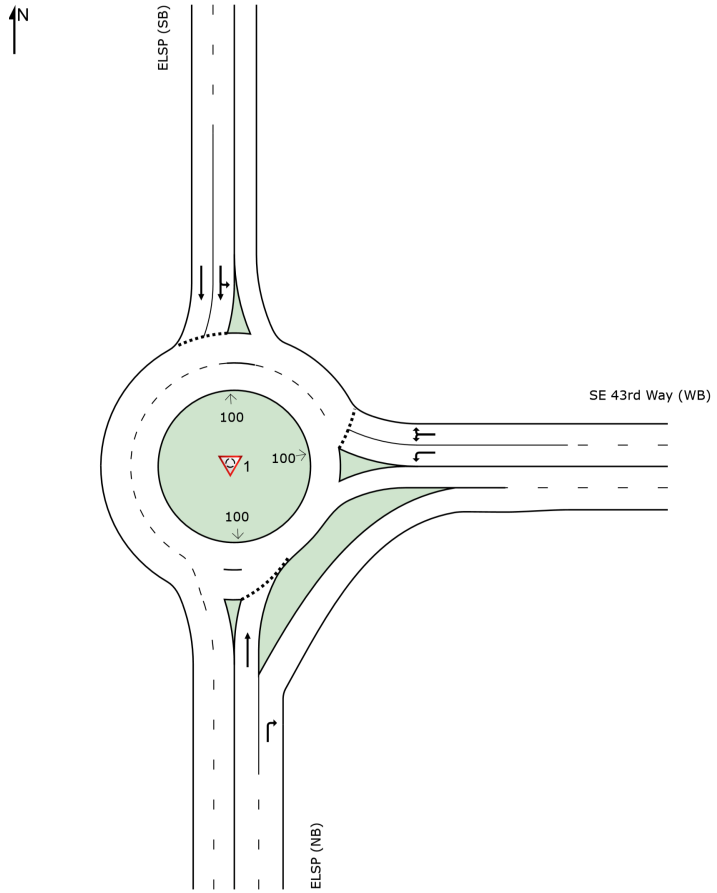
PRJ19-00008 Attachment 060

Site: 1 [2024 With Project - PM Peak (Site Folder: General)]

E Lake Sammamish Pkwy/SE 43rd Way
Site Category: (None)
Roundabout

Site Layout

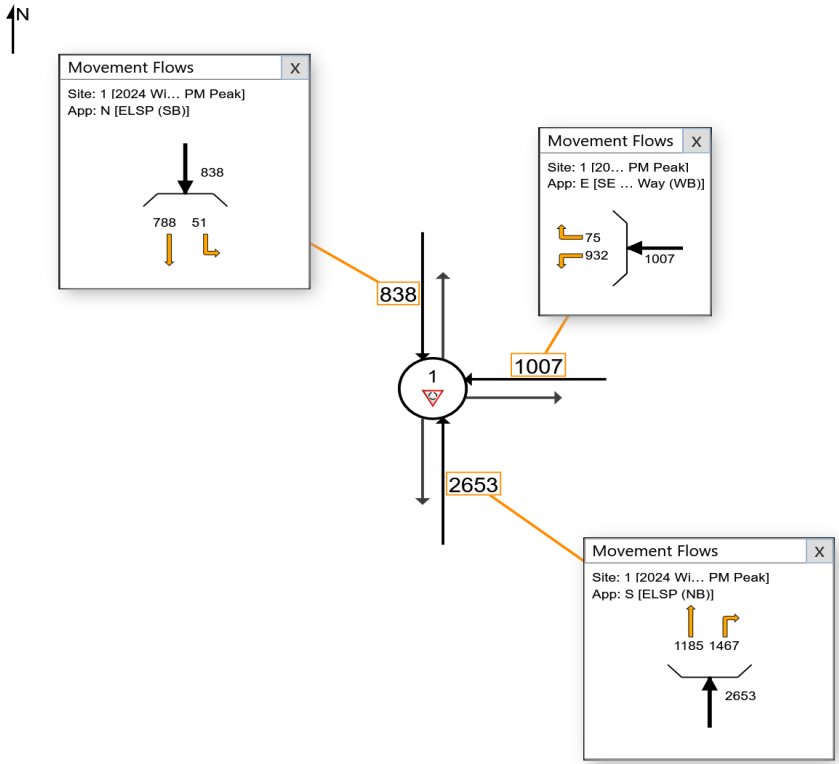
Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

PRJ19-00008 Attachment 060

Close All Popups



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: ELSP (NB)														
8	T1	1055	1.0	1185	1.0	0.812	4.3	LOS A	12.1	304.0	0.46	0.40	0.46	36.4
18	R2	1306	1.0	1467	1.0	0.885	4.9	LOS D	0.0	0.0	0.00	0.42	0.00	35.8

PRJ19-00008 Attachment 060

Approach		2361	1.0	2653	1.0	0.885	4.7	LOS A	12.1	304.0	0.21	0.41	0.21	36.1
East: SE 43rd Way (WB)														
1	L2	848	2.0	932	2.0	0.998	85.1	LOS F	32.4	823.4	1.00	1.95	3.48	16.5
16	R2	68	2.0	75	2.0	0.998	77.0	LOS E	32.4	823.4	1.00	2.03	3.59	16.5
Approach		916	2.0	1007	2.0	0.998	84.5	LOS F	32.4	823.4	1.00	1.96	3.49	16.5
North: ELSP (SB)														
7	L2	49	2.0	51	2.0	0.554	14.2	LOS B	3.5	89.1	0.81	0.86	0.96	34.9
4	T1	764	2.0	788	2.0	0.554	7.8	LOS A	3.8	96.3	0.81	0.79	0.95	34.9
Approach		813	2.0	838	2.0	0.554	8.2	LOS A	3.8	96.3	0.81	0.79	0.95	34.9
All Vehicles		4090	1.4	4498	1.4	0.998	23.2	LOS C	32.4	823.4	0.50	0.83	1.08	28.2

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.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

PRJ19-00008 Attachment 060

PRJ19-00008 Attachment 060

APPENDIX E

HISTORICAL COLLISION DATA

September 1, 2020

High School #4 / Elementary School #17
Historical Collision Data in Transportation Study Area
January 1, 2015 - June 4, 2020

PRJ19-00008 Attachment 060

OFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/2015 - *Avail 2020*

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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.

RECORD #	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM
1	City Street	King	Sammamis	228TH AVE NE	9900	NE 8TH ST							No	E545430	5/19/2016	12:08	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
2	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E615120	11/18/2016	17:23	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
3	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E636268	12/25/2016	16:43	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Fog or Smog o	Dry	Dark-Street Lights On	Entering at angle	Starting in Traffic Lane	Going Straight Ahead	West
4	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E659279	4/6/2017	22:28	Suspected Minor Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	South
5	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E795507	5/6/2018	13:10	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Left Turn	Making Left Turn	East
6	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E864195	11/18/2018	18:05	Suspected Minor Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
7	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E868328	12/4/2018	19:29	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
8	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E911521	4/14/2019	17:06	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
9	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E941970	7/20/2019	13:57	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
10	City Street	King	Sammamis	228TH AVE NE	800	NE 8TH ST							No	E965402	9/27/2019	20:06	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
11	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	E973959	10/18/2019	13:56	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
12	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	EA10105	1/26/2020	17:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
13	City Street	King	Sammamis	228TH AVE NE	0	NE 8TH ST							No	EA29309	12/18/2017	19:50	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
14	City Street	King	Sammamis	228TH AVE NE	600	NE INGLEWOOD HILL RD WYE CONNE							No	E710437	9/7/2017	15:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Right Turn	Making Left Turn	West
15	City Street	King	Sammamis	228TH AVE NE	800		100	F	N	NE 8TH ST			No	E738755	11/22/2017	16:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Dusk	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
16	City Street	King	Sammamis	228TH AVE NE	700		79	F	S	NE 8TH ST			No	E787149	4/6/2018	15:51	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Slowing	Stopped for Traffic	South
17	City Street	King	Sammamis	228TH AVE NE	700		60	F	S	NE 8TH ST			No	E795505	4/11/2018	16:12	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Wet	Daylight	From same direction - both going straight - one	Starting in Traffic Lane	Stopped for Traffic	South
18	City Street	King	Sammamis	228TH AVE NE	2500		92	F	S	NE INGLEWOOD HILL RD			No	E848980	10/1/2018	14:35	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Right Turn	North
19	City Street	King	Sammamis	NE 8TH ST	22800	228TH AVE NE							No	3779381	1/17/2016	20:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Making Right Turn	Stopped at Signal or Stc	North
20	City Street	King	Sammamis	NE 8TH ST	800	228TH AVE NE							No	E399002	2/6/2015	10:46	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Right Turn	West
21	City Street	King	Sammamis	NE 8TH ST	9500	228TH AVE NE							No	E612449	11/25/2016	17:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Wet	Dusk	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	East
22	City Street	King	Sammamis	NE 8TH ST	800	228TH AVE NE							No	E762380	1/24/2018	19:05	Possible Injury	2	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	At Intersection and Related	Overcast	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	East
23	City Street	King	Sammamis	NE 8TH ST	0	228TH AVE NE							No	E928427	6/6/2019	8:41	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	East
24	City Street	King	Sammamis	NE 8TH ST	0	228TH AVE NE							No	E970049	10/7/2019	21:58	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	West
25	City Street	King	Sammamis	NE 8TH ST	0	228TH AVE NE							No	EA10091	1/25/2020	23:02	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	West
26	City Street	King	Sammamis	NE 8TH ST	0	228TH AVE NE							No	EA22438	3/1/2020	17:10	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Daylight	From opposite direction - one left turn - one ri	Making Right Turn	Making Left Turn	South
27	City Street	King	Sammamis	NE 8TH ST	0	228TH AVE NE							No	EA24251	3/7/2020	22:22	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	West
28	City Street	King	Sammamis	NE INGLEWOOD HILL RD	100	228TH AVE NE							No	E624751	12/23/2016	14:50	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	North
29	City Street	King	Sammamis	NE INGLEWOOD HILL RD	100	228TH AVE NE							No	E629152	12/30/2016	14:04	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Merging (Entering Traff	Going Straight Ahead	West
30	City Street	King	Sammamis	NE INGLEWOOD HILL RD	4700	228TH AVE NE							No	E672863	5/18/2017	19:07	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	West
31	City Street	King	Sammamis	NE INGLEWOOD HILL RD	700	228TH AVE NE							No	E747831	12/3/2017	16:35	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Starting in Traffic Lane	Stopped at Signal or Stc	West
32	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	1500	SE 32ND WAY							No	E744952	12/5/2017	7:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Entering Roundabout	Overcast	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
33	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	3400	SE 32ND WAY							No	E776316	2/27/2018	4:35	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Clear or Partly	Dry	Dark-Street Lights On	Entering at angle	Merging (Entering Traff	Going Straight Ahead	Northwest
34	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE 32ND WAY							No	EA22441	3/5/2020	22:35	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Entering Roundabout	Raining	Wet	Dark-Street Lights On	Traffic Island	Going Straight Ahead		Southeast
35	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE 32ND WY							No	E821925	7/12/2018	18:51	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Entering Roundabout	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	Northwest
36	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	3400								No	E853266	10/24/2018	22:09	No Apparent Injury	0	0	1	0	0	Passenger Car		Entering Roundabout	Clear or Partly	Dry	Dark-Street Lights On	Traffic Island	Going Straight Ahead		North
37	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	3300	SE 32ND WAY							No	E552421	6/10/2016	14:34	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Exiting Roundabout	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Vehicle Stopped
38	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	0	SE 32ND WAY							No	E577373	8/23/2016	8:30	Suspected Minor Injury	1	0	2	0	0	Truck & Trailer	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one ri	Making Right Turn	Stopped for Traffic	South
39	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		SE 32ND WY							No	E446047	7/17/2015	13:51	No Apparent Injury	0	0	1	0	0	Truck & Trailer		Circulating Roundabout	Clear or Partly	Dry	Daylight	Linear Curb	Other*		South
40	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	3300	SE 34TH PL							No	E547212	5/15/2016	15:28	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Raining	Wet	Daylight	From same direction - both going straight - one	Slowing	Stopped for Traffic	North
41	City Street	King	Sammamis	SE 32ND WAY	23300	ISSAQUAH PINE LAKE RD SE							No	E580530	9/1/2016	8:26	No Apparent Injury	0	0	2	0	0	Passenger Car	School Bus	Exiting Roundabout	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	East
42	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E798117	5/13/2018	1:25	Unknown	0	0	1	0	0	Passenger Car		At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Utility Box	Going Straight Ahead		Southwest
43	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E823034	7/29/2018	11:41	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Changing Lanes	Stopped at Signal or Stc	South
44	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E852409	10/22/2018	14:56	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	South
45	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E891482	2/7/2019	13:24	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	North
46	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E985689	11/11/2019	17:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
47	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E997424	12/22/2019	17:52	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
48	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	4300		114	F	S	SE KLAHANIE BLVD			No	E816499	7/8/2018	18:38	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
49	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	4300		120	F	S	SE KLAHANIE BLVD			No	E906434	3/29/2019	16:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
50	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	3493204	8/12/2015	18:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
51	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E474098	10/22/2015	12:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	North
52	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E490223	12/2/2015	8:51	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
53	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E526314	3/15/2016	11:16	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
54	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E530513	3/28/2016	15:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Starting in Traffic Lane	Stopped at Signal or Stc	North
55	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4300	SE KLAHANIE BLVD							No	E597638	10/18/2016	15:09	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
56	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E693877	7/21/2017	17:02	Possible Injury	3	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
57	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	0	SE KLAHANIE BLVD							No	E717025	9/27/2017	5:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
58	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	8900		228	F	N	SE KLAHANIE BLVD			No	3779387	11/13/2016	13:10	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East
59	City Street	King	Sammamis	SE KLAHANIE BLVD	0	ISSAQUAH PINE LAKE RD SE							No	E843597	9/24/2018	16:11	Suspected Serious Injury	3	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
60	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE 47TH WAY							No	E838425	9/15/2018	11:41	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Slowing	Stopped at Signal or Stc	North
61	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE 47TH WAY							No	E874664	12/20/2018	16:47	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
62	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		SE 47TH WAY							No	E390437	1/4/2015	16:30	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Dusk	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
63	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		SE 47TH WAY							No	E446050	7/22/2015	17:13	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
64	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		SE 47TH WAY							No	E447304	7/26/2015	13:44	Suspected Minor Injury	2	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
65	City Street	King	Sammamis	SE 47TH WAY	0	ISSAQUAH PINE LAKE RD SE							No	3788801	12/24/2017	16:51	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Pickup,Panel Truck c	At Intersection and Related	Snowing	Snow/Slush	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	Southwest
66	City Street	King	Sammamis	SE 47TH WAY	23500	ISSAQUAH-PINE LAKE RD SE							No	E505581	1/11/2016	9:23	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Ice	Daylight	From same direction - all others	Going Straight Ahead	Stopped in Roadway	West
67	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	23600	SE 48TH ST							No	E600802	10/20/2016	18:00	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	
68	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE	0	SE 48TH ST							No	E977839	10/30/2019	8:39	Suspected Minor Injury	3	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
69	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE	4800	SE 48TH ST							No	E611924	11/23/2016	16:30	No Apparent Injury	0	0	4	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Slowing	Slowing	South
70	City Street	King	Sammamis	SE 48TH ST	4800	ISSAQUAH-PINE LAKE RD SE							No	E618332	12/10/2016	19:10	Suspected Minor Injury	1	0	1	1	0	Passenger Car		At Intersection and Related	Overcast	Wet	Dark-Street Lights On	Vehicle turning left hits pedestrian	Making Left Turn		South
71	City Street	King	Sammamis	212TH AVE SE		SE 20TH ST							No	E476044	10/25/2015	18:25	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
72	City Street	King	Sammamis	212TH AVE SE		SE 20TH ST							No	E505580	1/11/2016	17:27	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
73	City Street	King	Sammamis	SE 20TH ST	0	212TH AVE SE							No	E873703	12/18/2018	7:47	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dawn	Entering at angle	Going Straight Ahead	Making Left Turn	West
74	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	3100	SE 24TH WAY							No	E411802	3/27/2015	15:19	Suspected Minor Injury	1	0	4	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	Northwest
75	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	0	SE 24TH WAY							No	E679434	6/5/2017	15:05	Possible Injury	2	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East
76	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	0	SE 24TH WAY							No	E783482	3/23/2018	14:39	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East
77	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	19300		21	F	NW	SE 24TH WAY			No	E650254	3/10/2017	16:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Dusk	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
78	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	19300		34	F	NW	SE 24TH WAY			No	E725168	10/12/2017	9:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
79	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	3100		95	F	SE	SE 24TH WAY			No	E871796	12/13/2018	11:39	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Intersection Related but Not at	Raining	Wet	Daylight	Roadway Ditch	Going Straight Ahead		South
80	City Street	King	Sammamis	E LAKE SAMMAMISH SHORE	3100		25	F	SW	E LAKE SAMMAMISH PKWY SE			No	E886224	12/30/2018	13:32	Suspected Serious Injury	1	0	1	1	0	Passenger Car		Intersection Related but Not at	Overcast	Wet	Daylight	Vehicle turning right hits pedestrian	Making Right Turn		North
81	City Street	King	Sammamis	212TH WAY SE	0	E LAKE SAMMAMISH PKWY SE							No	E807421	6/10/2018	11:05	Suspected Serious Injury	1	0	1	0	1	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Overcast	Dry	Daylight	Vehicle Strikes Pedalcyclist	Making Left Turn		East
82	City Street	King	Sammamis	212TH WAY SE	4100	E LAKE SAMMAMISH PKWY SE							No	EA04347	1/17/2020	13:31	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - all others	Backing	Stopped at Signal or Stc	West
83	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	4100	212TH WAY SE							No	E412445	3/25/2015	16:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	Southeast
84	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	3700	212TH WAY SE							No	E428861	5/29/2015	10:58	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	Southeast
85	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	4100	212TH WAY SE							No	E459545	8/31/2015	13:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
86	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	4100	212TH WAY SE							No	E496407	12/12/2015	13:11	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
87	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	4100	212TH WAY SE							No	E561073	7/6/2016	17:14	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - all others	Making U-Turn	Going Straight Ahead	South
88	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	4100	212TH WAY SE							No	E563814	7/14/2016	10:11	Suspected Minor Injury	1	0	1	0	1	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle - Pedalcyclist	Making Left Turn		North
89	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	0	212TH WAY SE							No	E656255	3/28/2017	17:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
90	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	0	E LAKE SAMMAMISH SHORELINE SE							No	E519935	2/17/2016	8:12	No Apparent Injury	0	0	4	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East
91	City Street	King	Sammamis	E LAKE SAMMAMISH PKWY	8400		50	F	SE	E LAKE SAMMAMISH SHORE LN SE			No	E662739	4/18/2017	7:26	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Southeast
92	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY		SE 43RD WAY							No	E975187	10/23/2019	12:10	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
93	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	1400	SE 43RD WA							No	E819709	7/19/2018	11:09	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
94	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E417384	4/19/2015	17:31	Possible Injury	1	0	1	0	1	Pickup,Panel Truck or Vanette under 10,(		Exiting Roundabout	Clear or Partly	Dry	Daylight	Vehicle - Pedalcyclist	Going Straight Ahead		South
95	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E417815	4/20/2015	16:09	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck - Double Traile	Entering Roundabout	Clear or Partly	Dry	Daylight	Entering at angle	Merging (Entering Traff	Other*	East
96	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E423216	5/7/2015	14:46	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	East
97	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E437687	6/27/2015	19:53	Possible Injury	1	0	1	0	0	Passenger Car		Circulating Roundabout	Clear or Partly	Dry	Daylight	Street Light Pole or Base	Other*		North
98	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	4300	SE 43RD WAY							No	E448282	8/1/2015	16:29	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
99	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E462948	9/17/2015	14:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck & Trailer	Entering Roundabout	Clear or Partly	Wet	Daylight	From same direction - one right turn - one strai	Overtaking and Passing	Making Right Turn	East
100	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E478605	10/25/2015	10:18	No Apparent Injury	0	0	1	0	0	Passenger Car		Circulating Roundabout	Overcast	Dry	Daylight	Linear Curb	Making Right Turn		South
101	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	800	SE 43RD WAY							No	E482438	11/15/2015	15:17	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	North
102	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E485803	11/24/2015	11:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Overcast	Wet	Daylight	Same direction -- both turning right -- both mo	Overtaking and Passing	Going Straight Ahead	Southwest
103	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 43RD WAY							No	E512394	1/26/2016	14:39	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	Circulating Roundabout	Overcast	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
104	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	8600	SE 43RD WAY							No	E535085	4/18/2016	15:11	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Entering Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
105	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E555762	6/19/2016	16:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
106	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E556794	6/23/2016	17:43	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Entering Roundabout	Raining	Wet	Daylight	Entering at angle	Merging (Entering Traff	Going Straight Ahead	North
107	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	8000	SE 43RD WAY							No	E585080	9/14/2016	8:32	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Entering Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
108	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E602723	10/23/2016	13:07	Possible Injury	2	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Exiting Roundabout	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	South
109	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	8300	SE 43RD WAY							No	E612882	11/27/2016	17:46	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
110	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 43RD WAY							No	E633089	1/4/2017	13:11	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
111	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE 43RD WAY							No	E635861	1/25/2017	10:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
112	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	9800	SE 43RD WAY							No	E702671	8/13/2017	10:45	No Apparent Injury	0	0	1	0	0	Passenger Car		Circulating Roundabout	Overcast	Wet	Daylight	Linear Curb	Other*		East
113	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	2700	SE 43RD WAY							No	E759854	1/17/2018	15:47	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Entering Roundabout	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
114	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	7000	SE 43RD WAY							No	E806720	6/8/2018	17:20	No Apparent Injury	0	0	1	0	0	Passenger Car		Circulating Roundabout	Raining	Wet	Daylight	Traffic Island	Making Left Turn		East
115	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	1300	SE 43RD WAY							No	E836489	9/10/2018	0:13	No Apparent Injury	0	0	1	0	0	Passenger Car		Entering Roundabout	Raining	Wet	Dark-Street Lights On	Traffic Island	Making Right Turn		South
116	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6600	SE 43RD WAY							No	E838559	9/14/2018	9:04	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Passenger Car	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Other*	Other*	North
117	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6600	SE 43RD WAY							No	E858377	11/8/2018	13:32	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
118	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	300	SE 43RD WAY							No	E878570	12/31/2018	13:25	No Apparent Injury	0	0	1	0	0	Passenger Car		Circulating Roundabout	Clear or Partly	Dry	Daylight	Linear Curb	Going Straight Ahead		South
119	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	8300	SE 43RD WAY							No	E911843	4/15/2019	11:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	Northwest
120	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	1700	SE 43RD WAY							No	E919593	5/11/2019	16:14	Possible Injury	1	0	1	0	0	Motorcycle		Exiting Roundabout	Clear or Partly	Dry	Daylight	Vehicle overturned	Slowing		West
121	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	1200	SE 43RD WAY							No	E930608	6/12/2019	8:34	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
122	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 43RD WAY							No	E946275	8/2/2019	6:38	No Apparent Injury	0	0	1	0	0	Passenger Car		Circulating Roundabout	Overcast	Wet	Daylight	Linear Curb	Going Straight Ahead		South
123	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 43RD WAY							No	E977769	10/18/2019	14:40	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck Tractor & Sem	At Intersection and Related	Overcast	Ice	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
124	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 43RD WAY							No	E981027	11/11/2019	1:13	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Entering Roundabout	Clear	Dry	Dark-Street Lights Off	Traffic Island	Going Straight Ahead		Southeast
125	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 43RD WAY							No	EA03337	1/14/2020	10:45	Possible Injury	1	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Circulating Roundabout	Snowing	Snow/Slush	Daylight	Traffic Island	Going Straight Ahead		East
126	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	9900	SE 43RD WAY							No	EA17251	2/15/2020	4:24	No Apparent Injury	0	0	1	0	0	Passenger Car		Entering Roundabout	Overcast	Wet	Dark-Street Lights On	Traffic Island	Going Straight Ahead		South
127	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	4300		0.15	M	SE	EAST LAKE SAMMAMISH TRL			No	E975186	10/23/2019	12:10	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
128	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6600		111	F	W	SE 43RD WAY			No	E530427	3/31/2016	15:15	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	Exiting Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Merging (Entering Traff	North
129	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	7700		111	F	SW	SE 43RD WAY			No	E586568	9/20/2016	9:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Truck (Flatbad,Van,e	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	East
130	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0		32	F	SW	SE 43RD WAY			No	E777525	3/10/2018	10:35	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Roundabout Related but not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Merging (Entering Traff	Going Straight Ahead	Northwest
131	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	200		210	F	SW	SE 43RD WAY			No	E888973	2/2/2019	4:58	No Apparent Injury	0	0	1	0	0	Passenger Car		Entering Roundabout	Overcast	Wet	Dark-Street Lights On	Tree or Stump (stationary)	Going Straight Ahead		North
132	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0		130	F	SE	SE 43RD WAY			No	E981854	11/10/2019	11:46	Suspected Minor Injury	2	0	1	0	0	Passenger Car		Roundabout Related but not at	Overcast	Wet	Daylight	Guide Post	Going Straight Ahead		North
133	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	4300	SE 43RD WAY							No	E543895	5/13/2016	15:52	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
134	City Street	King	Issaquah	SE 43RD WAY		E LAKE SAMMAMISH PKWY SE							No	E420688	4/27/2015	8:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck (Flatbad,Van,e	Entering Roundabout	Clear or Partly	Wet	Daylight	Entering at angle	Other*	Other*	South
135	City Street	King	Issaquah	SE 43RD WAY		E LAKE SAMMAMISH PKWY SE							No	E476136	10/28/2015	12:00	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Pickup,Panel Truck c	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Overtaking and Passing	East
136	City Street	King	Issaquah	SE 43RD WAY		E LAKE SAMMAMISH PKWY SE							No	E596885	10/17/2016	12:26	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Entering Roundabout	Raining	Wet	Daylight	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	East
137	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E696074	7/28/2017	13:27	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	Entering Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East

Source: Washington State Department of Transportation, June 2020

PRJ19-00008 Attachment 060

OFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH
01/01/2015 - *Avail 2020*
Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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.

RECORD #	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM
138	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E704800	8/22/2017	16:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck (Flatbad,Van,e	Circulating Roundabout	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	East
139	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E705251	8/22/2017	15:14	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Pickup,Panel Truck c	Entering Roundabout	Clear or Partly	Dry	Daylight	From same direction - one left turn - one straig	Making Left Turn	Going Straight Ahead	East
140	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E795924	5/8/2018	17:01	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Pickup,Panel Truck c	Circulating Roundabout	Overcast	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
141	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E833628	8/31/2018	7:36	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East
142	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E834481	9/3/2018	21:44	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Entering Roundabout	Clear or Partly	Dry	Dark-Street Lights On	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	East
143	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E885163	1/21/2019	9:13	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Entering Roundabout	Clear or Partly	Dry	Daylight	Linear Curb	Going Straight Ahead		East
144	City Street	King	Issaquah	SE 43RD WAY	0	E LAKE SAMMAMISH PKWY SE							No	E957424	9/6/2019	8:06	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Passenger Car	Entering Roundabout	Clear or Partly	Dry	Daylight	Entering at angle	Merging (Entering Traff	Other*	East
145	City Street	King	Issaquah	SE 43RD WAY	700	E LAKE SAMMAMISH PKWY SE							No	E982111	10/28/2019	13:40	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Circulating Roundabout	Clear	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
146	City Street	King	Issaquah	SE 43RD WAY	0	PROVIDENCE POINT DR SE							No	E691571	7/14/2017	6:35	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
147	City Street	King	Issaquah	SE 43RD WAY	0	PROVIDENCE POINT DR SE							No	E708872	9/6/2017	8:15	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
148	City Street	King	Issaquah	SE 43RD WAY	0	PROVIDENCE POINT PL SE							No	E797248	5/1/2018	15:53	No Apparent Injury	0	0	3	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	East
149	City Street	King	Issaquah	SE 43RD WAY	24300		64	F	E	PROVIDENCE POINT DR SE			No	E961664	9/19/2019	7:41	No Apparent Injury	0	0	4	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Overcast	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	East
150	City Street	King	Sammamis	228TH AVE NE	0	NE 4TH ST							No	E470754	10/11/2015	12:26	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
151	City Street	King	Sammamis	228TH AVE NE	400	NE 4TH ST							No	E566922	7/25/2016	15:50	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
152	City Street	King	Sammamis	228TH AVE NE	0	NE 4TH ST							No	E668449	5/1/2017	6:43	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
153	City Street	King	Sammamis	228TH AVE NE	0	NE 4TH ST							No	E713713	9/19/2017	8:53	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Overcast	Wet	Daylight	Boulder (stationary)	Making Left Turn		East
154	City Street	King	Sammamis	228TH AVE NE	0	NE 4TH ST							No	E719239	10/3/2017	13:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
155	City Street	King	Sammamis	228TH AVE NE	0	NE 4TH ST							No	E760314	1/19/2018	17:20	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
156	City Street	King	Sammamis	228TH AVE NE	300		197	F	E	227TH LN NE			No	E621494	12/5/2016	18:10	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Overcast	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	South
157	City Street	King	Sammamis	228TH AVE NE			27	F	N	NE 4TH ST			No	E733782	11/9/2017	12:07	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
158	City Street	King	Sammamis	NE 4TH ST	22700	228TH AVE NE							No	E584439	9/13/2016	8:01	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Slowing	Stopped at Signal or Stc	East
159	City Street	King	Sammamis	NE 4TH ST	0	228TH AVE NE							No	E899846	3/4/2019	17:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	East
160	City Street	King	Issaquah	12TH AVE NW	0	17TH AVE NW							No	E764156	1/30/2018	10:31	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Right Turn	Going Straight Ahead	South
161	City Street	King	Issaquah	12TH AVE NW	0	17TH AVE NW							No	E936152	7/1/2019	15:25	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
162	City Street	King	Issaquah	12TH AVE NW	0	17TH AVE NW							No	EA05704	1/20/2020	13:34	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Right Turn	Southeast
163	City Street	King	Issaquah	17TH AVE NW	1700	12TH AVE NW							No	E525356	3/16/2016	12:34	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
164	City Street	King	Issaquah	17TH AVE NW	1700	12TH AVE NW							No	E579480	8/16/2016	12:05	Suspected Minor Injury	1	0	2	1	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	Southeast
165	City Street	King	Issaquah	17TH AVE NW	1700	12TH AVE NW							No	E592174	10/4/2016	15:02	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Wet	Daylight	From opposite direction - all others	Making Left Turn	Stopped at Signal or Stc	East
166	City Street	King	Issaquah	17TH AVE NW	0	12TH AVE NW							No	E629235	1/7/2017	22:00	No Apparent Injury	0	0	2	0	0	Not Stated	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stop Sign	
167	City Street	King	Issaquah	17TH AVE NW	0	12TH AVE NW							No	E792050	4/24/2018	16:24	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Slowing	Stopped at Signal or Stc	South
168	City Street	King	Issaquah	17TH AVE NW	0	12TH AVE NW							No	E812959	6/28/2018	9:09	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
169	City Street	King	Issaquah	17TH AVE NW	0	12TH AVE NW							No	E964732	9/27/2019	7:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dawn	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
170	City Street	King	Issaquah	17TH AVE NW	0	12TH AVE NW							No	EA12873	2/7/2020	13:28	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
171	City Street	King	Issaquah	17TH AVE NW	1700	NW SAMMAMISH RD							No	E404591	3/2/2015	14:42	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Starting in Traffic Lane	Stopped for Traffic	Vehicle Stopped
172	City Street	King	Issaquah	17TH AVE NW	0	NW SAMMAMISH RD							No	E649030	3/7/2017	9:01	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - one right turn - one strai	Making Right Turn	Going Straight Ahead	North
173	City Street	King	Issaquah	17TH AVE NW	0	NW SAMMAMISH RD							No	E653647	3/21/2017	10:02	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Bus or Motor Stage	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Other*	East
174	City Street	King	Issaquah	17TH AVE NW	0	NW SAMMAMISH RD							No	E707754	9/2/2017	22:08	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	Southwest
175	City Street	King	Issaquah	17TH AVE NW	0	NW SAMMAMISH RD							No	E920512	5/14/2019	13:02	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
176	City Street	King	Issaquah	17TH AVE NW	0	NW SAMMAMISH RD							No	E982092	11/12/2019	8:28	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Truck (Flatbad,Van,e	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	South
177	City Street	King	Issaquah	17TH AVE NW	1800		30	F	SW	12TH AVE NW			No	E777602	3/10/2018	19:23	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Vehicle Stopped
178	City Street	King	Issaquah	17TH AVE NW	1700		50	F	SW	NW SAMMAMISH RD			No	E756983	1/9/2018	16:46	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
179	City Street	King	Issaquah	NW SAMMAMISH RD		12TH AVE NW							No	E488014	11/30/2015	12:44	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
180	City Street	King	Issaquah	NW SAMMAMISH RD		12TH AVE NW							No	E517239	2/19/2016	6:04	Suspected Minor Injury	1	0	1	1	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Raining	Wet	Dark-Street Lights On	Vehicle turning left hits pedestrian	Making Left Turn		West
181	City Street	King	Issaquah	NW SAMMAMISH RD	0	12TH AVE NW							No	E773125	2/25/2018	21:29	Unknown	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Clear or Partly	Wet	Dark-Street Lights On	Signal Pole	Making Right Turn		North
182	City Street	King	Issaquah	NW SAMMAMISH RD	0	12TH AVE NW							No	E960056	9/13/2019	20:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
183	City Street	King	Issaquah	NW SAMMAMISH RD	0	12TH AVE NW							No	E962489	9/19/2019	20:09	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - one right turn - one strai	Making Right Turn	Going Straight Ahead	Northeast
184	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E480913	11/9/2015	15:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East
185	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E497012	12/21/2015	15:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Not Stated	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	Northwest
186	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E511613	2/1/2016	21:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Wet	Dark-Street Lights On	From same direction - all others	Backing	Stopped at Signal or Stc	Vehicle Backing
187	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E568906	8/1/2016	14:00	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Changing Lanes	Northeast
188	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E591673	10/4/2016	14:50	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Raining	Wet	Daylight	Linear Curb	Making Left Turn		West
189	City Street	King	Issaquah	NW SAMMAMISH RD		17TH AVE NW							No	E592175	10/4/2016	9:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Right Turn	Stopped at Signal or Stc	North
190	City Street	King	Issaquah	NW SAMMAMISH RD	0	17TH AVE NW							No	E626116	12/29/2016	15:16	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dusk	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	West
191	City Street	King	Issaquah	NW SAMMAMISH RD	0	17TH AVE NW							No	E626181	12/27/2016	13:49	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
192	City Street	King	Issaquah	NW SAMMAMISH RD	0	17TH AVE NW							No	E708536	9/5/2017	14:50	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one rig	Making Right Turn	Making Left Turn	West
193	City Street	King	Issaquah	NW SAMMAMISH RD	0	17TH AVE NW							No	E719020	10/3/2017	12:27	Possible Injury	1	0	2	0	0	Truck (Flatbad,Van,e	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	North
194	City Street	King	Issaquah	NW SAMMAMISH RD	0	17TH AVE NW							No	E854629	10/25/2018	17:42	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one rig	Making Left Turn	Making Right Turn	East
195	City Street	King	Issaquah	NW SAMMAMISH RD	1400		158	F	NW	17TH AVE NW			No	E769250	2/13/2018	16:44	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Wet	Daylight	From same direction - both going straight - one	Slowing	Stopped for Traffic	West
196	City Street	King	Issaquah	NW SAMMAMISH RD	1400		30	F	NW	17TH AVE NW			No	E814314	7/3/2018	17:34	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Slowing	Slowing	North
197	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 56TH ST							No	E397667	1/16/2015	19:02	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - bot	Slowing	Going Straight Ahead	North
198	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 56TH ST							No	E492733	12/12/2015	11:52	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Making Right Turn	Stopped at Signal or Stc	North
199	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 56TH ST							No	E524441	3/14/2016	11:11	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
200	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 56TH ST							No	E565988	7/15/2016	7:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Starting in Traffic Lane	Going Straight Ahead	North
201	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600	SE 56TH ST							No	E578516	8/26/2016	8:39	Suspected Minor Injury	1	0	1	1	0	Passenger Car		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle turning right hits pedestrian	Making Right Turn		North
202	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E625203	12/27/2016	11:05	Suspected Minor Injury	1	0	2	0	0		Passenger Car	At Intersection and Related	Clear or Partly	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
203	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E628736	1/5/2017	14:30	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Right Turn	Going Straight Ahead	West
204	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E728181	10/28/2017	18:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
205	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E738990	11/21/2017	12:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Right Turn	Going Straight Ahead	West
206	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E757585	1/11/2018	15:42	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Right Turn	Going Straight Ahead	West
207	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E794899	4/27/2018	7:19	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,e	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
208	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E826024	8/5/2018	11:28	Suspected Minor Injury	1	0	1	0	1	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle Strikes Pedalcyclist	Making Right Turn		North
209	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 56TH ST							No	E853794	10/26/2018	18:44	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dusk	From opposite direction - one left turn - one rig	Making Right Turn	Making Left Turn	North
210	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5500		181	F	N	SE 56TH ST			No	E705252	8/24/2017	13:27	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
211	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5600		90	F	SE	SE 56TH ST			No	E708537	9/5/2017	15:01	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
212	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5500		59	F	N	SE 56TH ST			No	E735616	11/14/2017	7:41	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
213	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5500		63	F	N	SE 56TH ST			No	E771648	2/22/2018	9:21	Possible Injury	1	0	3	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Ice	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
214	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5500		52	F	NE	SE 56TH ST			No	E934301	6/26/2019	9:49	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	North
215	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5500		57	F	N	SE 56TH ST			No	E982707	11/15/2019	18:50	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at	Overcast	Dry	Dark-Street Lights On	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	North
216	City Street	King	Issaquah	SE 56TH ST	9800	E LAKE SAMMAMISH PKWY SE							No	E455596	8/24/2015	17:51	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
217	City Street	King	Issaquah	SE 56TH ST	22100	E LAKE SAMMAMISH PKWY SE							No	E513155	2/4/2016	9:45	No Apparent Injury	0	0	2	0	0	Truck Tractor & Sem	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
218	City Street	King	Issaquah	SE 56TH ST	22100	E LAKE SAMMAMISH PKWY SE							No	E514012	2/8/2016	6:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Overtaking and Passing	West
219	City Street	King	Issaquah	SE 56TH ST	22100	E LAKE SAMMAMISH PKWY SE							No	E580709	9/3/2016	7:29	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
220	City Street	King	Issaquah	SE 56TH ST	5400	E LAKE SAMMAMISH PKWY SE							No	E589110	9/17/2016	11:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
221	City Street	King	Issaquah	SE 56TH ST	5600	E LAKE SAMMAMISH PKWY SE							No	E623433	12/21/2016	16:00	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	Southeast
222	City Street	King	Issaquah	SE 56TH ST	0	E LAKE SAMMAMISH PKWY SE							No	E640895	2/8/2017	20:30	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
223	City Street	King	Issaquah	SE 56TH ST	0	E LAKE SAMMAMISH PKWY SE							No	E714634	9/22/2017	11:22	Dead at Scene	0	1	1	0	1	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle - Pedalcyclist	Making Right Turn		North
224	City Street	King	Issaquah	SE 56TH ST	0	E LAKE SAMMAMISH PKWY SE							No	E737690	11/20/2017	20:29	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	West
225	City Street	King	Issaquah	SE 56TH ST	0	E LAKE SAMMAMISH PKWY SE							No	E738989	11/21/2017	8:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
226	City Street	King	Issaquah	SE 56TH ST	0	E LAKE SAMMAMISH PKWY SE							No	E819069	7/17/2018	11:37	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
227	City Street	King	Issaquah	SE 56TH ST	0		64	F	W	E LAKE SAMMAMISH PKWY SE			No	E920239	5/14/2019	15:43	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	West
228	City Street	King	Issaquah	SE 56TH ST	22100		131	F	W	EAST LAKE SAMMAMISH TRL			No	E658534	4/4/2017	14:23	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	West
229	City Street	King	Issaquah	SE 56TH ST	22100		74	F	W	EAST LAKE SAMMAMISH TRL			No	E766483	2/6/2018	7:18	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Northwest
230	City Street	King	Issaquah	SE 56TH ST	22100		151	F	W	EAST LAKE SAMMAMISH TRL			No	E864070	11/23/2018	14:40	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	West
231	City Street	King	Issaquah	SE 56TH ST	22100		84	F	W	EAST LAKE SAMMAMISH TRL			No	E959010	9/9/2019	15:43	Possible Injury	1	0	3	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Overcast	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Starting in Traffic Lane	West
232	City Street	King	Issaquah	SE 56TH ST	22100		134	F	W	EAST LAKE SAMMAMISH TRL			No	E961118	9/17/2019	11:37	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Overcast	Wet	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	West
233	City Street	King	Issaquah	HIGHLANDS DR NE	0	ISSAQUAH PINE LAKE RD SE							No	E757219	12/12/2017	16:22	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- both mo	Making Right Turn	Slowing	East
234	City Street	King	Issaquah	HIGHLANDS DR NE	5300	ISSAQUAH-PINE LAKE RD SE							No	E443894	7/17/2015	15:48	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	South
235	City Street	King	Issaquah	HIGHLANDS DR NE	5300	SE ISSAQUAH-FALL CITY RD							No	E424600	5/14/2015	15:48	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	South
236	City Street	King	Issaquah	HIGHLANDS DR NE	5300	SE ISSAQUAH-FALL CITY RD							No	E473378	10/21/2015	11:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
237	City Street	King	Issaquah	HIGHLANDS DR NE	5300	SE ISSAQUAH-FALL CITY RD							No	E484246	11/19/2015	12:49	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	South
238	City Street	King	Issaquah	HIGHLANDS DR NE	5300	SE ISSAQUAH-FALL CITY RD							No	E492933	12/11/2015	17:21	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	South
239	City Street	King	Issaquah	HIGHLANDS DR NE	5300	SE ISSAQUAH-FALL CITY RD							No	E602721	10/31/2016	17:40	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Dusk	From same direction - both going straight - one	Changing Lanes	Stopped for Traffic	South
240	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E756984	1/10/2018	15:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	Northwest
241	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E776912	3/7/2018	16:59	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry	Dusk	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
242	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E817248	7/13/2018	10:23	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Motorcycle	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	Northwest
243	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E826092	8/6/2018	8:50	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Stopped at Signal or Stc	Going Straight Ahead	Northwest
244	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E869232	12/6/2018	9:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- both mo	Going Straight Ahead	Slowing	North
245	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	0	SE ISSAQUAH FALL CITY RD							No	E991339	12/9/2019	17:53	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
246	City Street	King	Issaquah	ISSAQUAH PINE LAKE RD SE	5200		200	F	NW	HIGHLANDS DR NE			No	E857215	11/5/2018	18:12	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
247	City Street	King	Issaquah	ISSAQUAH-PINE LAKE RD SE	5100	HIGHLANDS DR NE							No	E437574	6/26/2015	18:51	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	South
248	City Street	King	Issaquah	ISSAQUAH-PINE LAKE RD SE	5100	SE ISSAQUAH-FALL CITY RD							No	E414117	4/6/2015	11:47	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Making Right Turn	North
249	City Street	King	Issaquah	ISSAQUAH-PINE LAKE RD SE	5100	SE ISSAQUAH-FALL CITY RD							No	E572561	8/10/2016	20:32	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dusk	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	South
250	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	HIGHLANDS DR NE							No	E760720	1/20/2018	10:50	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	West
251	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	HIGHLANDS DR NE							No	E784065	3/30/2018	12:40	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From opposite direction - all others	Making U-Turn	Going Straight Ahead	Southeast
252	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	HIGHLANDS DR NE							No	E912532	4/19/2019	15:26	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	Northeast
253	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	24000	HIGHLANDS DR NE							No	E942036	7/20/2019	18:31	Possible Injury	2	0	2	0	0	Pickup,Panel Truck c	Motorcycle	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Starting in Traffic Lane	Starting in Traffic Lane	Southwest
254	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	HIGHLANDS DR NE							No	E970442	10/6/2019	16:19	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
255	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	ISSAQUAH PINE LAKE RD SE							No	E756594	1/8/2018	20:19	Suspected Minor Injury	2	0	3	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	East
256	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	ISSAQUAH PINE LAKE RD SE							No	E785439	4/4/2018	20:39	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	East
257	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	ISSAQUAH PINE LAKE RD SE							No	E933072	6/23/2019	9:06	Suspected Serious Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	North
258	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	ISSAQUAH PINE LAKE RD SE							No	E985598	11/23/2019	23:52	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
259	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	23900		131	F	SW	ISSAQUAH PINE LAKE RD SE			No	E819420	7/17/2018	17:27	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Starting in Traffic Lane	Stopped for Traffic	Southwest
260	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E404661	2/28/2015	13:50	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
261	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD		HIGHLANDS DR NE							No	E436291	6/14/2015	15:02	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Linear Curb	Going Wrong Way on D	Going Straight Ahead	East
262	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E464948	9/15/2015	8:19	Possible Injury	2	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Starting in Traffic Lane	Stopped at Signal or Stc	Southwest
263	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E464950	8/29/2015	9:45	Possible Injury	1	0	1	0	1	Passenger Car		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle - Pedalcyclist	Going Straight Ahead		Northeast
264	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E472315	10/18/2015	11:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Stopped at Signal or Stc	Making Right Turn	Southeast
265	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E474619	10/25/2015	2:00	Suspected Serious Injury	1	0	1	1	0	Passenger Car		At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Vehicle going straight hits pedestrian	Going Straight Ahead		
266	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E495284	12/17/2015	8:30	Possible Injury	1	0	4	0	0	Truck & Trailer	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	West
267	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E501606	1/4/2016	11:56	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Northeast
268	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	HIGHLANDS DR NE							No	E517733	2/21/2016	18:03	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
269	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E488595	12/1/2015	21:39	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	Northeast
270	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E576652	8/22/2016	23:34	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
271	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E585537	9/17/2016	19:34	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Raining	Wet	Dusk	Utility Pole	Making Left Turn		West
272	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E592485	10/5/2016	23:31	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
273	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E594254	10/10/2016	10:40	Possible Injury	1	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	Northeast
274	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E604486	10/31/2016	22:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	West

OFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/2015 - *Avail 2020*

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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.

RECORD #	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM
275	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	0	ISSAQUAH-PINE LAKE RD SE							No	E615065	12/2/2016	13:47	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	North
276	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	0	ISSAQUAH-PINE LAKE RD SE							No	E655981	3/28/2017	14:28	Possible Injury	2	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
277	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900	ISSAQUAH-PINE LAKE RD SE							No	E707848	9/3/2017	14:11	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	North
278	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	8600	ISSAQUAH-PINE LAKE RD SE							No	E719454	10/4/2017	15:30	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Making Left Turn	Making Right Turn	South
279	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	23900		166	F	NE	ISSAQUAH-PINE LAKE RD SE			No	E664264	4/23/2017	20:22	No Apparent Injury	0	0	1	0	0	Passenger Car		Intersection Related but Not at	Raining	Wet	Dark-Street Lights On	Linear Curb	Making Right Turn		Southeast
280	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE 64TH PL							No	E489453	12/3/2015	17:42	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	Northwest
281	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE 64TH PL							No	E520921	2/5/2016	10:12	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
282	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 64TH PL							No	E775043	3/2/2018	18:40	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	North
283	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE 64TH PL							No	E843638	9/29/2018	15:41	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
284	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E729347	10/29/2017	7:32	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dawn	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
285	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E749823	12/20/2017	18:18	Suspected Minor Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
286	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E808738	6/14/2018	12:18	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
287	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E861331	11/15/2018	14:38	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	South
288	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E864805	11/25/2018	0:03	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
289	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E892545	1/19/2019	10:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
290	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E894599	2/18/2019	18:39	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
291	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E903880	3/19/2019	14:55	Suspected Serious Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
292	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E908259	4/5/2019	11:04	No Apparent Injury	0	0	2	0	0	Passenger Car	Truck (Flatbad,Van,e	At Intersection and Related	Raining	Wet	Daylight	From same direction - one right turn - one strai	Going Straight Ahead	Making Right Turn	South
293	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E935781	6/30/2019	9:03	Suspected Minor Injury	3	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
294	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E952291	8/21/2019	19:02	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	From same direction - one right turn - one strai	Making Right Turn	Going Straight Ahead	South
295	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E955724	8/31/2019	14:57	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	West
296	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E966495	9/30/2019	14:02	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	Southeast
297	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E972908	10/20/2019	20:16	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
298	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E987959	11/29/2019	17:54	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
299	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	E995621	12/20/2019	7:53	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	North
300	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	EA05685	1/21/2020	18:36	Possible Injury	2	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
301	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	5700	SE ISSAQUAH FALL CITY RD							No	EA20388	3/2/2020	11:10	Possible Injury	2	0	3	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	From opposite direction - all others	Going Straight Ahead	Stopped at Signal or Stc	North
302	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	EA21791	3/6/2020	20:10	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	Northwest
303	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	EA31902	5/4/2020	8:41	Suspected Minor Injury	2	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
304	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH FALL CITY RD							No	EA38032	6/5/2020	21:30	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
305	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E432267	6/9/2015	18:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
306	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E485531	11/23/2015	17:35	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
307	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E490402	12/6/2015	13:01	Possible Injury	1	0	3	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
308	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E506372	1/16/2016	17:33	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
309	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E519161	2/26/2016	8:14	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	South
310	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E535489	4/19/2016	19:19	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dusk	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
311	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E581138	9/4/2016	14:18	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
312	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E595448	10/13/2016	19:08	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	Northwest
313	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	6400	SE ISSAQUAH-FALL CITY RD							No	E604779	11/5/2016	20:30	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights Off	Entering at angle	Making Left Turn	Going Straight Ahead	East
314	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E613853	11/20/2016	13:10	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
315	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E616616	12/6/2016	17:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
316	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY SE		SE ISSAQUAH-FALL CITY RD							No	E618716	12/10/2016	11:58	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
317	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E639097	2/5/2017	22:51	Possible Injury	1	0	1	0	0	Passenger Car		At Intersection and Related	Snowing	Snow/Slush	Dark-Street Lights On	Signal Pole	Going Straight Ahead		East
318	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E640549	2/7/2017	19:34	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Overcast	Wet	Dark-Street Lights On	Signal Pole	Making Left Turn		North
319	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E642694	2/15/2017	15:22	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	South
320	City Street	King	Issaquah	E LAKE SAMMAMISH PKWY	0	SE ISSAQUAH-FALL CITY RD							No	E684708	6/24/2017	22:22	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
321	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E742452	12/3/2017	10:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Wet	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	Northeast
322	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E792897	4/28/2018	21:20	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
323	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E851086	10/20/2018	20:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Same direction -- both turning left -- both movi	Making Left Turn	Making Left Turn	East
324	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E864193	11/22/2018	11:39	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Starting in Traffic Lane	Starting in Traffic Lane	Northeast
325	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	22800		81	F	NE	E LAKE SAMMAMISH PKWY SE			No	E788728	4/14/2018	13:30	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Raining	Wet	Daylight	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	South
326	City Street	King	Issaquah	SE ISSAQUAH FALL CITY RD	22800		150	F	NE	E LAKE SAMMAMISH PKWY SE			No	E952204	8/19/2019	10:53	No Apparent Injury	0	0	2	0	0	Not Stated	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	
327	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E464954	9/6/2015	14:46	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Changing Lanes	Going Straight Ahead	North
328	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E473444	10/19/2015	9:02	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Changing Lanes	Stopped at Signal or Stc	East
329	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E494534	12/14/2015	11:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
330	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E526780	3/21/2016	18:12	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - all others	Making Left Turn	Making Left Turn	East
331	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E528184	3/23/2016	6:49	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	East
332	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE							No	E573980	8/13/2016	13:17	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Other*	Making Left Turn	East
333	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E609455	11/17/2016	18:22	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
334	City Street	King	Issaquah	SE ISSAQUAH-FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE							No	E652252	3/16/2017	18:15	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - all others	Going Straight Ahead	Stopped for Traffic	East
335	City Street	King	Sammamis	228TH AVE SE	300	SE 4TH ST							No	3496377	3/31/2015	7:18	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Truck (Flatbad,Van,e	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
336	City Street	King	Sammamis	228TH AVE SE		SE 4TH ST							No	E431945	6/8/2015	7:24	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
337	City Street	King	Sammamis	228TH AVE SE	300	SE 4TH ST							No	E473362	10/15/2015	11:30	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Clear or Partly	Dry	Daylight	Fence	Making Left Turn		West
338	City Street	King	Sammamis	228TH AVE SE	300	SE 4TH ST							No	E511558	2/1/2016	8:29	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Overcast	Wet	Daylight	Fence	Going Straight Ahead		South
339	City Street	King	Sammamis	228TH AVE SE	300	SE 4TH ST							No	E554606	6/13/2016	13:48	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
340	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E574374	8/15/2016	11:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
341	City Street	King	Sammamis	228TH AVE SE	300	SE 4TH ST							No	E601372	10/26/2016	15:05	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
342	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E670716	5/8/2017	16:10	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
343	City Street	King	Sammamis	228TH AVE SE	9900	SE 4TH ST							No	E729502	10/28/2017	11:51	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
344	City Street	King	Sammamis	228TH AVE SE	9900	SE 4TH ST							No	E736738	11/16/2017	13:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped in Roadway	South
345	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E776311	3/2/2018	19:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Entering at angle	Making Right Turn	Making U-Turn	West
346	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E889491	2/1/2019	15:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Changing Lanes	Making Right Turn	South
347	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E975572	10/25/2019	16:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	South
348	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E983723	11/15/2019	10:15	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Wet	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
349	City Street	King	Sammamis	228TH AVE SE	0	SE 4TH ST							No	E991513	12/7/2019	18:10	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Raining	Wet	Dark-Street Lights On	Signal Pole	Making Left Turn		South
350	City Street	King	Sammamis	228TH AVE SE	200		110	F	N	CRUSADER WAY			No	E674109	5/21/2017	13:14	Possible Injury	1	0	3	0	0	Passenger Car	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Stopped at Signal or Stc	Going Straight Ahead	Vehicle Stopped
351	City Street	King	Sammamis	228TH AVE SE	300		90	F	SE	SE 4TH ST			No	E754543	1/2/2018	12:50	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
352	City Street	King	Sammamis	228TH AVE SE	400		119	F	S	SE 4TH ST			No	E997422	12/12/2019	16:06	No Apparent Injury	0	0	1	0	0	Passenger Car		Intersection Related but Not at	Raining	Standing Water	Daylight	Street Light Pole or Base	Making Left Turn		East
353	City Street	King	Sammamis	CRUSADER WAY	0	228TH AVE SE							No	E832110	8/24/2018	12:37	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - one right turn - one strai	Making Right Turn	Going Straight Ahead	East
354	City Street	King	Sammamis	CRUSADER WAY	0	228TH AVE SE							No	E904389	2/25/2019	15:41	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
355	City Street	King	Sammamis	SE 4TH ST	200	228TH AVE SE							No	E508370	1/20/2016	12:47	Possible Injury	1	0	1	0	0	Passenger Car		At Intersection and Related	Overcast	Other	Daylight	Utility Pole	Making Left Turn		East
356	City Street	King	Sammamis	SE 4TH ST	0	228TH AVE SE							No	E738754	11/22/2017	13:15	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	West
357	City Street	King	Sammamis	SE 4TH ST	0	228TH AVE SE							No	E887317	1/12/2019	19:27	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	West
358	City Street	King	Sammamis	228TH AVE SE		SE 8TH ST							No	E446051	7/21/2015	8:35	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
359	City Street	King	Sammamis	228TH AVE SE		SE 8TH ST							No	E513602	2/3/2016	18:06	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	North
360	City Street	King	Sammamis	228TH AVE SE		SE 8TH ST							No	E518795	2/9/2016	19:11	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
361	City Street	King	Sammamis	228TH AVE SE		SE 8TH ST							No	E554808	6/1/2016	17:23	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
362	City Street	King	Sammamis	228TH AVE SE	9900	SE 8TH ST							No	E632914	1/12/2017	16:48	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dusk	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
363	City Street	King	Sammamis	228TH AVE SE	0	SE 8TH ST							No	E677502	5/31/2017	15:13	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
364	City Street	King	Sammamis	228TH AVE SE	0	SE 8TH ST							No	E805551	6/6/2018	17:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
365	City Street	King	Sammamis	228TH AVE SE	0	SE 8TH ST							No	E813216	6/24/2018	9:17	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
366	City Street	King	Sammamis	228TH AVE SE	3900	SE 8TH ST							No	E817598	7/12/2018	19:00	Suspected Minor Injury	1	0	1	0	1	Not Stated		At Intersection and Related	Clear or Partly	Dry	Daylight	Vehicle Strikes Pedalcyclist	Making Right Turn		South
367	City Street	King	Sammamis	228TH AVE SE	0	SE 8TH ST							No	E886597	1/23/2019	19:05	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
368	City Street	King	Sammamis	228TH AVE SE	0	SE 8TH ST							No	E941966	7/17/2019	18:54	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
369	City Street	King	Sammamis	228TH AVE SE	700		242	F	N	SE 8TH ST			No	E817597	7/12/2018	17:49	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
370	City Street	King	Sammamis	SE 8TH ST	9900	228TH AVE SE							No	E547982	5/27/2016	7:22	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	East
371	City Street	King	Sammamis	SE 8TH ST	9900	228TH AVE SE							No	E568166	7/29/2016	17:46	Possible Injury	2	0	3	0	0	Not Stated	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	
372	City Street	King	Sammamis	SE 8TH ST	0	228TH AVE SE							No	E729496	10/22/2017	13:09	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East
373	City Street	King	Sammamis	SE 8TH ST	5100	228TH AVE SE							No	E766538	2/5/2018	8:39	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	East
374	City Street	King	Sammamis	SE 8TH ST	6300	228TH AVE SE							No	E767283	2/7/2018	7:21	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	Entering at angle	Going Straight Ahead	Stopped for Traffic	East
375	City Street	King	Sammamis	SE 8TH ST	0	228TH AVE SE							No	E821929	7/19/2018	19:59	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	East
376	City Street	King	Sammamis	SE 8TH ST	0	228TH AVE SE							No	E828093	8/5/2018	17:44	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	West
377	City Street	King	Sammamis	SE 8TH ST	0	228TH AVE SE							No	EA10109	1/29/2020	7:31	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dawn	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	East
378	City Street	King	Sammamis	SE 8TH ST	0	228TH AVE SE							No	EA24252	3/11/2020	13:58	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear	Wet	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	East
379	City Street	King	Sammamis	SE 8TH ST	3200	228TH AVE SE							No	EA25471	3/20/2020	18:50	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	East
380	City Street	King	Sammamis	SE 8TH ST	22800		153	F	E	228TH AVE SE			No	E658678	4/5/2017	11:54	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		Intersection Related but Not at	Clear or Partly	Wet	Daylight	Signal Pole	Making Right Turn		South
381	City Street	King	Sammamis	228TH AVE SE	1800	SE 20TH ST							No	2840190	1/10/2016	9:40	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
382	City Street	King	Sammamis	228TH AVE SE	1800	SE 20TH ST							No	E423659	5/7/2015	13:25	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Right Turn	Making U-Turn	West
383	City Street	King	Sammamis	228TH AVE SE	1800	SE 20TH ST							No	E431942	5/30/2015	15:20	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	South
384	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E636270	1/25/2017	12:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
385	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E670715	5/10/2017	10:03	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Truck & Trailer	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - one right turn - one strai	Overtaking and Passing	Making Right Turn	North
386	City Street	King	Sammamis	228TH AVE SE	9900	SE 20TH ST							No	E757218	1/9/2018	12:08	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	South
387	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E821926	7/21/2018	9:46	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning left -- both movi	Making Left Turn	Slowing	South
388	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E879678	1/3/2019	7:39	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Dawn	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
389	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E884130	1/16/2019	11:19	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	All Other Multi Vehicle	Going Straight Ahead	Making U-Turn	South
390	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E920278	5/13/2019	15:31	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - all others	Making U-Turn	Going Straight Ahead	South
391	City Street	King	Sammamis	228TH AVE SE	0	SE 20TH ST							No	E985691	11/16/2019	16:13	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Raining	Wet	Dusk	Fence	Making Right Turn		North
392	City Street	King	Sammamis	228TH AVE SE	1900		99	F	N	SE 20TH ST			No	E999680	12/30/2019	14:30	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Overcast	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
393	City Street	King	Sammamis	SE 20TH ST	0	228TH AVE SE							No	E924314	5/16/2019	15:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Daylight	Entering at angle	Making Right Turn	Stopped at Signal or Stc	North
394	City Street	King	Sammamis	228TH AVE SE	2600	SE 23RD PL							No	E556537	6/22/2016	16:37	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
395	City Street	King	Sammamis	228TH AVE SE	2600	SE 24TH ST							No	E400792	2/13/2015	13:40	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Making Left Turn	Stopped at Signal or Stc	North
396	City Street	King	Sammamis	228TH AVE SE	2600	SE 24TH ST							No	E428859	5/19/2015	12:26	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	South
397	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E519939	2/20/2016	16:42	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	East
398	City Street	King	Sammamis	228TH AVE SE	2600	SE 24TH ST							No	E566912	7/24/2016	12:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	Same direction -- both turning right -- one stop	Making Right Turn	Stopped for Traffic	East
399	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E633584	1/18/2017	21:33	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - all others	Backing	Stopped at Signal or Stc	Vehicle Backing
400	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E675989	5/22/2017	14:35	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
401	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E765898	2/4/2018	20:42	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Temporary Traffic Sign, Barricade or Constructi	Going Straight Ahead	Going Straight Ahead	North
402	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E829529	8/16/2018	14:28	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
403	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E920276	5/12/2019	12:32	Possible Injury	1	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Daylight	From opposite direction - one left turn - one st	Going Straight Ahead	Making Left Turn	South
404	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E924317	4/4/2019	20:39	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
405	City Street	King	Sammamis	228TH AVE SE	0	SE 24TH ST							No	E991515	12/8/2019	9:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
406	City Street	King	Sammamis	228TH AVE SE	2300		73	F	S	SE 22ND PL			No	E704989	8/23/2017	7:50	No Apparent Injury	0	0	1	0	0	Passenger Car		Intersection Related but Not at	Clear or Partly	Dry	Daylight	Street Light Pole or Base	Going Straight Ahead		South
407	City Street	King	Sammamis	228TH AVE SE	2300		180	F	N	SE 24TH ST			No	E675991	5/29/2017	16:52	Suspected Minor Injury	2	0	4	0	0	Pickup,Panel Truck c	Passenger Car	Intersection Related but Not at	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
408	City Street	King	Sammamis	AUDUBON PARK DR SE	0	SE 24TH ST							No	E630763	1/9/2017	21:33	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,(		At Intersection and Related	Clear or Partly	Ice	Dark-Street Lights On	Tree or Stump (stationary)	Making Right Turn		West
409	City Street	King	Sammamis	SE 24TH ST		228TH AVE SE							No	E431949	6/9/2015	7:45	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
410	City Street	King	Sammamis	SE 24TH ST	0	228TH AVE SE							No	E994538	11/20/2019	18:55	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly	Dry	Dark-Street Lights On	Entering at angle	Making Right Turn	Going Straight Ahead	East
411	City Street	King	Sammamis	SE 24TH ST	0	AUDUBON PARK DR SE							No	E789017	4/13/2018	18:30	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Raining	Wet	Daylight	Other Objects	Making Right Turn		West

OFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/2015 - *Avail 2020*

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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.

RECORD #	JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A/B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM
412	City Street	King	Sammamis	SE 24TH ST		0 AUDUBON PARK DR SE							No	E884129	1/2/2019	19:46	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Dry		Dark-Street Lights On	Entering at angle	Making Left Turn	Going Straight Ahead	South
413	City Street	King	Sammamis	SE 24TH ST		0 AUDUBON PARK DR SE							No	E997425	12/20/2019	7:52	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dawn	Entering at angle	Making Left Turn	Going Straight Ahead	South
414	City Street	King	Sammamis	228TH AVE SE		0 ISSAQUAH PINE LAKE RD SE							No	E815002	7/3/2018	7:00	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly Dry		Daylight	From opposite direction - one left turn - one ri	Making Right Turn	Making Left Turn	South
415	City Street	King	Sammamis	228TH AVE SE		0 ISSAQUAH PINE LAKE RD SE							No	E903025	3/13/2019	19:48	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly Dry		Dusk	From opposite direction - one left turn - one st	Making Left Turn	Going Straight Ahead	North
416	City Street	King	Sammamis	228TH AVE SE		0 ISSAQUAH PINE LAKE RD SE							No	E920275	5/10/2019	9:50	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly Dry		Daylight	Same direction -- both turning left -- both mov	Making Left Turn	Making Left Turn	East
417	City Street	King	Sammamis	228TH AVE SE		0 ISSAQUAH PINE LAKE RD SE							No	E922216	4/24/2019	16:15	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	South
418	City Street	King	Sammamis	228TH AVE SE		2900 ISSAQUAH PINE LAKE RD SE							No	E465272	9/17/2015	11:00	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	North
419	City Street	King	Sammamis	228TH AVE SE		2900 ISSAQUAH PINE LAKE RD SE							No	E525539	3/13/2016	20:46	No Apparent Injury	0	0	2	0	0	0 Truck (Flatbad,Van,c	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Entering at angle	Making Right Turn	Going Straight Ahead	East
420	City Street	King	Sammamis	228TH AVE SE		0 ISSAQUAH-PINE LAKE RD SE							No	E654934	3/24/2017	13:17	Possible Injury	1	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	North
421	City Street	King	Sammamis	228TH AVE SE		0 SE 30TH ST							No	E906440	3/30/2019	19:08	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Dusk	Entering at angle	Going Straight Ahead	Going Straight Ahead	East
422	City Street	King	Sammamis	228TH AVE SE	6200		130	F	N	ISSAQUAH-PINE LAKE RD SE			No	E703144	7/8/2017	11:40	Possible Injury	2	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
423	City Street	King	Sammamis	228TH AVE SE	9900		105	F	N	SE 30TH ST			No	E984547	11/17/2019	11:55	No Apparent Injury	0	0	3	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	Intersection Related but Not at	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
424	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE		0 228TH AVE SE							No	E815599	7/3/2018	11:30	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Stopped at Signal or Stc	Going Straight Ahead	Vehicle Stopped
425	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE		0 228TH AVE SE							No	E828100	8/11/2018	10:33	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
426	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE		0 228TH AVE SE							No	E854328	10/9/2018	11:54	No Apparent Injury	0	0	1	0	0	0 Pickup,Panel Truck or	Vanette under 10,(	At Intersection and Related	Overcast	Wet	Daylight	Metal Sign Post	Making Left Turn		East
427	City Street	King	Sammamis	ISSAQUAH PINE LAKE RD SE		0 228TH AVE SE							No	E927012	5/28/2019	19:00	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	East
428	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No		2840198	5/30/2016	12:20	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	East
429	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No	E419214	4/21/2015	15:45	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped at Signal or Stc	Southeast
430	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No	E482387	11/10/2015	17:32	Possible Injury	1	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	East
431	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No	E494383	12/16/2015	9:39	Possible Injury	1	0	3	0	0	0 Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly Dry	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	Southeast
432	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		9900 228TH AVE SE							No	E525538	3/9/2016	19:15	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	Same direction -- both turning right -- both mo	Making Right Turn	Making Right Turn	East
433	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No	E529685	3/25/2016	17:56	Suspected Minor Injury	1	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	At Intersection and Related	Clear or Partly Dry		Daylight	From opposite direction - one left turn - one ri	Making Right Turn	Making Left Turn	East
434	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		2900 228TH AVE SE							No	E656972	3/29/2017	16:10	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	At Intersection and Related	Overcast	Dry	Daylight	Same direction -- both turning left -- both mov	Making Left Turn	Making Left Turn	North
435	City Street	King	Sammamis	ISSAQUAH-PINE LAKE RD SE		0 228TH AVE SE							No	E662737	4/17/2017	23:36	No Apparent Injury	0	0	2	0	0	0 Bus or Motor Stage	Pickup,Panel Truck c	At Intersection and Related	Raining	Wet	Dark-Street Lights On	From same direction - one right turn - one stra	Going Straight Ahead	Making Right Turn	East
436	City Street	King	Sammamis	228TH AVE SE	3800	SE 40TH ST							No	E400023	2/10/2015	14:42	No Apparent Injury	0	0	1	0	0	0 Pickup,Panel Truck or	Vanette under 10,(	At Intersection and Related	Overcast	Dry	Daylight	Roadway Ditch	Going Straight Ahead		North
437	City Street	King	Sammamis	228TH AVE SE	3800	SE 40TH ST							No	E418711	4/22/2015	12:00	Suspected Minor Injury	1	0	1	0	1	1 Pickup,Panel Truck or	Vanette under 10,(	At Intersection and Related	Clear or Partly Dry		Daylight	Vehicle - Pedalcyclist	Making Left Turn		North
438	City Street	King	Sammamis	228TH AVE SE		0 SE 40TH ST							No	E785323	3/26/2018	9:31	Suspected Minor Injury	1	0	1	0	0	0 Passenger Car		At Intersection and Related	Clear or Partly Wet		Daylight	Linear Curb	Making Right Turn		South
439	City Street	King	Sammamis	228TH AVE SE		9900 ISSAQUAH-PINE LAKE RD SE							No	E415478	4/11/2015	10:14	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Passenger Car	At Intersection and Not Relate	Clear or Partly Dry		Daylight	From same direction - both going straight - bot	Changing Lanes	Going Straight Ahead	North
440	City Street	King	Sammamis	228TH AVE SE		9900 ISSAQUAH-PINE LAKE RD SE							No	E540346	5/3/2016	14:38	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	At Intersection and Not Relate	Clear or Partly Dry		Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	South
441	City Street	King	Sammamis	228TH AVE SE		2900 ISSAQUAH-PINE LAKE RD SE							No	E576638	8/16/2016	13:47	Possible Injury	1	0	1	0	0	0 Passenger Car		At Intersection and Not Relate	Clear or Partly Dry		Daylight	Utility Pole	Going Straight Ahead		North
442	City Street	King	Sammamis	228TH AVE SE	9900		33	F	E	ISSAQUAH-PINE LAKE RD SE			No	E513599	2/8/2016	15:18	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Truck (Flatbad,Van,c	At Intersection and Not Relate	Clear or Partly Dry		Daylight	From opposite direction - both going straight -	Changing Lanes	Going Straight Ahead	East
443	City Street	King	Sammamis	228TH AVE SE	3600		360	F	S	ISSAQUAH-PINE LAKE RD SE			No	E868326	12/3/2018	11:22	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Clear or Partly Dry		Daylight	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	North
444	City Street	King	Sammamis	228TH AVE SE	3900		200	F	N	PROVIDENCE POINT DR SE			No	E488820	12/2/2015	9:53	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Clear or Partly Wet		Daylight	From opposite direction - both going straight -	Going Straight Ahead	Going Straight Ahead	South
445	City Street	King	Sammamis	228TH AVE SE	4000		100	F	S	PROVIDENCE POINT DR SE			No	E620269	11/23/2016	18:31	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	Not at Intersection and Not Rel	Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
446	City Street	King	Sammamis	228TH AVE SE	3600		0.15	M	N	PROVIDENCE POINT DR SE			No	E750244	12/21/2017	20:24	Unknown	0	0	1	0	0	0 Pickup,Panel Truck or	Vanette under 10,(	Not at Intersection and Not Rel	Overcast	Wet	Dark-Street Lights On	Vehicle Strikes Deer	Going Straight Ahead		South
447	City Street	King	Sammamis	228TH AVE SE	3900		149	F	N	PROVIDENCE POINT DR SE			No	EA00544	1/7/2020	8:25	No Apparent Injury	0	0	1	0	0	0 Pickup,Panel Truck or	Vanette under 10,(	Not at Intersection and Not Rel	Raining	Wet	Daylight	Guardrail - Leading End	Going Straight Ahead		South
448	City Street	King	Sammamis	228TH AVE SE	9500		0.1	M	S	SE 30TH ST			No	E490063		11/25/2015	17:27	Suspected Minor Injury	1	0	1	1	0	1 Passenger Car		Not at Intersection and Not Rel	Clear or Partly Dry		Dark-Street Lights On	Vehicle going straight hits pedestrian	Going Straight Ahead		South
449	City Street	King	Sammamis	228TH AVE SE	3000		308	F	N	SE 32ND ST			No		3779384	9/17/2016	8:35	Possible Injury	1	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Other*	North
450	City Street	King	Sammamis	228TH AVE SE	3100		200	F	S	SE 32ND ST			No	E468446		9/14/2015	15:48	Suspected Minor Injury	1	0	3	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Clear or Partly Dry		Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
451	City Street	King	Sammamis	228TH AVE SE	3100		150	F	S	SE 32ND ST			No	E777469		3/9/2018	21:05	Possible Injury	3	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	Not at Intersection and Not Rel	Clear or Partly Dry		Dark-Street Lights On	From same direction - all others	Making U-Turn	Going Straight Ahead	North
452	City Street	King	Sammamis	228TH AVE SE	3100		22	F	S	SE 32ND ST			No	E779657		3/16/2018	7:45	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Clear or Partly Dry		Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	South
453	City Street	King	Sammamis	228TH AVE SE	3300		299	F	N	SE 35TH ST			No	E643537		2/16/2017	8:29	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	Driveway Related but Not at	Dr Overcast	Wet	Daylight	From same direction - both going straight - one	Going Straight Ahead	Stopped for Traffic	North
454	City Street	King	Sammamis	228TH AVE SE	3400		45	F	S	SE 35TH ST			No	E724831		10/18/2017	16:40	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Pickup,Panel Truck c	Not at Intersection and Not Rel	Raining	Wet	Daylight	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
455	City Street	King	Sammamis	228TH AVE SE	3900		500	F	S	SE 40TH ST			No	E695581		4/8/2017	1:47	No Apparent Injury	0	0	2	0	0	0 Pickup,Panel Truck c	Passenger Car	Not at Intersection and Not Rel	Raining	Wet	Dark-Street Lights On	From opposite direction - both going straight -	Going Straight Ahead	Going Straight Ahead	South
456	City Street	King	Sammamis	228TH AVE SE	3900		200	F	S	SE 40TH ST			No	E703195		8/20/2017	2:05	No Apparent Injury	0	0	1	0	0	0 Passenger Car		Not at Intersection and Not Rel	Clear or Partly Dry		Dark-No Street Lights	Roadway Ditch	Going Straight Ahead		South
457	City Street	King	Sammamis	228TH AVE SE	3800		50	F	N	SE 40TH ST			No	E975574		10/24/2019	6:59	Suspected Minor Injury	2	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Clear or Partly Dry		Dark-Street Lights On	From same direction - both going straight - bot	Going Straight Ahead	Going Straight Ahead	South
458	City Street	King	Sammamis	228TH AVE SE	3800		101	F	N	SE 40TH ST			No	E994537		12/10/2019	18:18	No Apparent Injury	0	0	2	0	0	0 Passenger Car	Pickup,Panel Truck c	Not at Intersection and Not Rel	Raining	Wet	Dark-No Street Lights	From same direction - both going straight - bot	Going Straight Ahead	Slowing	South
459	City Street	King	Sammamis	228TH AVE SE	4200		421	F	N	SE 43RD WAY			No	E895021		2/19/2019	18:40	Possible Injury	1	0	1	0	0	0 Passenger Car		Not at Intersection and Not Rel	Raining	Wet	Dark-No Street Lights	Wood Sign Post	Going Straight Ahead		North

High School #4 / Elementary School #17
Historical Collision Data in Transportation Study Area
January 1, 2015 - June 4, 2020

PRJ19-00008 Attachment 060

OFFICER REOFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH
01/01/201501/01/2015 - *Avail 2020*
Under 23 U.SUnder 23 U.S. Code § 148 and 23 U.S. Code § 409, 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 roadway conaddressed in such reports, surveys, schedules, lists, or data.
location men

RECORD #	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTR	MV DRIVER CONTR	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	PEDESTRIAN CONT	PEDESTRIAN CONT	PEDESTRIAN CONT	FIRST IMPACT LOCATION (City, County &	WA STATE PLANE S	WA STATE PLANE S	Segment	Intersection	Collision_Type
1	North	South	Vehicle Stopped	Inattention	Exceeding Reas. Safe Speed		None												Lane of Primary Trafficway	1261714.85	836363.67	1. 228th Ave NE/Rear-End		
2	South	North	East	None			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Rear-End		
3	East	North	South	Operating Handheld Cell Phone			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Right Angle		
4	West	North	South	Improper Turn/Merge	Did Not Grant RW to Vehicle		None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Approach Turn		
5	South	South	West	Other Contributing Circ Not Listed			Driver Not Distracted												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Right Angle		
6	East	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Approach Turn		
7	East	South	North	Improper Turn/Merge			None												Lane of Primary Trafficway	1261715.11	836362.16	1. 228th Ave NE/Approach Turn		
8	East	South	North	Improper Turn/Merge			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Approach Turn		
9	East	South	North	Inattention			None												Lane of Primary Trafficway	1261715.11	836362.16	1. 228th Ave NE/Approach Turn		
10	South	Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261684.27	836460.05	1. 228th Ave NE/Rear-End		
11	Southeast	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261715.11	836362.16	1. 228th Ave NE/Approach Turn		
12	East	South	North	Improper Turn/Merge			None												Lane of Primary Trafficway	1261715.11	836362.17	1. 228th Ave NE/Approach Turn		
13	South	North	Vehicle Stopped	None			None												Lane of Primary Trafficway	1261681.84	836352.88	1. 228th Ave NE/Rear-End		
14	South	East	South	None			None												Lane of Primary Trafficway	1261677.27	836236.33	1. 228th Ave NE/Right Angle		
15	South	North	Vehicle Stopped	Operating Defective Equipment			None												Lane of Primary Trafficway	1261684.24	836452.84	1. 228th Ave NE/Rear-End		
16	North	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1261712.47	836277.35	1. 228th Ave NE/Rear-End		
17	North	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261713.24	836302.33	1. 228th Ave NE/Rear-End		
18	South	West	South	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1261679.71	836259.79	1. 228th Ave NE/Right Angle		
19	East	West	South	Over Center Line	Improper Turn/Merge		None												Intersecting Trafficway	1261681.83	836352.88	1. 228th Ave NE/Right Angle		
20	East	South	East	Disregard Stop and Go Light	Inattention	Did Not Grant RW to Vehicle	None												Lane of Primary Trafficway	1261714.02	836371.98	1. 228th Ave NE/Right Angle		
21	West	East	West	Inattention			None												Lane of Primary Trafficway	1261710.38	836370.57	1. 228th Ave NE/Side-Swipe		
22	South	West	East	Did Not Grant RW to Vehicle			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1261717.05	836362.74	1. 228th Ave NE/Approach Turn		
23	South	West	East	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Approach Turn		
24	East	East	South	None			None												Lane of Primary Trafficway	1261681.84	836352.89	1. 228th Ave NE/Approach Turn		
25	East	East	South	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1261681.84	836352.88	1. 228th Ave NE/Approach Turn		
26	North	South	North	Did Not Grant RW to Vehicle			None												Intersecting Trafficway	1261681.84	836352.88	1. 228th Ave NE/Approach Turn		
27	East	East	South	Unknown Distraction			Unknown Distraction												Lane of Primary Trafficway	1261681.84	836352.88	1. 228th Ave NE/Approach Turn		
28	East	East	South	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261681.78	836359.18	1. 228th Ave NE/Right Angle		
29	South	North	South	Disregard Yield Sign - Flashing Yellow			None												Lane of Primary Trafficway	1261681.78	836359.18	1. 228th Ave NE/Right Angle		
30	South	West	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261638.6	836286.46	1. 228th Ave NE/Rear-End		
31	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261680.96	836352.63	1. 228th Ave NE/Rear-End		
32	North	North	East	Disregard Yield Sign - Flashing Yellow	Did Not Grant RW to Vehicle		None												Lane of Primary Trafficway	1263296.9	822587.58	10. Issaquah-Pin Approach Turn		
33	Southeast	Northeast	Southwest	Inattention			None												Lane of Primary Trafficway	1263234.37	822612.14	10. Issaquah-Pin Right Angle		
34	Northwest			Under Influence of Alcohol	Exceeding Reas. Safe Speed														Other Location (City/County/Misc. Traffic	1263295.18	822589.91	10. Issaquah-Pin Other		
35	Northwest	West	East	Inattention			None												Lane of Primary Trafficway	1263295.18	822589.91	10. Issaquah-Pin Approach Turn		
36	South			Apparently Fatigued	Exceeding Reas. Safe Speed														Other Location (City/County/Misc. Traffic	1263189.28	822620.09	10. Issaquah-Pin Other		
37	Vehicle Stopped	West	North	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1263219.37	822653.04	10. Issaquah-Pin Rear-End		
38	East	West	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1263295.18	822589.91	10. Issaquah-Pin Approach Turn		
39	East			Other Contributing Circ Not Listed															Median Shoulder of Primary Trafficway	1263295.65	822589.27	10. Issaquah-Pin Other		
40	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1263189.92	822619.25	10. Issaquah-Pin Rear-End		
41	West	East	Vehicle Stopped	Inattention	Distractions Outside Vehicle		None												Lane of Primary Trafficway	1263256.46	822655.97	10. Issaquah-Pin Rear-End		
42	Northeast			Unknown Distraction															Past the Outside Shoulder of Primary Traff	1263992.84	818482.5	12. Issaquah-Pin Other		
43	North	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Rear-End		
44	North	South	North	Inattention			None												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Rear-End		
45	South	West	North	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Right Angle		
46	South	Vehicle Stopped	Vehicle Stopped	Other Driver Distractions Inside Vehicle			None												Lane of Primary Trafficway	1264016.16	818542.48	12. Issaquah-Pin Rear-End		
47	North	South	North	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1263992.84	818482.49	12. Issaquah-Pin Rear-End		
48	North	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1263949.03	818376.71	12. Issaquah-Pin Rear-End		
49	North	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1263947.09	818371.99	12. Issaquah-Pin Rear-End		
50	South	North	South	Follow Too Closely			None												Lane of Primary Trafficway	1263992.84	818482.51	12. Issaquah-Pin Rear-End		
51	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1263992.84	818482.51	12. Issaquah-Pin Rear-End		
52	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1263977.26	818445.44	12. Issaquah-Pin Rear-End		
53	North	Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed	Inattention		None												Lane of Primary Trafficway	1263992.84	818482.51	12. Issaquah-Pin Rear-End		
54	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1263992.84	818482.51	12. Issaquah-Pin Rear-End		
55	North	Vehicle Stopped	Vehicle Stopped	Other Driver Distractions Inside Vehicle			None												Lane of Primary Trafficway	1263992.84	818482.51	12. Issaquah-Pin Rear-End		
56	South	Vehicle Stopped	Vehicle Stopped	Inattention	Driver Interacting with Passengers, Anim		None												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Rear-End		
57	South	North	Vehicle Stopped	Follow Too Closely			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Rear-End		
58	West		Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264073.66	818696.12	12. Issaquah-Pin Rear-End		
59	East	South	North	Improper Turn/Merge	Inattention		None												Lane of Primary Trafficway	1263992.84	818482.5	12. Issaquah-Pin Approach Turn		
60	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1263869.61	816182.74	13. Issaquah-Pin Rear-End		
61	North	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1263869.61	816182.74	13. Issaquah-Pin Rear-End		
62	North	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1263867.88	816166.42	13. Issaquah-Pin Rear-End		
63	South	Vehicle Stopped	Vehicle Stopped	Other Driver Distractions Inside Vehicle			None												Lane of Primary Trafficway	1263869.63	816182.72	13. Issaquah-Pin Rear-End		
64	North	East	South	Disregard Stop and Go Light	Other Driver Distractions Inside Vehicle		None												Lane of Primary Trafficway	1263869.63	816182.72	13. Issaquah-Pin Right Angle		
65	East	Southwest	Vehicle Stopped	None			None												Lane of Primary Trafficway	1263869.61	816182.74	13. Issaquah-Pin Rear-End		
66	East	West	Vehicle Stopped	None			None												Lane of Primary Trafficway	1263869.63	816182.72	13. Issaquah-Pin Other		
67		South	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1264088.67	815324.73	14. Issaquah-Pin Rear-End		
68	North	Vehicle Stopped	Vehicle Stopped	Inattention	Unknown Distraction		None												Lane of Primary Trafficway	1264089.32	815323.08	14. Issaquah-Pin Rear-End		
69	North	South	North	Exceeding Reas. Safe Speed	Follow Too Closely		None												Lane of Primary Trafficway	1264089.16	815323.48	14. Issaquah-Pin Rear-End		
70	West			Did Not Grant R/W to Non Motorist														None	Intersecting Trafficway	1264073.17	815318.48	14. Issaquah-Pin Ped / Cycle		
71	North	West	East	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1256233.78	827523.13	15. 212th Ave SERight Angle		
72	North	West	East	None			Inattention												Lane of Primary Trafficway	1256233.78	827523.13	15. 212th Ave SERight Angle		
73	East	North	East	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1256233.78	827523.13	15. 212th Ave SERight Angle		
74	Southeast	Northwest	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1250219.39	824061.63	16. E Lake SammRear-End		
75	South	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1250219.37	824061.63	16. E Lake SammRight Angle		
76	South	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1250219.37	824061.63	16. E Lake SammRight Angle		
77	South	North	South	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1250202.18	824073.03	16. E Lake SammRear-End		
78	South	North	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Lane of Primary Trafficway	1250190.99	824080.44	16. E Lake SammRear-End		
79	North			Exceeding Reas. Safe Speed															Past the Outside Shoulder of Primary Traff	1250295.9	824006.36	16. E Lake SammOther		
80	West			Other Contributing Circ Not Listed														Other Contributing Circ Not Listed	Lane of Primary Trafficway	1250037.74	824176.34	16. E Lake SammPed / Cycle		
81	South			None												Disregard Stop and Go Light			Lane of Primary Trafficway	1254268.4	819529.12	17. E Lake SammPed / Cycle		
82	Vehicle Backing	West	Vehicle Stopped	Improper Backing			None												Lane of Primary Trafficway	1254267.9	819608.36	17. E Lake SammOther		
83	Northwest	North	Southeast	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1254268.41	819529.13	17. E Lake SammRight Angle		
84	Northwest	North	Southeast	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1254289.1	819517.51	17. E Lake SammRight Angle		
85	North	East	South	Disregard Stop and Go Light	Inattention		None												Lane of Primary Trafficway	1254268.4	819529.13	17. E Lake SammRight Angle		
86	North	East	South	Exceeding Reas. Safe Speed	Unknown Distraction		None												Lane of Primary Trafficway	1254268.4	819529.13	17. E Lake SammRight Angle		
87	South	South	North	Improper U-Turn			None												Lane of Primary Trafficway	1254268.4	819529.13	17. E Lake SammOther		
88	Southeast			None												Disregard Stop and Inattention			Lane of Primary Trafficway	1254268.4	819529.13	17. E Lake SammPed / Cycle		
89	North	East	South	Driver Not Distracted			None												Lane of Primary Trafficway	1254268.4	819529.12	17. E Lake SammRight Angle		
90	West	East	West	None			None												Lane of Primary Trafficway	1254268.4	819529.14	17. E Lake SammRear-End		
91	Northwest	Southeast	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Lane of Primary Trafficway	1254358.47	819479.35	17. E Lake SammRear-End		
92	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256619.26	818567.62	18. E Lake SammRear-End		
93	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256617.64	818568.4	18. E Lake SammRear-End		
94	North			Inattention												None			Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammPed / Cycle		
95	North	South	North	Inattention			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRight Angle		
96	West	East	West	None			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammSide-Swipe		
97	South			Inattention															Other Location (City/County/Misc. Traffic	1256549.65	818777.27	18. E Lake SammOther		
98	South	North	South	Follow Too Closely			None												Lane of Primary Trafficway	1256594.3	818579.87	18. E Lake SammRear-End		
99	West	East	North	Improper Passing			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRight Turn		
100	East			Exceeding Reas. Safe Speed															Median Shoulder of Primary Trafficway	1256549.65	818777.27	18. E Lake SammOther		
101	South	North	South	Inattention			None												Lane of Primary Trafficway	1256478.1	818705.71	18. E Lake SammSide-Swipe		
102	East	Southwest	North	Improper Passing			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammSide-Swipe		
103	South	North	South	None			None												Lane of Primary Trafficway	1256495.15	818679.52	18. E Lake SammSide-Swipe		
104	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256467.87	818727.14	18. E Lake SammRear-End		
105	North	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRear-End		
106	South	East	South	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRight Angle		
107	South	Vehicle Stopped	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1256467.59	818733.14	18. E Lake SammRear-End		
108	North	South	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRear-End		
109	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256466.33	818729.76	18. E Lake SammRear-End		
110	South	North	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1256537.87	818650.43	18. E Lake SammRear-End		
111	South	North	South	Inattention			None												Lane of Primary Trafficway	1256550.14	818608.55	18. E Lake SammRear-End		
112	South			Inattention															Past the Outside Shoulder of Primary Traff	1256511.21	818657.88	18. E Lake SammOther		
113	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256443.56	818754.08	18. E Lake SammRear-End		
114	South			Exceeding Reas. Safe Speed															Other Location (City/County/Misc. Traffic	1256497.53	818668.83	18. E Lake SammOther		
115	East			Exceeding Reas. Safe Speed															Other Location (City/County/Misc. Traffic	1256591.55	818687.43	18. E Lake SammOther		
116	South	East	South	None			None												Lane of Primary Trafficway	1256495.76	818670.41	18. E Lake SammSide-Swipe		
117	South	North	South	Follow Too Closely			None												Lane of Primary Trafficway	1256443.82	818713.7	18. E Lake SammRear-End		
118	East			Exceeding Reas. Safe Speed															Outside Shoulder of Primary Trafficway	1256625.22	818705.77	18. E Lake SammOther		
119	Southeast	Northwest	Southeast	Over Center Line			None												Lane of Primary Trafficway	1256502.55	818664.33	18. E Lake SammSide-Swipe		
120	East			None															Lane of Primary Trafficway	1256552.31	818643.45	18. E Lake SammOther		
121	South	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256620.16	818567.18	18. E Lake SammRear-End		
122	East			Exceeding Reas. Safe Speed															Outside Shoulder of Primary Trafficway	1256549.67	818777.26	18. E Lake SammOther		
123	South	North	South	None			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake SammSide-Swipe		
124	Northwest			Unknown Distraction															Other Location (City/County/Misc. Traffic	1256549.67	818777.28	18. E Lake SammOther		
125	South			Apparently Asleep or Fatigued															Other Location (City/County/Misc. Traffic	1256549.67	818777.28	18. E Lake SammOther		
126	North			Exceeding Reas. Safe Speed															Other Location (City/County/Misc. Traffic	1256589.21	818682.69	18. E Lake SammOther		
127	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256653.8	818522.08	18. E Lake SammRear-End		
128	South	Northwest	South	None			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1256494.07	818672.22	18. E Lake SammRear-End		
129	South	North	South	None			Disregard Yield Sign - Flashing Yellow												Lane of Primary Trafficway	1256497.71	818662.65	18. E Lake SammSide-Swipe		
130	Southeast	Northwest	Southeast	Inattention			None												Lane of Primary Trafficway	1256635.84	818557.55	18. E Lake SammSide-Swipe		
131	South			Exceeding Reas. Safe Speed															Other Location (City/County/Misc. Traffic	1256477.49	818723.89	18. E Lake SammOther		
132	South			Exceeding Reas. Safe Speed															Outside Shoulder of Primary Trafficway	1256641.97	818557.39	18. E Lake SammOther		
133	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256615.5	818572.99	18. E Lake SammRear-End		
134	North	East	South	None			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammRight Angle		
135	West	East	West	None			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammSide-Swipe		
136	North	East	North	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1256549.65	818777.27	18. E Lake SammSide-Swipe		
137	West	East	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake SammRear-End		

OFFICER REOFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/201901/01/2015 - *Avail 2020*

Under 23 U.Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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 roadway conaddressed in such reports, surveys, schedules, lists, or data.
location men

RECORD #	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTR	MV DRIVER CONTR	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	PEDESTRIAN CONT	PEDESTRIAN CONT	PEDESTRIAN CONT	FIRST IMPACT LOCATION (City, County &	WA STATE PLANE S	WA STATE PLANE S	Segment	Intersection	Collision_Type
138	West	East	West	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Side-Swipe	
139	West	East	West	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Left Turn	
140	South	East	South	Improper Turn/Merge	Inattention		None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Side-Swipe	
141	West	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Rear-End	
142	North	East	South	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Side-Swipe	
143	West			Operating Defective Equipment															Outside Shoulder of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Other	
144	West	South	North	Operating Defective Equipment			None												Lane of Primary Trafficway	1256549.67	818777.26	18. E Lake Samm	Right Angle	
145	East	West	East	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1256620.27	818714.8	18. E Lake Samm	Approach Turn	
146	North	East	West	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1260438.71	818318.66	19. Providence P	Approach Turn	
147	North	East	West	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1260438.71	818318.66	19. Providence P	Approach Turn	
148	South	West	East	Improper Turn/Merge			None												Lane of Primary Trafficway	1260259.77	818335.18	19. Providence P	Approach Turn	
149	West	East	West	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1260630.58	818346.7	19. Providence P	Rear-End	
150	North	North	Southeast	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261698.4	835048.02	2. 228th Ave NE;	Approach Turn	
151	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261656.27	835048.69	2. 228th Ave NE;	Rear-End	
152	North	East	South	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1261698.42	835048.65	2. 228th Ave NE;	Right Angle	
153	South			None															Past the Outside Shoulder of Primary Traff	1261656.28	835048.68	2. 228th Ave NE;	Other	
154	North	North	East	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1261656.28	835048.68	2. 228th Ave NE;	Approach Turn	
155	North	South	North	Unknown Distraction			Unknown Distraction												Lane of Primary Trafficway	1261656.28	835048.68	2. 228th Ave NE;	Rear-End	
156	North	South	North	None			None												Lane of Primary Trafficway	1261685.12	834825.73	2. 228th Ave NE;	Rear-End	
157	South	North	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Lane of Primary Trafficway	1261656.48	835075.23	2. 228th Ave NE;	Rear-End	
158	West	East	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261656.27	835048.69	2. 228th Ave NE;	Rear-End	
159	West	East	West	Inattention	Did Not Grant RW to Vehicle		None												Lane of Primary Trafficway	1261656.28	835048.68	2. 228th Ave NE;	Side-Swipe	
160	East	West	East	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Right Angle	
161	South	East	South	Other Contributing Circ Not Listed			None												Intersecting Trafficway	1255494.84	812819.49	20. NW Samman	Side-Swipe	
162	Northwest	South	East	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1255494.84	812819.48	20. NW Samman	Right Angle	
163	North	Vehicle Stopped	East	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Rear-End	
164	Southwest	Southwest	Northeast	None			Disregard Stop and Go Light												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Right Angle	
165	South	South	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Intersecting Trafficway	1255494.85	812819.48	20. NW Samman	Other	
166		South	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
167	North	South	Vehicle Stopped	Operating Defective Equipment			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
168	North	South	North	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
169	North	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
170	East	South	North	None			None												Lane of Primary Trafficway	1255494.84	812819.48	20. NW Samman	Approach Turn	
171	North	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.47	20. NW Samman	Rear-End	
172	West	North	South	Improper Turn/Merge			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Right Turn	
173	South	West	East	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Right Angle	
174	Northwest	Northeast	Southwest	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Approach Turn	
175	North	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
176	East	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1255494.84	812819.48	20. NW Samman	Side-Swipe	
177	Vehicle Stopped	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1255477.9	812794.66	20. NW Samman	Rear-End	
178	North	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1255467.23	812777.75	20. NW Samman	Rear-End	
179	North	South	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Rear-End	
180	North			Did Not Grant R/W to Non Motorist												None			Intersecting Trafficway	1255494.85	812819.48	20. NW Samman	Ped / Cycle	
181	West			Exceeding Reas. Safe Speed															Past the Outside Shoulder of Primary Traff	1255494.84	812819.49	20. NW Samman	Other	
182	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
183	West	Northeast	Southwest	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Right Turn	
184	South	North	South	Inattention			Inattention												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Right Angle	
185	Southeast	Southeast	Southwest	None			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Approach Turn	
186	Vehicle Backing	Vehicle Stopped	Vehicle Stopped	Improper Backing			None												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Other	
187	Southwest	Northeast	Southwest	None			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1255494.85	812819.48	20. NW Samman	Side-Swipe	
188	North			Exceeding Reas. Safe Speed															Intersecting Trafficway	1255494.85	812819.48	20. NW Samman	Other	
189	West	Vehicle Stopped	Vehicle Stopped	Improper Turn/Merge			None												Intersecting Trafficway	1255494.85	812819.48	20. NW Samman	Right Angle	
190	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
191	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Rear-End	
192	South	East	South	Distractions Outside Vehicle			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Approach Turn	
193	South	West	North	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1255494.84	812819.49	20. NW Samman	Right Angle	
194	South	West	South	None			None												Intersecting Trafficway	1255494.84	812819.49	20. NW Samman	Approach Turn	
195	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1255369.59	812916.08	20. NW Samman	Rear-End	
196	East	North	East	Follow Too Closely			None												Lane of Primary Trafficway	1255472.18	812838.89	20. NW Samman	Rear-End	
197	South	North	South	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1259164.66	812831.78	21. E Lake Samm	Rear-End	
198	West	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Rear-End	
199	South	Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Rear-End	
200	South	North	South	None			Inattention												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Rear-End	
201	West			Did Not Grant R/W to Non Motorist												None			Intersecting Trafficway	1259187.72	812831.3	21. E Lake Samm	Ped / Cycle	
202	South	North	Vehicle Stopped	Inattention	Exceeding Reas. Safe Speed		None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Rear-End	
203	South	North	South	None			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Right Angle	
204	North	West	North	Other Contributing Circ Not Listed			None												Intersecting Trafficway	1259187.73	812831.3	21. E Lake Samm	Side-Swipe	
205	South	North	South	Driver Not Distracted			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Right Angle	
206	South	North	South	Inattention			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Right Angle	
207	South	North	South	Follow Too Closely			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Rear-End	
208	West			Did Not Grant R/W to Non Motorist												None			Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Ped / Cycle	
209	West	South	West	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Approach Turn	
210	South	Vehicle Stopped	Vehicle Stopped	Distractions Outside Vehicle	Follow Too Closely		None												Lane of Primary Trafficway	1259142.09	813007.13	21. E Lake Samm	Rear-End	
211	North	South	Vehicle Stopped	Operating Hands-Free Cell Phone			None												Lane of Primary Trafficway	1259246.24	812763.3	21. E Lake Samm	Rear-End	
212	South	North	South	Inattention			None												Lane of Primary Trafficway	1259173.01	812887.96	21. E Lake Samm	Rear-End	
213	Northwest	North	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1259172.78	812892.07	21. E Lake Samm	Rear-End	
214	South	Vehicle Stopped	Vehicle Stopped	Inattention	Distractions Outside Vehicle		None												Lane of Primary Trafficway	1259219.83	812871.9	21. E Lake Samm	Rear-End	
215	South	North	South	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1259217.23	812880.84	21. E Lake Samm	Side-Swipe	
216	North	West	North	Improper Turn/Merge			Follow Too Closely												Intersecting Trafficway	1259230.99	812827.02	21. E Lake Samm	Rear-End	
217	North	West	North	None			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Side-Swipe	
218	East	West	East	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Side-Swipe	
219	North	West	North	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1259187.72	812831.3	21. E Lake Samm	Side-Swipe	
220	North	West	North	Improper Turn/Merge			None												Lane of Primary Trafficway	1259212.51	812827.87	21. E Lake Samm	Side-Swipe	
221	Northeast	East	West	Unknown Distraction			None												Lane of Primary Trafficway	1259207.95	812828.13	21. E Lake Samm	Right Angle	
222	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Rear-End	
223	West			Did Not Grant R/W to Non Motorist												None			Intersecting Trafficway	1259187.73	812831.3	21. E Lake Samm	Ped / Cycle	
224	North	West	North	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Side-Swipe	
225	East	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Rear-End	
226	East	West	Vehicle Stopped	Exceeding Reas. Safe Speed			None												Lane of Primary Trafficway	1259187.73	812831.3	21. E Lake Samm	Rear-End	
227	East	West	East	Follow Too Closely			None												Lane of Primary Trafficway	1259123.58	812836.01	21. E Lake Samm	Rear-End	
228	East	Vehicle Stopped	Vehicle Stopped	Apparently Ill			None												Lane of Primary Trafficway	1258990.62	812846.91	21. E Lake Samm	Rear-End	
229	North	Northwest	North	Inattention			None												Lane of Primary Trafficway	1259047.85	812844.28	21. E Lake Samm	Rear-End	
230	East	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1258971.19	812847.45	21. E Lake Samm	Rear-End	
231	East	West	East	Follow Too Closely			None												Lane of Primary Trafficway	1259038.16	812843.23	21. E Lake Samm	Rear-End	
232	South	West	East	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1258988.27	812846.37	21. E Lake Samm	Side-Swipe	
233	North	East	North	Inattention			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
234	East	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
235	East	South	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
236	North	West	East	None			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Right Angle	
237	East	South	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
238	East	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
239	North	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
240	Southwest	Northwest	Southwest	Inattention			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
241	East	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Approach Turn	
242	Southwest	Northwest	Southwest	Inattention			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
243	Vehicle Stopped	Northwest	Southeast	None			Unknown Distraction												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
244	South	North	South	Follow Too Closely			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
245	East	South	North	Improper Turn/Merge			None												Lane of Primary Trafficway	1264752.51	813737.23	22. Issaquah-Pin	Approach Turn	
246	South	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264671.85	813920.2	22. Issaquah-Pin	Rear-End	
247	East	South	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
248	West	North	West	None			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
249	West	North	South	Inattention	Did Not Grant RW to Vehicle		None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Approach Turn	
250	East	East	South	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Approach Turn	
251	Northeast	Southwest	Northeast	Did Not Grant RW to Vehicle	Unknown Distraction		None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Other	
252	Southwest	Northeast	Southwest	Follow Too Closely			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
253	Northeast	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264707.53	813697.84	22. Issaquah-Pin	Rear-End	
254	South	East	South	None			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Side-Swipe	
255	West	South	North	Disregard Stop and Go Light	Inattention		None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Right Angle	
256	West	West	North	Inattention			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Approach Turn	
257	South	West	East	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Right Angle	
258	North	West	East	Disregard Stop and Go Light			None												Lane of Primary Trafficway	1264752.51	813737.23	22. Issaquah-Pin	Right Angle	
259	Northeast	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264653.16	813650.22	22. Issaquah-Pin	Rear-End	
260	East	West	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1264752.51	813737.22	22. Issaquah-Pin	Rear-End	
261	West	West	East	Inattention	Non Motorist on Wrong Side of Road	Over Center Line	None												Median Shoulder of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Other	
262	Northeast	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
263	Southwest			None															Did Not Grant RW to Vehicle	Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Ped / Cycle	
264	Vehicle Stopped	Southeast	Northeast	None			Exceeding Reas. Safe Speed												Intersecting Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Right Angle	
265				Other Contributing Circ Not Listed															Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Ped / Cycle	
266	East	West	East	Operating Defective Equipment			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
267	Southwest	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
268	West	Vehicle Stopped	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
269	Southeast	Northeast	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
270	North	West	East	Driver Interacting with Passengers, Anim			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Right Angle	
271	North			None															Past the Outside Shoulder of Primary Traff	1264752.5	813737.22	22. Issaquah-Pin	Other	
272	North	East	West	None			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Approach Turn	
273	Southwest	Northeast	Vehicle Stopped	Driver Interacting with Passengers, Anim			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Rear-End	
274	East	East	South	Inattention			None												Lane of Primary Trafficway	1264752.5	813737.22	22. Issaquah-Pin	Approach Turn	

OFFICER REOFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/201501/01/2015 - *Avail 2020*

Under 23 U.SUnder 23 U.S. Code § 148 and 23 U.S. Code § 409, 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 roadway conaddressed in such reports, surveys, schedules, lists, or data.
location men

RECORD #	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTR	MV DRIVER CONTR	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	PEDESTRIAN CONT	PEDESTRIAN CONT	PEDESTRIAN CONT	FIRST IMPACT LOCATION	(City, County &	WA STATE PLANE S	WA STATE PLANE S	Segment	Intersection	Collision_Type
275	South	West	East	Disregard Stop and Go Light			None													Lane of Primary Trafficway		1264752.51	813737.22	22. Issaquah-Pin	Right Angle
276	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1264752.51	813737.22	22. Issaquah-Pin	Approach Turn
277	West	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1264676.61	813729.37	22. Issaquah-Pin	Rear-End
278	West	South	East	None			None													Lane of Primary Trafficway		1264822.33	813795.4	22. Issaquah-Pin	Rear-End
279	Northeast			Other Contributing Circ Not Listed																Outside Shoulder of Primary Trafficway		1264877.23	813847.18	22. Issaquah-Pin	Other
280	Southeast	Southeast	Northwest	Over Center Line			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Side-Swipe
281	East	South	North	Improper Turn/Merge	Inattention		None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
282	South	North	South	None			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Angle
283	East	South	North	None			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
284	East	South	North	Inattention			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
285	East	South	North	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
286	East	South	North	Improper Turn/Merge	Inattention		None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
287	West	North	South	None			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
288	East	South	North	Under Influence of Alcohol			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
289	East	South	North	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
290	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
291	North	North	East	None			Inattention													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
292	North	South	East	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Turn
293	North	North	East	Disregard Stop and Go Light			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Angle
294	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Turn
295	North	South	North	None			Driver Not Distracted													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Angle
296	Southwest	Northwest	Southeast	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
297	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
298	East	South	North	Improper Turn/Merge			None													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Approach Turn
299	South	North	East	None			Did Not Grant RW to Vehicle													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Approach Turn
300	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Approach Turn
301	South	Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260826.03	809986	23. E Lake Samm	Other
302	Northeast	Southeast	Northwest	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Approach Turn
303	North	East	South	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Right Angle
304	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.7	23. E Lake Samm	Approach Turn
305	East	South	North	None			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
306	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
307	East	South	North	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
308	East	South	North	None			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
309	North	South	North	Inattention			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Side-Swipe
310	South	North	Vehicle Stopped	Follow Too Closely			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Rear-End
311	South	East	South	None			None													Intersecting Trafficway		1260784.14	810035.71	23. E Lake Samm	Side-Swipe
312	Northeast	Southeast	Northeast	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
313	South	North	South	Did Not Grant RW to Vehicle			Did Not Grant RW to Vehicle													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Right Angle
314	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
315	East	South	North	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
316	East	South	North	None			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
317	West			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1260784.12	810035.71	23. E Lake Samm	Other
318	East			Inattention																Past the Outside Shoulder of Primary Traff		1260784.12	810035.71	23. E Lake Samm	Other
319	North	West	East	Disregard Stop and Go Light			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Right Angle
320	South	East	South	None			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Side-Swipe
321	South	Northeast	South	Improper Turn/Merge			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Side-Swipe
322	North	East	West	Unknown Distraction			Unknown Distraction													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Approach Turn
323	South	East	South	Follow Too Closely			None													Lane of Primary Trafficway		1260784.32	810035.71	23. E Lake Samm	Side-Swipe
324	Southwest	Northeast	Southwest	Inattention			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Rear-End
325	East	South	East	Operating Defective Equipment			None													Lane of Primary Trafficway		1260848.91	810088.12	23. E Lake Samm	Side-Swipe
326		East	West	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260902.7	810127.47	23. E Lake Samm	Side-Swipe
327	South	North	South	Other Contributing Circ Not Listed			None													Intersecting Trafficway		1260784.14	810035.71	23. E Lake Samm	Right Angle
328	West	East	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Rear-End
329	East	South	North	Driver Not Distracted			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Approach Turn
330	West	East	West	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Other
331	West	East	West	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Side-Swipe
332	South	East	South	Other Contributing Circ Not Listed			None													Lane of Primary Trafficway		1260784.14	810035.71	23. E Lake Samm	Rear-End
333	West	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Rear-End
334	West	East	Vehicle Stopped	Under Influence of Alcohol			None													Lane of Primary Trafficway		1260784.12	810035.71	23. E Lake Samm	Other
335	North	South	North	Follow Too Closely	Inattention		None													Lane of Primary Trafficway		1261600.57	832340.26	3. 228th Ave SE/	Rear-End
336	North	North	South	None			Did Not Grant RW to Vehicle													Lane of Primary Trafficway		1261600.57	832340.26	3. 228th Ave SE/	Rear-End
337	North			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1261600.57	832340.26	3. 228th Ave SE/	Other
338	North			None																Past the Outside Shoulder of Primary Traff		1261600.01	832323.63	3. 228th Ave SE/	Other
339	North	South	Vehicle Stopped	Inattention	Follow Too Closely		None													Lane of Primary Trafficway		1261600.01	832323.63	3. 228th Ave SE/	Rear-End
340	North	South	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261633.26	832322.71	3. 228th Ave SE/	Rear-End
341	North	South	Vehicle Stopped	Exceeding Reas. Safe Speed			None													Lane of Primary Trafficway		1261600.01	832323.63	3. 228th Ave SE/	Rear-End
342	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			Driver Not Distracted													Lane of Primary Trafficway		1261600.02	832323.62	3. 228th Ave SE/	Rear-End
343	North	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261635.86	832330.12	3. 228th Ave SE/	Rear-End
344	North	South	Vehicle Stopped	Exceeding Reas. Safe Speed			Other Contributing Circ Not Listed													Lane of Primary Trafficway		1261635.91	832323.64	3. 228th Ave SE/	Rear-End
345	South	South	South	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1261600.02	832323.62	3. 228th Ave SE/	Right Angle
346	North	East	South	Inattention	Did Not Grant RW to Vehicle		None													Lane of Primary Trafficway		1261600.02	832323.62	3. 228th Ave SE/	Right Angle
347	Southwest	North	South	Inattention			None													Lane of Primary Trafficway		1261600.02	832323.62	3. 228th Ave SE/	Approach Turn
348	Northeast	South	North	Inattention			Inattention													Lane of Primary Trafficway		1261600.02	832323.64	3. 228th Ave SE/	Approach Turn
349	West			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1261600.02	832323.64	3. 228th Ave SE/	Other
350	Vehicle Stopped	North	South	None			Inattention	None	Unknown Distraction											Lane of Primary Trafficway		1261607.71	832429.42	3. 228th Ave SE/	Rear-End
351	North	South	Vehicle Stopped	Driver Interacting with Passengers, Anim			None													Lane of Primary Trafficway		1261634.19	832240.87	3. 228th Ave SE/	Rear-End
352	South			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1261598.72	832202.28	3. 228th Ave SE/	Other
353	North	East	West	Unknown Distraction			None													Lane of Primary Trafficway		1261635.88	832321	3. 228th Ave SE/	Right Turn
354	West	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261635.88	832321	3. 228th Ave SE/	Rear-End
355	South			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1261623.27	832339.3	3. 228th Ave SE/	Other
356	East	West	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261600.02	832323.62	3. 228th Ave SE/	Rear-End
357	North	East	West	Inattention			None													Lane of Primary Trafficway		1261635.88	832321	3. 228th Ave SE/	Approach Turn
358	North	South	Vehicle Stopped	Inattention	Follow Too Closely		None													Lane of Primary Trafficway		1261566.39	830973.1	4. 228th Ave SE/	Rear-End
359	South	South	West	Disregard Stop and Go Light	Inattention		None													Lane of Primary Trafficway		1261566.39	830973.1	4. 228th Ave SE/	Approach Turn
360	South	Vehicle Stopped	Vehicle Stopped	Inattention	Driver Adjusting Audio or Entertainment		None													Lane of Primary Trafficway		1261566.39	830973.1	4. 228th Ave SE/	Rear-End
361	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None													Lane of Primary Trafficway		1261566.39	830973.1	4. 228th Ave SE/	Rear-End
362	North	North	East	Disregard Stop and Go Light			None													Lane of Primary Trafficway		1261598.51	830974.25	4. 228th Ave SE/	Approach Turn
363	South	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
364	South	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
365	North	South	Vehicle Stopped	Unknown Distraction			None													Lane of Primary Trafficway		1261598.49	830973.07	4. 228th Ave SE/	Rear-End
366	East			Did Not Grant R/W to Non Motorist												None				Lane of Primary Trafficway		1261635.94	830925.54	4. 228th Ave SE/	Ped / Cycle
367	North	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261598.49	830973.07	4. 228th Ave SE/	Rear-End
368	South	North	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
369	South	North	Vehicle Stopped	Follow Too Closely			None													Lane of Primary Trafficway		1261571.3	831214.46	4. 228th Ave SE/	Rear-End
370	North	East	Vehicle Stopped	Inattention	Follow Too Closely		None													Lane of Primary Trafficway		1261599	830973.09	4. 228th Ave SE/	Rear-End
371		Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed			Driver Not Distracted													Lane of Primary Trafficway		1261596.34	830973.21	4. 228th Ave SE/	Rear-End
372	West	East	Vehicle Stopped	Follow Too Closely			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
373	North	East	North	Inattention			None													Lane of Primary Trafficway		1261623.02	831026.75	4. 228th Ave SE/	Rear-End
374	North	East	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261629.11	831014	4. 228th Ave SE/	Right Angle
375	North	East	North	Inattention			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
376	Vehicle Stopped	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261566.38	830973.12	4. 228th Ave SE/	Rear-End
377	South	West	East	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1261598.49	830973.06	4. 228th Ave SE/	Approach Turn
378	North	East	North	Unknown Distraction			None													Lane of Primary Trafficway		1261566.38	830973.11	4. 228th Ave SE/	Rear-End
379	North	Vehicle Stopped	Vehicle Stopped	Distractions Outside Vehicle			None													Lane of Primary Trafficway		1261614.6	831046.2	4. 228th Ave SE/	Rear-End
380	East			Exceeding Reas. Safe Speed																Past the Outside Shoulder of Primary Traff		1261746.94	830938.38	4. 228th Ave SE/	Other
381	North		Vehicle Stopped	Exceeding Reas. Safe Speed	Inattention															Lane of Primary Trafficway		1261516.78	827326.42	5. 228th Ave SE/	Rear-End
382	South	South	South	Other Contributing Circ Not Listed	Did Not Grant RW to Vehicle		None													Lane of Primary Trafficway		1261516.78	827326.42	5. 228th Ave SE/	Right Angle
383	West	North	South	Did Not Grant RW to Vehicle			Exceeding Reas. Safe Speed													Lane of Primary Trafficway		1261516.78	827326.42	5. 228th Ave SE/	Approach Turn
384	South	North	South	Follow Too Closely			None													Lane of Primary Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Rear-End
385	South	North	West	Improper Passing			None													Lane of Primary Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Right Turn
386	North	East	South	Inattention	Distractions Outside Vehicle		None													Lane of Primary Trafficway		1261552.04	827325.74	5. 228th Ave SE/	Right Angle
387	West	South	South	Follow Too Closely			None													Lane of Primary Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Rear-End
388	South	North	Vehicle Stopped	Exceeding Reas. Safe Speed			None													Lane of Primary Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Rear-End
389	North	North	North	Disregard Stop and Go Light			None													Lane of Primary Trafficway		1261552.14	827330.13	5. 228th Ave SE/	Other
390	South	North	South	Improper U-Turn	Inattention		None													Lane of Primary Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Other
391	West			Other Contributing Circ Not Listed																Past the Outside Shoulder of Primary Traff		1261516.79	827326.44	5. 228th Ave SE/	Other
392	South	North	South	Follow Too Closely			None													Lane of Primary Trafficway		1261554.12	827422.03	5. 228th Ave SE/	Rear-End
393	West	West	Vehicle Stopped	Improper Turn/Merge	Operating Defective Equipment		None													Intersecting Trafficway		1261516.79	827326.42	5. 228th Ave SE/	Right Angle
394	South	North	South	Follow Too Closely			Inattention													Lane of Primary Trafficway		1261478.65	826027.52	6. 228th Ave SE/	Rear-End
395	East	Vehicle Stopped	Vehicle Stopped	Inattention			None													Lane of Primary Trafficway		1261478.65	826027.52	6. 228th Ave SE/	Rear-End
396	North	South	North	Did Not Grant RW to Vehicle			Exceeding Reas. Safe Speed													Lane of Primary Trafficway		1261478.65	826027.52	6. 228th Ave SE/	Side-Swipe
397	South	South	North	Disregard Stop and Go Light	Inattention		None													Lane of Primary Trafficway		1261512.36	826036.05	6. 228th Ave SE/	Right Angle
398	North	East	North	Follow Too Closely			None													Lane of Primary Trafficway		1261478.65	826027.52	6. 228th Ave SE/	Rear-End
399	Vehicle Backing	Vehicle Stopped	Vehicle Stopped	Improper Backing			None													Lane of Primary Trafficway		1261478.66	826027.53	6. 228th Ave SE/	Other
400	South	Vehicle Stopped	Vehicle Stopped	Operating Defective Equipment	Follow Too Closely		None													Lane of Primary Trafficway		1261478.66	826027.53	6. 228th Ave SE/	Rear-End
401	South	North	South	None			None													Lane of Primary Trafficway		1261478.66	826027.53	6. 228th Ave SE/	Other
402	North	South	Vehicle Stopped	Exceeding Reas. Safe Speed			None													Lane of Primary Trafficway		1261512.43	826037.82	6. 228th Ave SE/	Rear-End
403	North	North	East	Did Not Grant RW to Vehicle			None													Lane of Primary Trafficway		1261478.66	826027.53	6. 228th Ave SE/	Approach Turn
404	East	South	North	Inattention	Did Not Grant RW to Vehicle		None													Lane of Primary Trafficway		1261512.43	826037.82	6. 228th Ave SE/	Approach Turn
405	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None													Lane of Primary Trafficway		1261478.66	826027.52	6. 228th Ave SE/	Rear-End
406	North			Apparently Asleep or Fatigued	Under Influence of Drugs															Past the Outside Shoulder of Primary Traff		1261511.33	826167.36	6. 228th Ave SE/	Other
407	South	Vehicle Stopped	Vehicle Stopped	Inattention	Follow Too Closely		None													Lane of Primary Trafficway		1261517.24	826206.05	6. 228th Ave SE/	Rear-End
408	South			Other Contributing Circ Not Listed	Exceeding Reas. Safe Speed															Intersecting Trafficway		1261779.27	826038.47	6. 228th Ave SE/	Other
409	West	East	Vehicle Stopped	Inattention	Follow Too Closely		None													Lane of Primary Trafficway		1261478.65	826027.52	6. 228th Ave SE/	Rear-End
410	North	South	North	Improper Turn/Merge			None													Intersecting Trafficway		1261512.43	826037.81	6. 228th Ave SE/	Right Angle
411	South			Other Contributing Circ Not Listed																Past the Outside Shoulder of Primary Traff		1261779.27	826038.47	6. 228th Ave SE/	Other

PRJ19-00008 Attachment 060

OFFICER RE OFFICER REPORTED CRASHES THAT OCCURRED ON ROADS IN THE CITIES OF ISSAQUAH & SAMMAMISH

01/01/2015 01/01/2015 - *Avail 2020*

Under 23 U.S.Under 23 U.S. Code § 148 and 23 U.S. Code § 409, 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 roadway conaddressed in such reports, surveys, schedules, lists, or data.
location men

RECORD #	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTR	MV DRIVER CONTR	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	BICYCLIST CONTRIE	PEDESTRIAN CONT	PEDESTRIAN CONT	PEDESTRIAN CONT	FIRST IMPACT LOCATION (City, County &	WA STATE PLANE S	WA STATE PLANE S	Segment	Intersection	Collision_Type
412	West	West	East	Driver Adjusting Audio or Entertainment			None												Lane of Primary Trafficway	1261779.27	826038.47	6. 228th Ave SE/ Right Angle		
413	Northwest	East	West	Did Not Grant RW to Vehicle			Inattention												Lane of Primary Trafficway	1261779.27	826038.46	6. 228th Ave SE/ Right Angle		
414	East	North	East	Other Contributing Circ Not Listed			Other Contributing Circ Not Listed												Intersecting Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Approach Turn		
415	East	South	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Approach Turn		
416	South	East	South	Inattention			Inattention												Lane of Primary Trafficway	1261415.95	823997.41	7. 228th Ave SE/ Side-Swipe		
417	North	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Rear-End		
418	South	North	Vehicle Stopped	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Rear-End		
419	North	South	North	Improper Turn/Merge	Inattention		None												Lane of Primary Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Right Angle		
420	East	North	East	Follow Too Closely			None												Lane of Primary Trafficway	1261415.95	823997.41	7. 228th Ave SE/ Rear-End		
421	West	South	North	Unknown Distraction			Unknown Distraction												Lane of Primary Trafficway	1261415.95	823997.41	7. 228th Ave SE/ Right Angle		
422	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1261417.19	824122.6	7. 228th Ave SE/ Rear-End		
423	South	North	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1261421.66	824101.94	7. 228th Ave SE/ Rear-End		
424	Vehicle Stopped	Southeast	Northwest	None			Inattention												Lane of Primary Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Rear-End		
425	North	East	North	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Rear-End		
426	South			Exceeding Reas. Safe Speed															Past the Outside Shoulder of Primary Traff	1261415.95	823997.41	7. 228th Ave SE/ Other		
427	West	East	Vehicle Stopped	Distractions Outside Vehicle			None												Lane of Primary Trafficway	1261449.2	823997.27	7. 228th Ave SE/ Rear-End		
428	West		Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261451.8	823997.07	7. 228th Ave SE/ Rear-End		
429	Northwest	Vehicle Stopped	Vehicle Stopped	Inattention	Follow Too Closely		None												Lane of Primary Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Rear-End		
430	West	East	West	Follow Too Closely			None												Lane of Primary Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Rear-End		
431	Northwest	Vehicle Stopped	Vehicle Stopped	Inattention			None												Lane of Primary Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Rear-End		
432	North	East	North	Unknown Distraction			Unknown Distraction												Lane of Primary Trafficway	1261449.46	823997.26	7. 228th Ave SE/ Side-Swipe		
433	North	West	North	Did Not Grant RW to Vehicle			Improper Turn/Merge												Intersecting Trafficway	1261415.94	823997.41	7. 228th Ave SE/ Approach Turn		
434	East	North	East	Improper Turn/Merge			None												Lane of Primary Trafficway	1261437.78	823997.94	7. 228th Ave SE/ Side-Swipe		
435	West	East	North	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261415.95	823997.41	7. 228th Ave SE/ Right Turn		
436	South			None															Past the Outside Shoulder of Primary Traff	1261336.85	820785.74	8. 228th Ave SE/ Other		
437	East			None												None			Intersecting Trafficway	1261327.22	820781.8	8. 228th Ave SE/ Ped / Cycle		
438	East			Exceeding Reas. Safe Speed															Intersecting Trafficway	1261327.21	820781.82	8. 228th Ave SE/ Other		
439	South	North	South	Inattention	Did Not Grant RW to Vehicle		None												Lane of Primary Trafficway	1261448.99	823992.59	228th Ave SE	between SE 40th	Side-Swipe
440	North	South	North	Inattention			None												Lane of Primary Trafficway	1261449.19	823997.24	228th Ave SE	between SE 40th	Rear-End
441	South			Distractions Outside Vehicle															Past the Outside Shoulder of Primary Traff	1261415.94	823997.41	228th Ave SE	between SE 40th	Other
442	North	East	North	Did Not Grant RW to Vehicle			None												Lane of Primary Trafficway	1261449.18	823997.03	228th Ave SE	between SE 40th	Side-Swipe
443	South	North	South	Other Contributing Circ Not Listed			None												Lane of Primary Trafficway	1261442.34	823636.6	228th Ave SE	between SE 40th	Rear-End
444	North	South	North	Over Center Line			None												Lane of Primary Trafficway	1261328.44	820392.08	228th Ave SE	between SE 40th	Side-Swipe
445	North	South	Vehicle Stopped	Follow Too Closely			Driver Not Distracted												Lane of Primary Trafficway	1261315.3	820092.17	228th Ave SE	between SE 40th	Rear-End
446	North			None															Lane of Primary Trafficway	1261359.59	821955.55	228th Ave SE	between SE 40th	Other
447	North			Apparently Asleep or Fatigued															Past the Outside Shoulder of Primary Traff	1261318.94	820340.9	228th Ave SE	between SE 40th	Other
448	North			Driver Not Distracted													Inattention		Lane of Primary Trafficway	1261440.06	823468.88	228th Ave SE	between SE 40th	Ped / Cycle
449	South	North	South	Exceeding Reas. Safe Speed	Follow Too Closely		None												Lane of Primary Trafficway	1261417.12	823684.88	228th Ave SE	between SE 40th	Rear-End
450	North	South	North	Other Driver Distractions Inside Vehicle			None												Lane of Primary Trafficway	1261420.45	823176.9	228th Ave SE	between SE 40th	Rear-End
451	North	North	South	Improper U-Turn			None												Lane of Primary Trafficway	1261421.21	823226.89	228th Ave SE	between SE 40th	Other
452	North	South	Vehicle Stopped	Follow Too Closely			None												Lane of Primary Trafficway	1261427.99	823355.06	228th Ave SE	between SE 40th	Rear-End
453	South	North	Vehicle Stopped	Inattention	Exceeding Reas. Safe Speed		None												Lane of Primary Trafficway	1261385.25	822682.46	228th Ave SE	between SE 40th	Rear-End
454	North	South	North	Follow Too Closely			None												Lane of Primary Trafficway	1261390.35	822338.37	228th Ave SE	between SE 40th	Rear-End
455	North	North	South	Inattention			None												Lane of Primary Trafficway	1261325.72	820282.11	228th Ave SE	between SE 40th	Side-Swipe
456	North			Apparently Asleep or Fatigued															Past the Outside Shoulder of Primary Traff	1261332.73	820582.03	228th Ave SE	between SE 40th	Other
457	North	South	North	Operating Defective Equipment	Exceeding Stated Speed Limit		None												Lane of Primary Trafficway	1261332.27	820831.74	228th Ave SE	between SE 40th	Rear-End
458	North	South	North	Inattention	Exceeding Reas. Safe Speed		None												Lane of Primary Trafficway	1261331.12	820882.15	228th Ave SE	between SE 40th	Rear-End
459	South			Operating Defective Equipment															Past the Outside Shoulder of Primary Traff	1261289.5	819389.49	228th Ave SE	between SE 40th	Other

PRJ19-00008 Attachment 060

APPENDIX F

TRIP GENERATION AND DISTRIBUTION

September 1, 2020

PRJ19-00008 Attachment 060

TECHNICAL MEMORANDUM

Project: ISD High School #4 / Elementary School #17

Subject: Trip Generation and Distribution – 2nd Update

Date: July 31, 2020

Authors: Jennifer Barnes, P.E., Associate Principal
Marni C. Heffron, P.E., P.T.O.E., Principal

1. Introduction

This memorandum presents updated trip generation and trip distribution for a new high school (High School #4) and new elementary school (Elementary School #17) proposed by the Issaquah School District (ISD). The site is located within Issaquah, but the proposed access intersection is within Sammamish. Because the site is located at the boundary between Issaquah and Sammamish, there is potential for transportation impacts in both cities. Therefore, the transportation study area encompasses portions of both cities, and all transportation analysis will be completed in accordance with each City's requirements.

The information presented in this memorandum supersedes the prior trip generation and distribution estimates reviewed by the Cities,[1] and reflects the following updates:

- The proposed enrollment capacity for the proposed High School #4 has been increased from 1,680 to 1,823 students.
- The anticipated attendance boundary for Elementary School #17 has been adjusted.
- A graphic has been added that shows the analysis intersections that have been confirmed with both the Cities of Sammamish and Issaquah, where detailed traffic operational analysis is provided in the *Transportation Technical Report* prepared for the project.
- The commuter PM peak hour (defined as the peak hour for traffic on the adjacent streets) has been shifted by 15 minutes (from the hour beginning at 5:00 P.M. to the hour beginning at 4:45 P.M.) to align with the Sammamish Municipal Code (SMC) 14A.05.010 specified model PM peak hour. This had negligible effect on the high school trip generation rate, but resulted in a small increase in the elementary school trip rate. It is noted that the schools' combined AM peak hour is offset from the City-defined peak hour by 15 minutes (starting at 7:15 A.M. instead of 7:00 A.M.) but this results in a more conservatively high trip estimate so it was not adjusted.
- Minor adjustments have been made to the trip distribution assumptions, based upon feedback provided by the City of Sammamish. Specifically, adjustments have been made to reflect the presence of the Providence Point Community directly to the south of the site which is not expected to generate school trips, and assumptions about the portion of trips through the NE Inglewood Road / 228th

[1] Heffron Transportation, Inc., ISD High School #4 / Elementary School #17 – Trip Generation and Distribution, December 12, 2019.

PRJ19-00008 Attachment 060

Avenue NE intersection (located outside of both schools' anticipated enrollment boundaries, and primarily reflecting staff commute and family vehicle work-linked trips) has been reduced.

- Projected trip distribution at the proposed site access driveway has been presented in more detail.
- Information has been added about the schools that students within the anticipated enrollment boundaries would attend if the proposed school project is not constructed, as well as the peak hour trips that would be shifted away from the existing schools, as a result of the proposed new schools.
- Updates have been incorporated to respond to City of Sammamish review comments (July 17, 2020) provided for the previous version of this memorandum (Heffron Transportation, June 9, 2020).

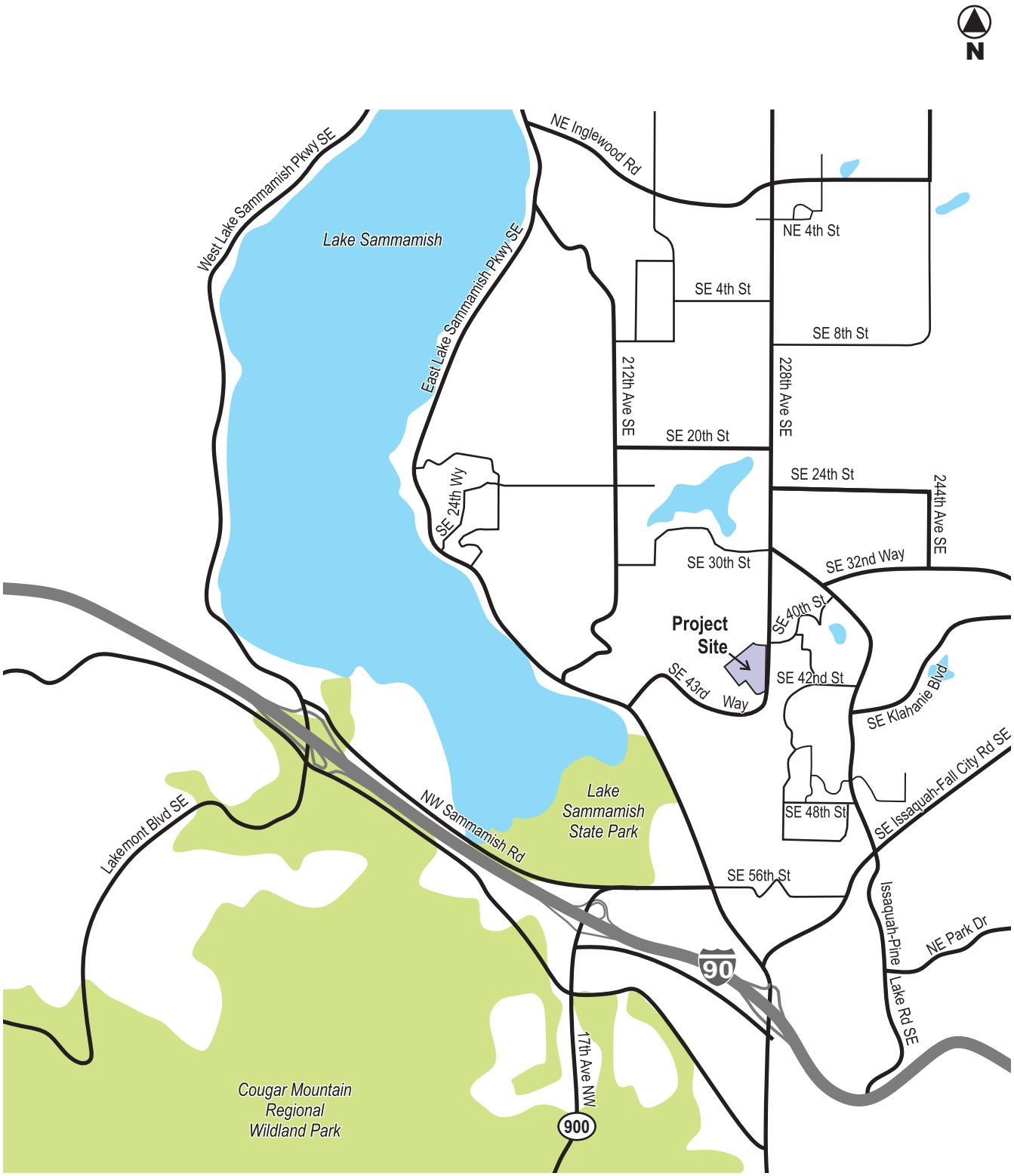
2. Project Description

ISD proposes to co-locate a new elementary school (serving grades pre-kindergarten through 5) and a new high school (serving grades 9 through 12) on a property located west of 228th Avenue SE and north of SE 43rd Way. The site location is shown on **Figure 1**.

The elementary school is planned for an enrollment capacity of 744 students (552 in permanent buildings plus potentially 192 in portable classrooms) with about 75 faculty and staff. The high school is planned for an enrollment capacity of 1,823 students (1,631 in permanent buildings plus potentially 192 in portable classrooms) with about 150 faculty and staff. About 668 vehicle parking spaces and 30 bus parking spaces are currently planned, although the parking supply could be adjusted as site design progresses. An additional 91 parking spaces could be provided in family vehicle and bus loading areas during off-peak periods, allowing up to 759 vehicles to be parked on site during special events.[2] The proposed school facilities include athletic fields, tennis courts, an auditorium, and a gymnasium. The preliminary site plan for the project is shown on **Figure 2**.

A signalized access driveway is planned on 228th Avenue SE. Analysis is presented in the *Transportation Technical Report* of lane configuration options at the site access driveway. A separate emergency-access/service driveway connection to the fire lane east of the school building is also proposed on the south side of the site.

[2] Parking supply estimates provided by AHBL, March 26, 2020.



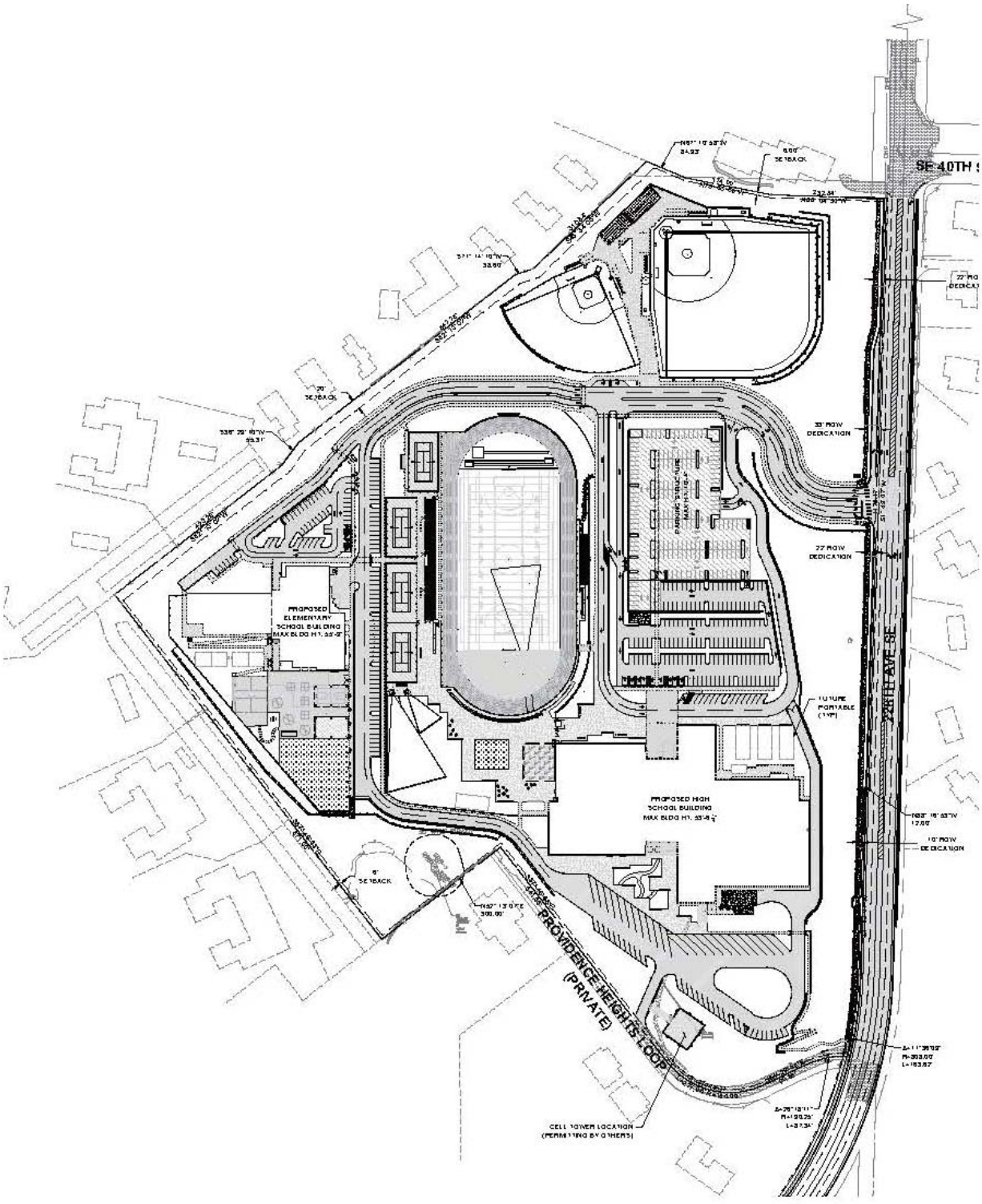
High School #4
Elementary #17

Figure 1

Site Location

heffron transportation inc

06.09.20



Source: AHBL, July 31, 2020

High School #4
Elementary #17

Figure 2

Conceptual Site Plan

heffron transportation inc

07.31.20

PRJ19-00008 Attachment 060

3. Trip Generation

3.1. Overview of Approach

Trip generation estimates for new school projects are typically developed using one of two methods. The most common method applies rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual,*[3] and is used when little may be known about expected operational characteristics. In some cases, however, it is appropriate to derive trip generation rates and travel characteristics based on observed conditions at an existing school with similar or representative characteristics. Since the published ITE rates are based on data collected from sites across the country, rates and travel patterns derived from local schools can offer representative travel characteristics for a particular school within the subject school district. The methodology applied herein combines these methods. Local trip generation data were obtained for four local schools in the Issaquah School District, which were compared to the ITE trip generation rates. The highest rates of those sets were then applied to reflect a conservative worst-case condition. Since the two schools sharing the site would have different bell schedules, the local data were also used to assess how the trips would overlap during the course of the day and to select the cumulative peak hour conditions used for the analysis.

After examining all elementary and high schools within the district, two elementary schools and two high schools were selected for data collection and observation. The representative schools were confirmed with City of Issaquah and City of Sammamish staff.[4] Idax Data Solutions conducted three days of detailed traffic counts at each school on Tuesday, October 1, Wednesday, October 2, and Thursday, October 3, 2019. The morning counts were performed for a two-hour period in which morning arrivals predominantly occur, and afternoon counts were conducted for a six-hour period that included the afternoon dismissal period and the evening peak hour on the adjacent streets (commuter PM peak period). Counts were conducted at 15-minute intervals, and compiled to determine the trips generated by each school during the morning, afternoon and commuter PM peak hour, as well as the time that each peak hour occurred. The data collection efforts and results for these schools are described in Section 3.2.

Trip generation rates were then derived from the compiled count data based on each school's student enrollment at the time of the counts. The rates were compared to average ITE rates, and the higher rate (local or ITE) was then applied to each of the proposed new schools. Applying this approach, ITE rates were applied for the elementary school morning and afternoon peak hours, and local trip rates were applied for the high school for all peak hours, as well as the commuter PM peak hour for the elementary school. Since the peak arrival and departure times for each school would differ, the local count data were used to determine when the peak for each school would occur and to assess the cumulative trips for each 15-minute period. These were then used to select the peak analysis hours and derive peak-hour factors applied in the traffic operations analysis. Trip generation for the proposed schools and site are described in Section 3.3.

3.2. School Trip Counts

Elementary Schools

Traffic counts were conducted at Discovery Elementary School, located at 2300-228th Avenue SE, and Sunny Hills Elementary School, located at 3200-Issaquah-Pine Lake Road SE, both in Sammamish. These schools were selected because they each have primary access on a major arterial street and the sites are configured such that their trips can be isolated from trips generated by other adjacent uses. Each

[3] ITE, 10th Edition, 2017.
[4] Confirmed at a meeting between ISD, City of Issaquah staff, and City of Sammamish staff, on September 26, 2019.

PRJ19-00008 Attachment 060

school has a single main driveway that provides access to its surface parking lot and family vehicle loading area, and a separate driveway that accesses its bus loading area. Counts were conducted at both driveways and reflect all trips generated by the schools during the analysis periods. With an enrollment of 666 students at the time of the counts, Discovery Elementary is smaller than the proposed Elementary #17. Sunny Hills Elementary is larger, with an enrollment of 795 students at the time of the counts.

Both schools have the typical bell schedule for ISD elementary schools. School starts at 9:15 A.M. every day; dismissal is at 3:40 P.M. every day except Wednesday, which has early dismissal at 1:30 P.M.

The observed peak hour trip generation, rates, and inbound/outbound distribution are summarized in **Table 1** for Discovery Elementary School and **Table 2** for Sunny Hills Elementary School. Appendix A includes the full counts by 15-minute period for each school. The ITE rates for Elementary School (ITE Land Use Code [LU] 520) are shown in each table for comparison. The tables show that the trip rates for the two elementary schools are very similar. While the observed rates are within the range of rates reflected in ITE's published data, the morning and afternoon peak hour rates are lower than ITE's average rates. The observed commuter PM peak hour rates are higher than ITE at Discovery and lower at Sunny Hills. Therefore, for analysis of Elementary School #17, ITE average rates were applied in the morning and afternoon analysis, and the derived rate from Discovery were applied in the commuter PM peak hour analysis, because each result in the more conservatively high trip estimate for the respective peak hours.

Table 1. Trip Generation Summary – Discovery Elementary School

	Morning Peak Hour [1]			Afternoon Peak Hour [2]			Commuter PM Peak Hour [3]		
Vehicle Trip Counts	In	Out	Total	In	Out	Total	In	Out	Total
Tuesday, October 1, 2019	144	138	282	77	108	185	56	82	138
Wednesday, October 2, 2019	140	108	248	76	116	192	---	---	---
Thursday, October 3, 2019	146	113	259	81	112	193	62	68	130
Average Day [4]	145	126	271	79	110	189	59	75	110
Observed Trip Rates (vehicle trips per student) [5]	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Rate
Average Rate	54%	46%	0.41	42%	58%	0.28	44%	56%	0.20
Peak Observed Rate	51%	49%	0.42	42%	58%	0.29	41%	59%	0.21
ITE Rates (vehicle trips per student) [6]	% In	% Out	Rate [7]	% In	% Out	Rate	% In	% Out	Rate
Elementary School (LU 520)	54%	46%	0.65	45%	55%	0.34	48%	52%	0.17

Source: Number of trips is based on turning movement counts performed at the school's driveways, October 1 through 3, 2019.

1. *The school's morning peak hour began at 8:30 A.M. on Tuesday, and 8:15 A.M. on Wednesday and Thursday.*
2. *The school Afternoon peak hour began at 3:15 P.M. on Tuesday and Thursday, and 1:00 P.M. on Wednesday.*
3. *The Commute PM peak hour on the adjacent street is 4:45 to 5:45 P.M.; evening counts were not conducted on Wednesday due to early dismissal that is scheduled on that day.*
4. *Average day values based upon Tuesday and Thursday data.*
5. *Derived by dividing the observed trip counts by the total enrollment of 666 students.*
6. *ITE, Trip Generation Manual, 10th Edition, 2017.*
7. *Morning rate is for the peak hour of the generator.*

PRJ19-00008 Attachment 060

Table 2. Trip Generation Summary – Sunny Hills Elementary School

	Morning Peak Hour [1]			Afternoon Peak Hour [2]			Commuter PM Peak Hour [3]		
Vehicle Trip Counts	In	Out	Total	In	Out	Total	In	Out	Total
Tuesday, October 1, 2019	158	142	300	107	111	218	51	78	129
Wednesday, October 2, 2019	123	121	244	95	114	209	---	---	---
Thursday, October 3, 2019	201	152	353	101	118	219	43	65	108
Average Day [4]	180	147	327	104	115	219	47	72	119
Observed Trip Rates (vehicle trips per student) [5]									
Average Rate	55%	45%	0.41	47%	53%	0.28	39%	61%	0.15
Peak Observed Rate	57%	43%	0.44	46%	54%	0.28	40%	60%	0.16
ITE Rates (vehicle trips per student) [6]	% In	% Out	Rate [7]	% In	% Out	Rate	% In	% Out	Rate
Elementary School (LU 520)	54%	46%	0.65	45%	55%	0.34	48%	52%	0.17

Source: Number of trips is based on turning movement counts performed at the school's driveways, October 1 through 3, 2019.

1. *The school's morning peak hour began at 8:30 A.M. on Tuesday and Wednesday, and 8:15 A.M. on Thursday.*
2. *The school Afternoon peak hour began at 3:00 P.M. on Tuesday and Thursday, and 1:00 P.M. on Wednesday.*
3. *The Commute PM peak hour on the adjacent street is 4:45 to 5:45 P.M.; evening counts were not conducted on Wednesday due to early dismissal that is scheduled on that day.*
4. *Average day values based upon Tuesday and Thursday data.*
5. *Derived by dividing the observed trip counts by the total enrollment of 795 students.*
6. *ITE, Trip Generation Manual, 10th Edition, 2017.*
7. *Morning rate is for the peak hour of the generator.*

High Schools

Traffic counts were conducted at Skyline High School, located at 1122-228th Avenue SE in Sammamish, and Liberty High School, located at 16656-SE 136th Street in Renton. These schools were selected because they have athletic facilities similar to those planned for High School #4, and the sites are configured such that their trips can be isolated from trips generated by other adjacent uses. With an enrollment of 2,003 students at the time of the counts, Skyline High School is larger than the proposed High School #4. Liberty High School is smaller, with an enrollment of 1,316 students at the time of the counts. Both schools have the typical bell schedule for ISD high schools. On every day except Wednesday, school starts at 8:00 A.M. with dismissal at 2:55 P.M.; Wednesdays have a later schedule, starting at 10:10 A.M. with dismissal at 3:45 P.M. It is noted that a high level of extra-curricular events was observed on Tuesday evening at Skyline High School.

Traffic counts were conducted at Skyline High School at its two driveways, one on 228th Avenue SE and one on SE 8th Street. Additionally, the school has leased parking at two nearby locations. At the Mary Queen of Hearts Church lot (located west of the school on 228th Avenue SE, with access directly across from the west school driveway) the school has leased 65 spaces. Parking in this lot is also generated by church activities, a preschool, and spaces are leased to the YMCA located directly to the north. School trips generated at this lot were estimated based upon driveway counts, review of the church and preschool schedules, as well as counts of vehicles parked in the school's leased spaces. At the Sammamish Lutheran Church lot (located north of the school on SE 8th Street, with access to the west of the north school driveway) the school has leased 74 spaces. Parking in this lot is also generated by church activities, and a portion is used for transit Park and Ride. School-generated trips at this lot were estimated,

PRJ19-00008 Attachment 060

based upon an assumption that they would be similar in pattern to school trips at the Mary Queen of Peace lot, in proportion to the school-generated parked vehicles counted in the two lots.

Traffic counts were conducted at Liberty High School at its four driveways, and also along segments of 164th Avenue SE and 169th Avenue NE where school-generated vehicles were observed to park.

The observed peak hour trip generation, rates, and inbound/outbound distribution are summarized in **Table 3** for Skyline High School and **Table 4** for Liberty High School. Appendix A includes the full counts by 15-minute period for each school. The ITE rates for High School (LU 530) are shown in each table for comparison. The tables show that the trip rates for the two high schools are similar. While the observed rates are within the range of rates reflected in ITE's published data, they are higher than ITE's average rates. Therefore, for analysis of High School #4, derived average rates based upon observed data were applied because they reflect typical characteristics for ISD schools and result in more conservatively high trip estimates than applying ITE rates. For each peak hour, the higher derived rate observed between the two schools were applied.

Table 3. Trip Generation Summary – Skyline High School

	Morning Peak Hour [1]			Afternoon Peak Hour [2]			Commuter PM Peak Hour [3]		
Vehicle Trip Counts	In	Out	Total	In	Out	Total	In	Out	Total
Tuesday, October 1, 2019	805	356	1,161	198	563	761	157	158	315
Wednesday, October 2, 2019	743	419	1,162	185	593	778	144	166	310
Thursday, October 3, 2019	877	370	1,247	161	566	727	165	229	394
Average Day [4]	841	363	1,204	180	565	744	161	194	355
Observed Trip Rates (vehicle trips per student) [5]	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Rate
Average Rate	70%	30%	0.60	24%	76%	0.37	45%	55%	0.18
Peak Observed Rate	70%	30%	0.62	24%	76%	0.39	42%	58%	0.20
ITE Rates (vehicle trips per student) [6]	% In	% Out	Rate [7]	% In	% Out	Rate	% In	% Out	Rate
High School (LU 530)	68%	32%	0.55	32%	68%	0.33	48%	52%	0.14

Source: Number of trips is based on turning movement counts performed at the school's driveways, October 1 through 3, 2019.

1. *The school's morning peak hour began at 7:15 A.M. on Tuesday and Thursday, and at 9:45 A.M. on Wednesday.*
2. *The school Afternoon peak hour began at 2:30 P.M. on Tuesday, 3:30 P.M. on Wednesday, and 2:45 P.M. on Thursday.*
3. *The Commuter PM peak hour on the adjacent street is 4:45 to 5:45 P.M.*
4. *Average day values based upon Tuesday and Thursday data.*
5. *Derived by dividing the observed trip counts by the total enrollment of 2,003 students.*
6. *ITE, Trip Generation Manual, 10th Edition, 2017.*
7. *Morning rate is for the peak hour of the generator.*

PRJ19-00008 Attachment 060

Table 4. Trip Generation Summary – Liberty High School

Vehicle Trip Counts	Morning Peak Hour [1]			Afternoon Peak Hour [2]			Commuter PM Peak Hour [3]		
	In	Out	Total	In	Out	Total	In	Out	Total
Tuesday, October 1, 2019	536	248	784	142	330	472	81	92	173
Wednesday, October 2, 2019	422	267	689	139	372	511	52	94	146
Thursday, October 3, 2019	557	253	810	129	319	448	114	164	278
Average Day [4]	547	251	798	136	325	461	98	128	226
Observed Trip Rates (vehicle trips per student) [5]	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Rate
Average Rate	69%	31%	0.61	30%	70%	0.35	43%	57%	0.17
Peak Observed Rate	69%	31%	0.62	27%	73%	0.39	41%	59%	0.21
ITE Rates (vehicle trips per student) [6]	% In	% Out	Rate [7]	% In	% Out	Rate	% In	% Out	Rate
High School (LU 530)	68%	32%	0.55	32%	68%	0.33	48%	52%	0.14

Source: Number of trips is based on turning movement counts performed at the school's driveways and frontages, October 1 through 3, 2019.

1. *The school's morning peak hour began at 7:15 A.M. on Tuesday and Thursday, and 9:15 A.M. on Wednesday.*
2. *The school Afternoon peak hour began at 2:45 P.M. on Tuesday and Thursday, and 3:30 P.M. on Wednesday.*
3. *The Commute PM peak hour on the adjacent street is 4:45 to 5:45 P.M.*
4. *Average day values based upon Tuesday and Thursday data.*
5. *Derived by dividing the observed trip counts by the total enrollment of 1,316 students.*
6. *ITE, Trip Generation Manual, 10th Edition, 2017.*
7. *Morning rate is for the peak hour of the generator.*

3.3. Project Trip Generation

Peak hour trip generation estimates were developed first for each school as if it were located on an individual site. The estimates assume that the bell schedule for the elementary school and high school would be the typical schedule for ISD schools of each respective type (described previously in *Section 3.2*). Then the overlap between trips generated by each school was determined to develop cumulative trip estimates for the combined schools, for the morning, afternoon, and commuter PM peak hours.

The trip generation estimates are based on data collected on Tuesday and Thursday. The data indicated that school-generated traffic on Wednesdays would be less intense than traffic on the other days. This is because with the later high school start time, the morning peak hour would occur after the commuter AM peak, instead of coinciding with it. Additionally, the early dismissal of the elementary school combined with the later dismissal of the high school would result in less overlap between their afternoon peak hours.

The trip generation estimation approach and results are described in the following sections.

Trips Generated by Individual Schools

As discussed previously, trip estimates for the proposed schools are based upon the higher rates between those published by ITE, and those derived from counts conducted at comparable ISD schools. For the elementary school, trip estimates are based upon ITE average rates, and for the high school, they are based upon average rates derived from counts conducted at Skyline and Liberty High Schools.

PRJ19-00008 Attachment 060

Table 5 summarizes the forecast peak hour trip generation for the proposed Elementary #17, based on the rates described above and the assumed enrollment of 744 students.

Table 5. Elementary #17 – Peak Hour Trip Generation

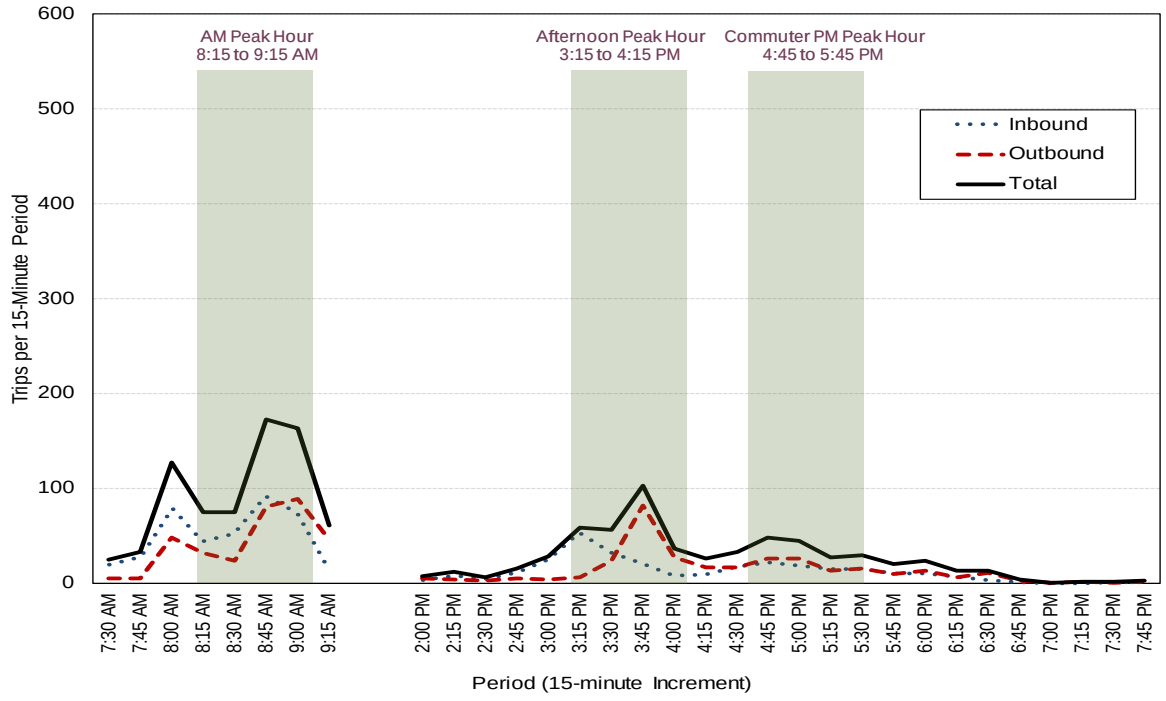
	Students	Daily Trips	Morning [1] (8:15 – 9:15 A.M.)			Afternoon [1] (3:15 – 4:15 P.M.)			Commuter PM [2] (4:45 – 5:45 P.M.)		
			In	Out	Total	In	Out	Total	In	Out	Total
Vehicle Trips	744	1,410	261	223	484	114	139	253	66	83	149
ITE Trip Rates – Trips per student (% in, % out) [2]	---	*1.89*	*0.65 (54% in, 46% out)*			*0.34 (45% in, 55% out)*			*0.20 (44% in, 56% out)*		

Source: Heffron Transportation, Inc., April 2020. Based upon rates published in ITE's Trip Generation Manual (10th edition, September 2017) and derived from traffic counts conducted at Discovery Elementary School, October 1 through 3, 2019.

1. *Morning and afternoon peak hours reflect the hours in which the peak numbers of trips are generated by the school.*
2. *Commuter PM peak hour reflects the hour in which traffic volumes on the adjacent streets are highest.*

A combination of the ITE and local data were used to determine the elementary school trips for each 15-minute period. These are shown on **Figure 3**.

Figure 3. Elementary #17 – Trips by 15-minute Period



Source: Heffron Transportation, Inc., April 2020. Derived using a combination of ITE rates for Elementary Schools and local data. Adjusted to reflect the expected student population at Elementary #17.

PRJ19-00008 Attachment 060

Table 6 summarizes the forecast peak hour trip generation for the proposed High School #4, based on the rates described above and the assumed enrollment of 1,823 students.

Table 6. High School #4 – Peak Trip Generation

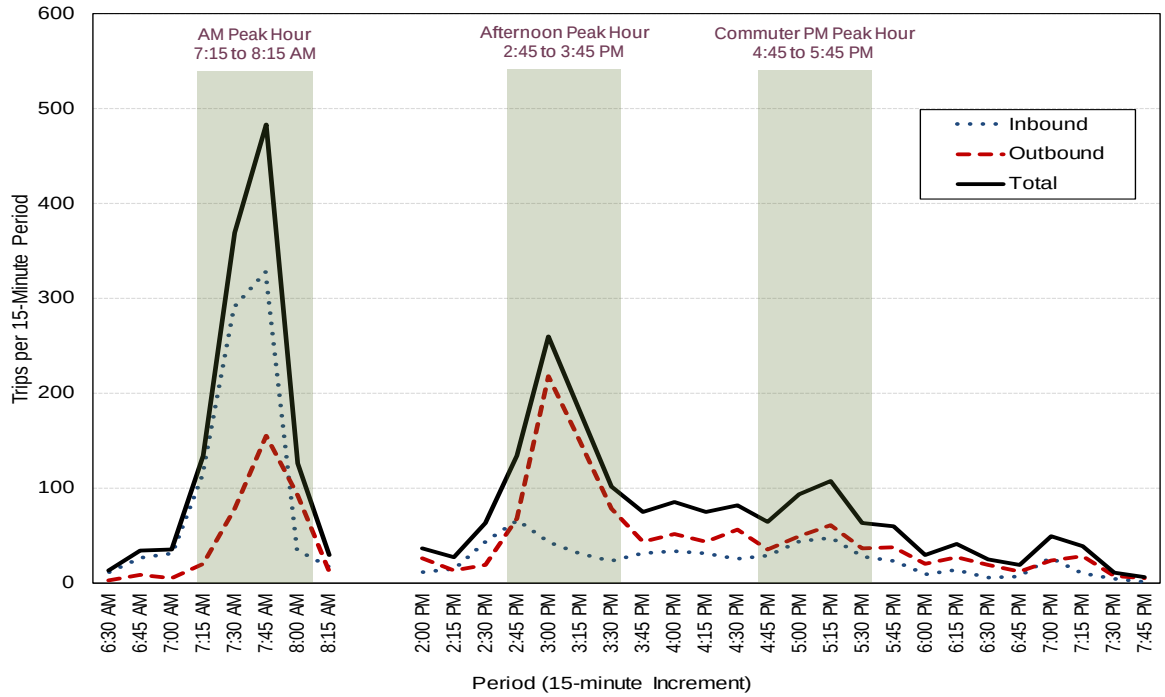
	Students	Daily Trips[1]	Morning[2] (7:15 – 8:15 A.M.)			Afternoon[2] (2:45 – 3:45 P.M.)			Commuter PM[3] (4:45 – 5:45 P.M.)		
			In	Out	Total	In	Out	Total	In	Out	Total
Vehicle Trips	1,823	4,140	767	345	1,112	162	513	675	148	180	328
Locally Derived Trip Rates – Trips per student (% in, % out)[2]	---	*2.27*	*0.61 (69% in, 31% out)*			*0.37 (24% in, 76% out)*			*0.18 (45% in, 55% out)*		

Source: Heffron Transportation, Inc., April 2020. Rates derived from traffic counts conducted at Skyline High School and Liberty High School, October 1 through 3, 2019.

1. *The daily trip rate was estimated by increasing the ITE daily average rate by 12%, based upon the proportion of observed morning and afternoon peak hour rates to the ITE rates for the same periods.*
2. *Derived from trip counts performed at Skyline and Liberty High Schools, October 2019. Morning and afternoon peak hours reflect the hours in which the peak numbers of trips are generated by the school. The morning peak hour for the high school coincides with the peak hour of the adjacent street.*
3. *Commuter PM peak hour reflects the hour in which traffic volumes on the adjacent streets are highest.*

Local data were used to determine the high school trips for each 15-minute period. These are shown on **Figure 4**.

Figure 4. High School #4 – Trips by 15-minute Period

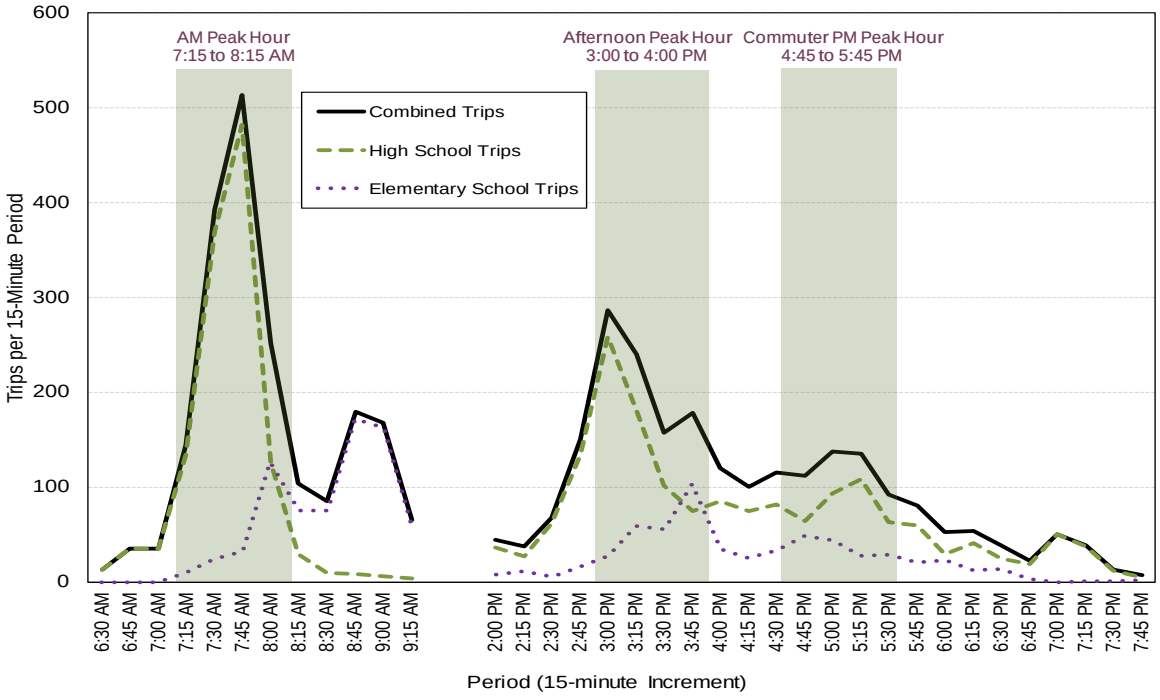


Source: Heffron Transportation, Inc.; April 2020. Derived using local trip generation data from Skyline and Liberty High Schools. Adjusted to reflect the expected student population at High School #4.

Cumulative School Trips

As noted above, the high school and the elementary school have different peak hours due to offset bell schedules. **Figure 5** shows the cumulative trips with these schools combined on one site. Because the high school would have a much larger student population than the elementary school, the peak hours for the cumulative trips are primarily influenced by the high school. However, some elementary trips would also occur during those peak hours. **Table 7** summarizes the cumulative trips for each 15-minute period.

Figure 5. Cumulative Trips for High School and Elementary School



Source: Heffron Transportation, Inc., April 2020.

PRJ19-00008 Attachment 060

Table 7. Cumulative Trips by 15-minute Period

Time	High School #4 Trip Generation			Elementary #17 Trip Generation			Total for Both Schools		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
6:30 AM	11	2	13	*0*	*0*	*0*	11	2	13
6:45 AM	27	8	35	*0*	*0*	*0*	27	8	35
7:00 AM	31	4	35	*0*	*0*	*0*	31	4	35
7:15 AM	114	20	134	*8*	*2*	*10*	122	22	144
7:30 AM	291	78	369	19	5	24	310	83	393
7:45 AM	328	155	483	27	5	32	355	160	515
8:00 AM	34	92	126	79	47	126	113	139	252
8:15 AM	17	12	29	44	31	75	61	43	104
8:30 AM	*6*	*4*	*10*	52	23	75	58	27	85
8:45 AM	*5*	*3*	*8*	92	80	172	97	83	180
9:00 AM	*4*	*2*	*6*	74	88	162	78	90	168
9:15 AM	*2*	*2*	*4*	15	46	61	17	48	65
2:00 PM	11	25	36	3	5	8	14	30	44
2:15 PM	14	13	27	8	3	11	22	16	38
2:30 PM	44	18	62	4	2	6	48	20	68
2:45 PM	66	68	134	11	5	16	77	73	150
3:00 PM	42	217	259	25	3	28	67	220	287
3:15 PM	31	150	181	53	6	59	84	156	240
3:30 PM	23	78	101	32	24	56	55	102	157
3:45 PM	31	44	75	21	82	103	52	126	178
4:00 PM	33	52	85	8	27	35	41	79	120
4:15 PM	31	44	75	9	16	25	40	60	100
4:30 PM	26	56	82	17	16	33	43	72	115
4:45 PM	29	35	64	22	26	48	51	61	112
5:00 PM	44	49	93	18	26	44	62	75	137
5:15 PM	47	61	108	14	13	27	61	74	135
5:30 PM	27	36	63	14	15	29	41	51	92
5:45 PM	23	37	60	10	10	20	33	47	80
6:00 PM	9	20	29	10	13	23	19	33	52
6:15 PM	14	27	41	6	7	13	20	34	54
6:30 PM	6	19	25	3	11	14	9	30	39
6:45 PM	7	12	19	1	2	3	8	14	22
7:00 PM	26	24	50	0	0	0	26	24	50
7:15 PM	10	28	38	0	1	1	10	29	39
7:30 PM	5	7	12	1	0	1	6	7	13
7:45 PM	1	4	5	1	1	2	2	5	7

Source: Heffron Transportation, April 2020. Elementary school trips derived using ITE rates and local trip generation data from Discovery and Sunny Hills Elementary Schools, adjusted to reflect the expected student population of Elementary School #17. High school trips derived using local trip generation data from Skyline and Liberty High Schools, adjusted to reflect the expected student population of High School #4.

= *Analysis peak hours*

XX = *Estimated.*

PRJ19-00008 Attachment 060

3.4. Traffic Peaking Characteristics

Standard practice and methodologies for traffic operations analyses are established in the *Highway Capacity Manual (HCM)*[5] and are conducted using hourly traffic flow rates. However, the methodology recognizes that traffic volumes may vary within the analysis peak hour. To account for variable flow rates within the hour, a peak hour factor (PHF) is applied to the hourly flow rates. This factor adjusts the total hourly flow rate to reflect the rate of the highest 15-minute period across the hour. The peak hour factor (PHF) is calculated as follows:

PHF = (total hourly volume) / [(peak 15-minute volume within the hour x 4)]

A PHF close to 1.0 indicates that traffic volumes are steady over the course of the hour and flows during each 15-minute period are about the same. A lower PHF indicates that volumes during one or two 15-minute periods are higher than those during the remaining 15-minute periods. For operational analyses, the hourly traffic volumes are divided by the PHF before levels of service are calculated. This results in an analysis that conservatively assumes the highest 15-minute vehicle flow rate occurs over the entire peak hour.

Traffic generation at schools tends to be more compressed within the peak hours than background traffic on surrounding roadways. This occurs because trips to and from the school occur relatively close to the school start and dismissal times as family drivers tend to arrive during the 20 to 30 minutes before each. Some school-generated trips, such as those by employees and/or visitors, also occur within the peak hour, but not within the highest 15-minute periods. For example, some staff may arrive about 45-minutes before school starts or may leave 45 minutes after dismissal. While they would be part of the overall peak hour traffic, they would not be part of the flows during the highest 15 to 30 minutes. Additionally, after the peak trips associated with school dismissal have subsided, later afternoon and evening trips may be more spread out, as after school activities begin and end at varying times.

Calculated PHFs for the combined school traffic are summarized in the following section. The cumulative PHF was used for site access and off-site intersection analysis. However, the individual school peak hours were used to evaluate queuing in each school's drop-off/pick-up area.

[5] Transportation Research Board (TRB), Highway Capacity Manual, 6th Edition, 2016.

PRJ19-00008 Attachment 060

3.5. Summary of Trip Generation Estimates for Combined Schools

Table 8 summarizes the vehicle trip estimates for the morning, afternoon, and commuter PM peak hours, as well as the peak-hour factors described in the previous section.

Table 8. Cumulative Trips Generation for Analysis Peak Hours

	High School #4 Trip Generation			Elementary #17 Trip Generation			Total Trip Generation for Both Schools		
Analysis Period	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
AM Peak Hour (7:15 to 8:15 AM)									
Trips	767	345	1,112	133	59	192	900	404	1,304
Peak Hour Factor [a]	0.58	0.56	0.58	0.42	0.31	0.38	0.63	0.63	0.63
Afternoon Peak Hour (3:00 to 4:00 PM)									
Trips	127	489	616	131	115	246	258	604	862
Peak Hour Factor	0.76	0.56	0.59	0.62	0.35	0.60	0.77	0.69	0.75
Commuter PM Peak Hour (4:45 to 5:45 PM)									
Trips	148	180	328	66	83	149	214	263	477
Peak Hour Factor	0.78	0.74	0.76	0.77	0.77	0.77	0.87	0.87	0.87

Source: Heffron Transportation, April 2020. Elementary school trips derived using ITE rates and local trip generation data from Discovery and Sunny Hills Elementary Schools, adjusted to reflect the expected student population of Elementary School #17. High school trips derived using local trip generation data from Skyline and Liberty High Schools, adjusted to reflect the expected student population of High School #4.

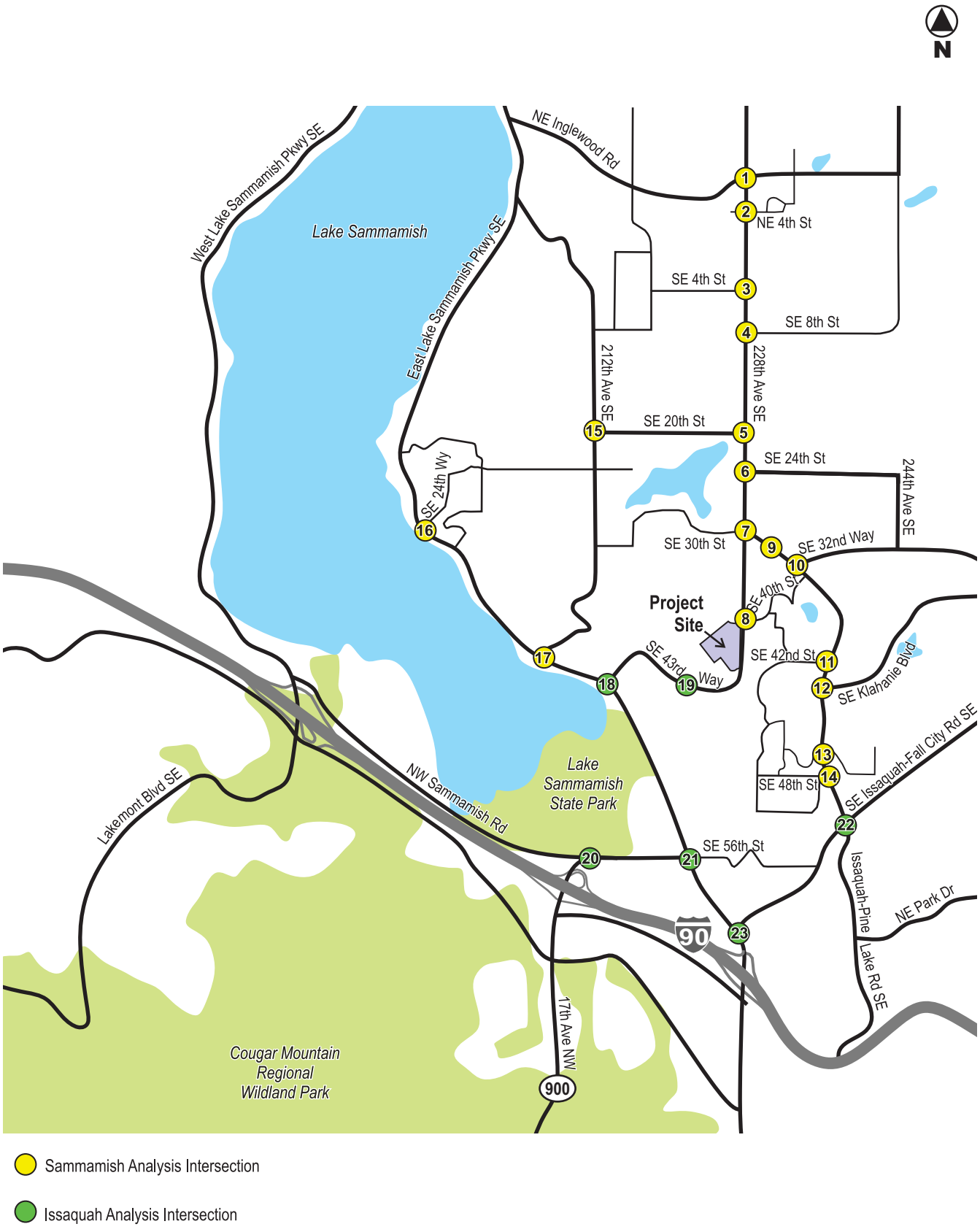
a. PHF = Peak Hour Factor = Peak Hour Volume / (4 X Peak 15-minute Volume)

4. Transportation Study Area

Figure 6 shows the transportation study area that has been defined for the project, based upon City review of the initial trip generation and distribution that was developed,[6] as well as the anticipated enrollment areas for the two schools shown on **Figure 7**.[7] The transportation technical report includes analysis of the project's traffic operational impacts at these 23 intersections (17 located in Sammamish and 6 located in Issaquah), in addition to the site access driveway, for each of the morning, afternoon, and commuter PM peak hours.

6 Heffron Transportation, December 12, 2019.

7 The Issaquah School District provided an estimated enrollment area for Elementary School #17 and High School #4; the actual enrollment service area is subject to review and final approval by the School Board.



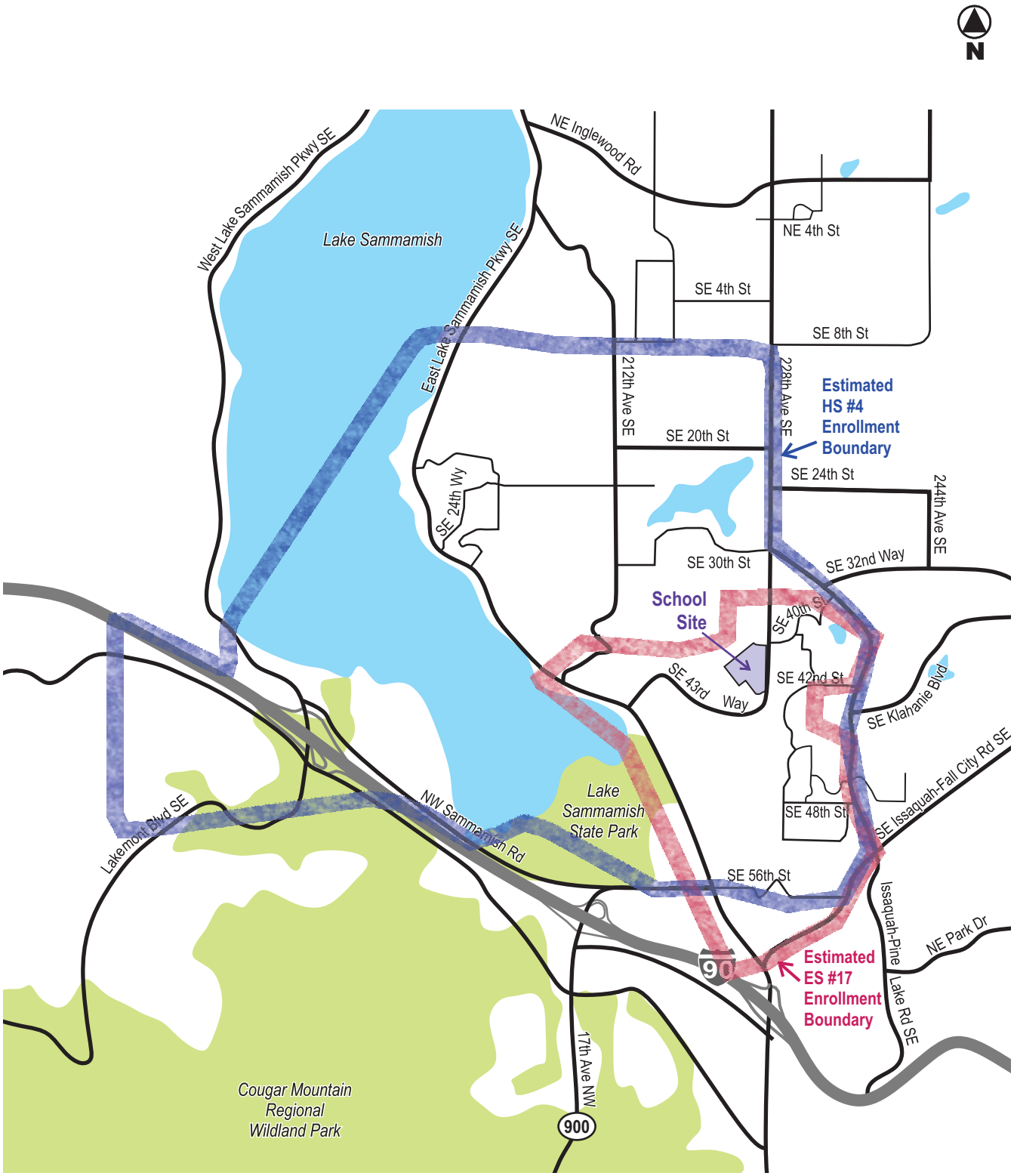
High School #4
Elementary #17

Figure 6

Transportation Study Area

heffron transportation inc

06.09.20



Source: Issaquah School District, January 2020

High School #4
Elementary #17

Figure 7

Estimated Enrollment Areas

heffron transportation inc

06.09.20

PRJ19-00008 Attachment 060

5. Trip Distribution and Assignment

The trip distribution patterns of school-generated trips were developed based on a combination of the overall residential density within ISD's estimated enrollment areas, and traffic patterns observed within the study area.[8] Geographic Information System (GIS) data were used to determine the proportion of residences within neighborhoods in the respective school enrollment boundaries; Google Maps predictive travel times[9] were utilized to estimate routes to and from the site based on the respective travel times. Separate project trip distribution patterns and assignments were developed for each analysis hour and also account for typical patterns of some family drivers linking school drop-off and pick-up trips with work trips.[10]

During the combined morning peak hour, which would begin more than an hour ahead of the elementary school start time, the data indicate that about half of the inbound elementary school trips would be arriving staff, and half would be early student drop-offs. Therefore, the distribution of elementary school trips assumes about 40% of inbound trips would originate from outside the enrollment area. The high school would have a larger enrollment area, and inbound trips would be generated predominantly by students being dropped off or driving and parking; 10% of inbound trips generated by the high school during the combined morning peak hour were assumed to be generated by staff from outside the enrollment area.

For the combined afternoon peak hour, which would begin about 40 minutes before the elementary school dismissal, it is expected that all elementary school trips would be generated by student pick-up activity. The high school generated trips are expected to be generally similar to the morning pattern but in reverse direction—with about 10% of outbound trips assumed to be staff departures to destinations outside the enrollment area.

For the commuter PM peak hour, most trips generated by both schools are expected to be generated by student pick-up activity. A small number of trips departing the parking lots for each school are assumed to be staff departures to destinations outside the respective enrollment areas. For the elementary school, this was assumed to be all trips not associated with student pick-up (estimated to be 5). For the high school, this was estimated to be about 25% of trips not associated with student pick-up (estimated to be 7).

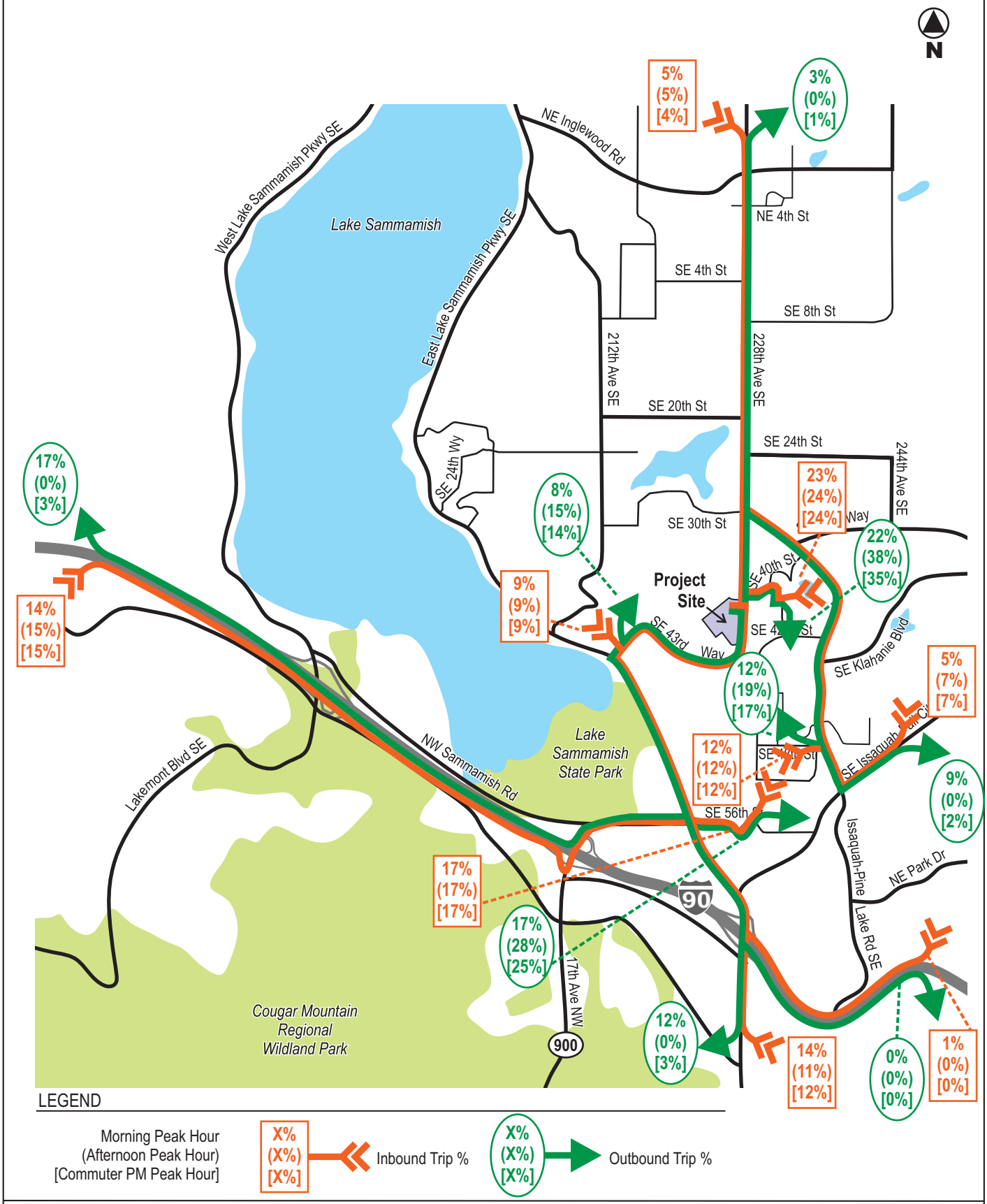
The project trip distribution patterns during for the elementary school are shown on **Figure 8**, and the corresponding trip assignments to the street network are shown on **Figure 9.** The project trip distribution patterns for the high school are shown on **Figure 10**, and the corresponding trip assignments to the street network are shown on **Figure 11.** The figures show the trip distribution and assignments for each school during the combined morning peak hour, combined afternoon peak hour, and commuter PM peak hour, as previously described. **Figure 12** shows the total trip assignments for the combined schools for each peak hour and **Figure 13** shows the total peak hour trips projected at the site access..

---

8 Peak hour traffic counts on 228th Avenue SE were conducted by Idax Data Solutions on Tuesday, October 1, through Thursday October 3, 2019.

9 Google Maps, https://www.google.com/maps, Accessed November 2019.

10 The estimated portion of total trips expected to be new trips, and not trips linked to existing trips on the street system, was based upon a pass-by trip study conducted for the Northshore School District (Gibson Traffic Consultants, *ITE School Pass-By Report*, January 2012). The study was based upon surveys conducted of parents at four Northshore elementary and middle schools. It found that in the morning, an average of 58% of trips generated at the school were primary (new) trips, and 42% were linked to existing trips that would occur with or without the school activity. In the afternoon, an average of 62% of trips generated at the school were primary (new) trips, and 38% were linked to existing trips that would occur with or without the school activity.

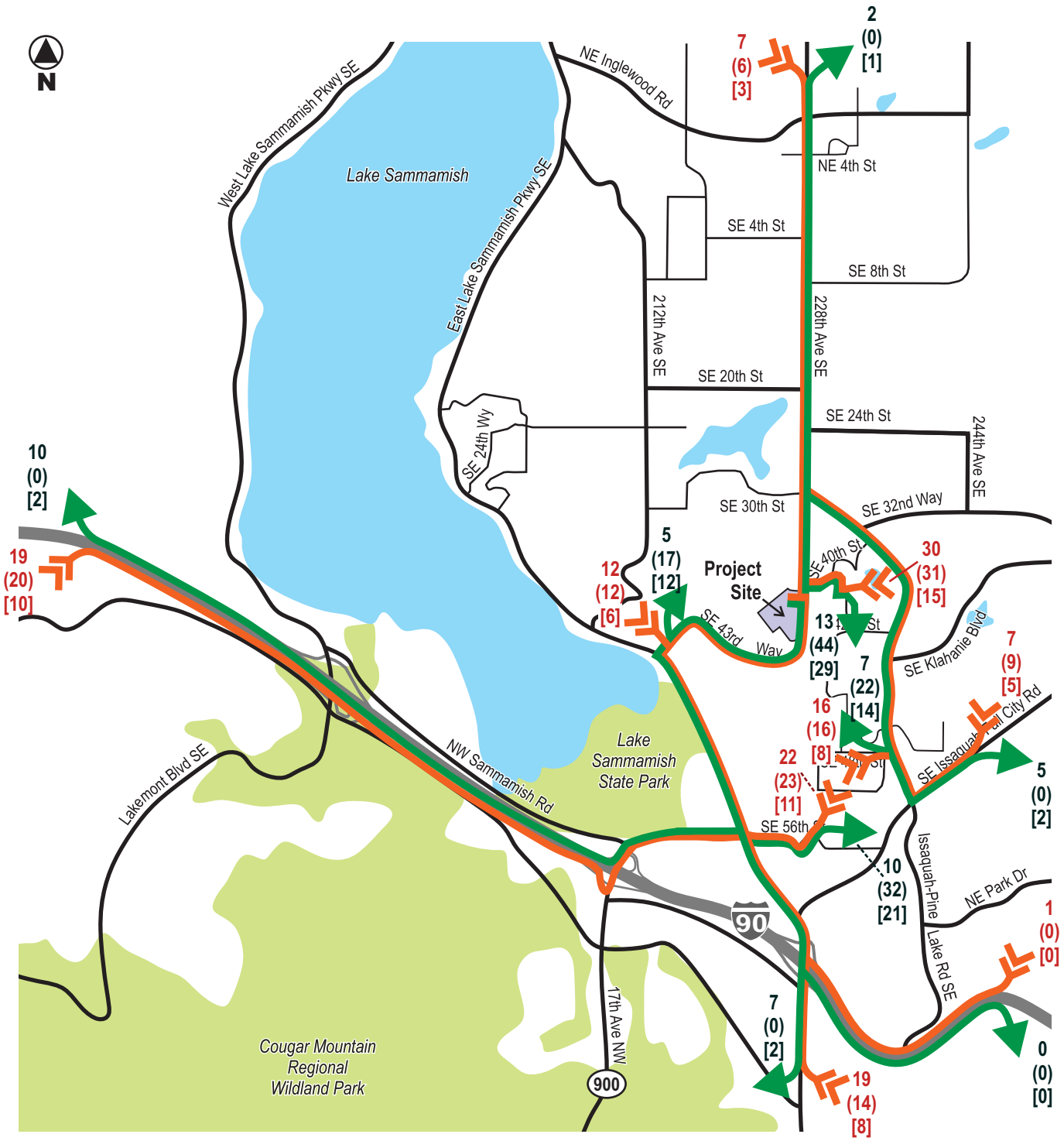


High School #4
Elementary #17

Figure 8
Trip Distribution for Elementary School
Morning, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20



LEGEND

Combined Morning Peak Hour
Combined Afternoon Peak Hour
Commuter PM Peak Hour

XX (XX) [XX] Inbound Volume

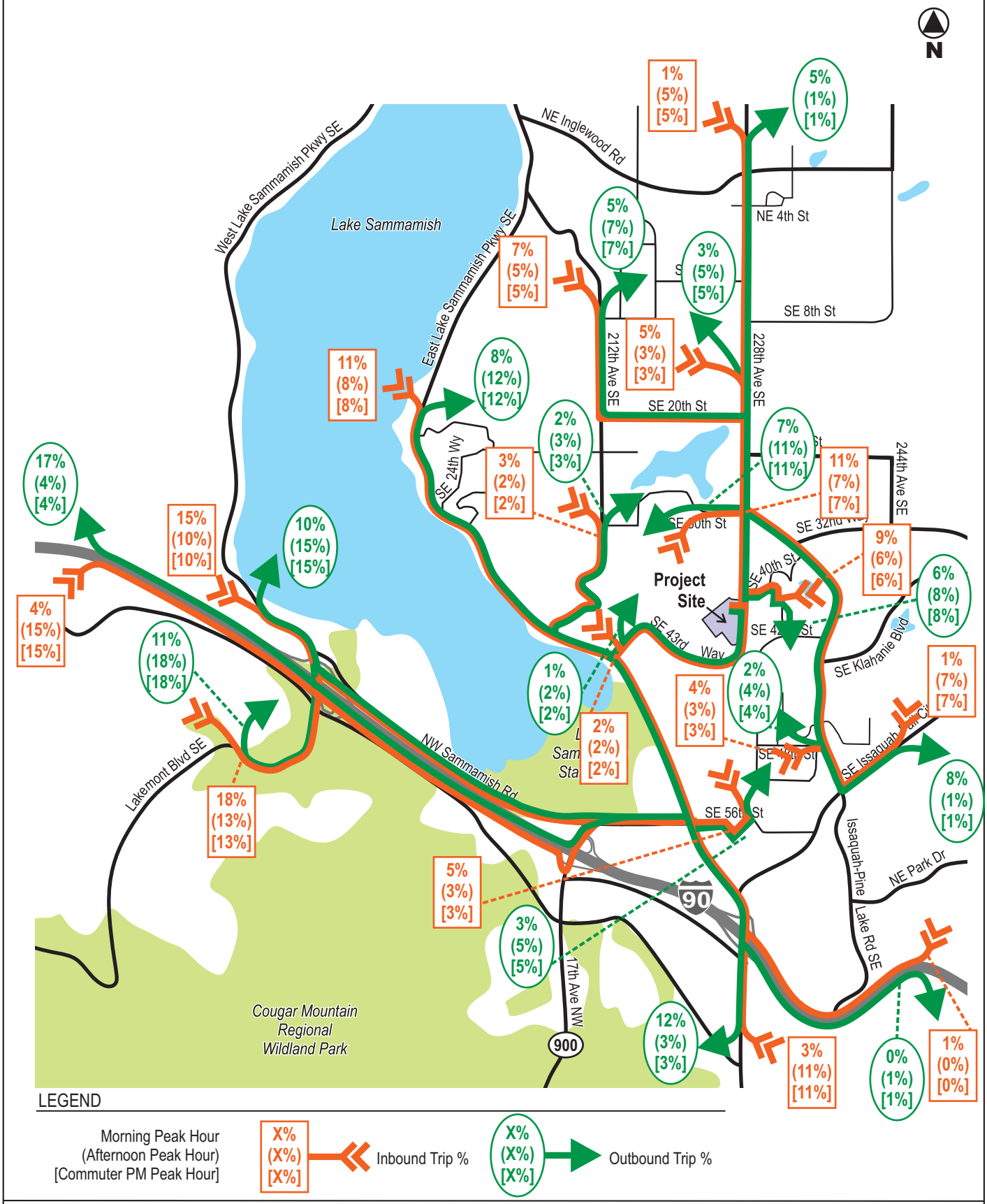
XX (XX) [XX] Outbound Volume

High School #4
Elementary #17

Figure 9
Trip Assignments for Elementary School
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

07.27.20

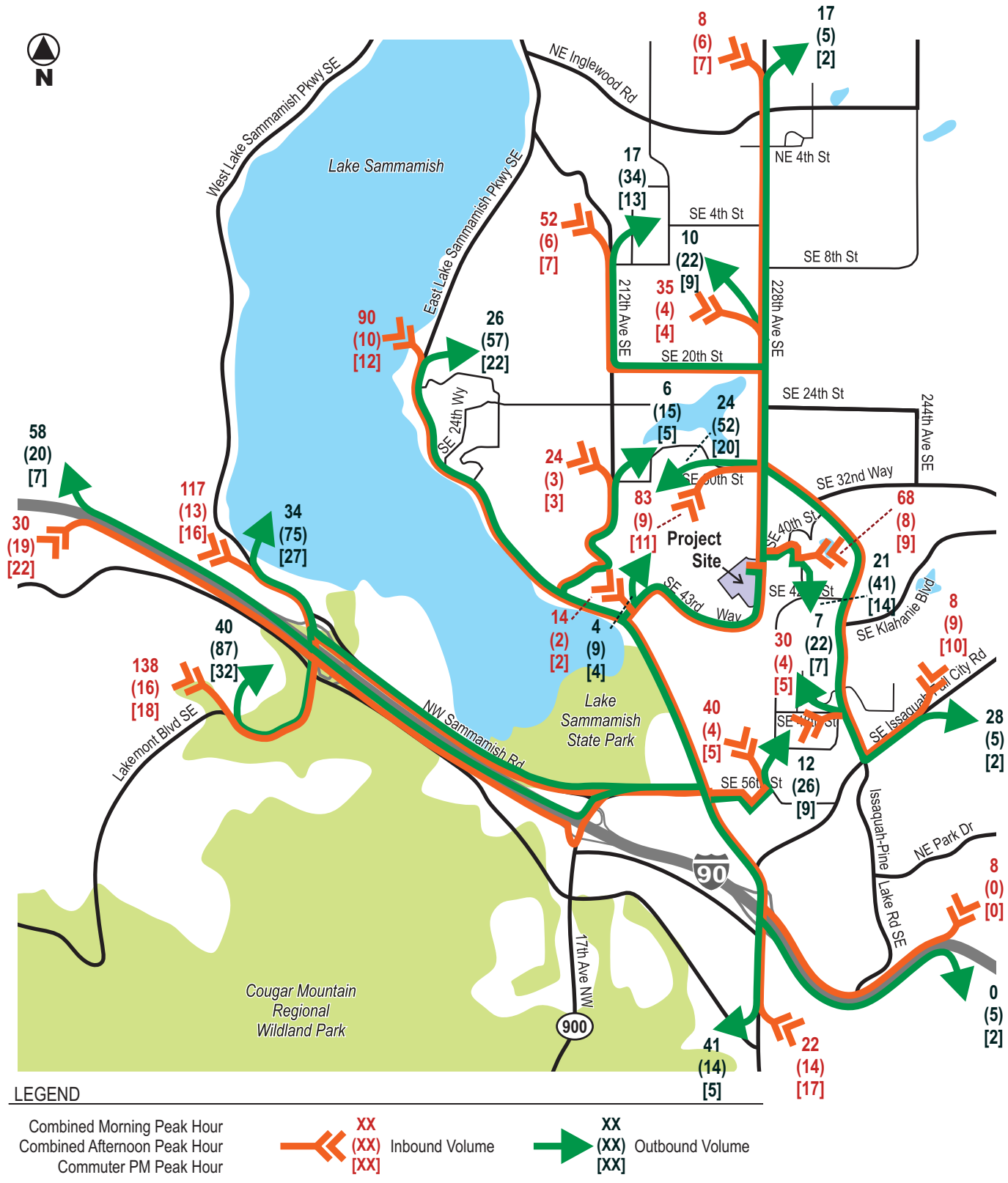


High School #4
Elementary #17

Figure 10
Trip Distribution for High School
Morning, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20

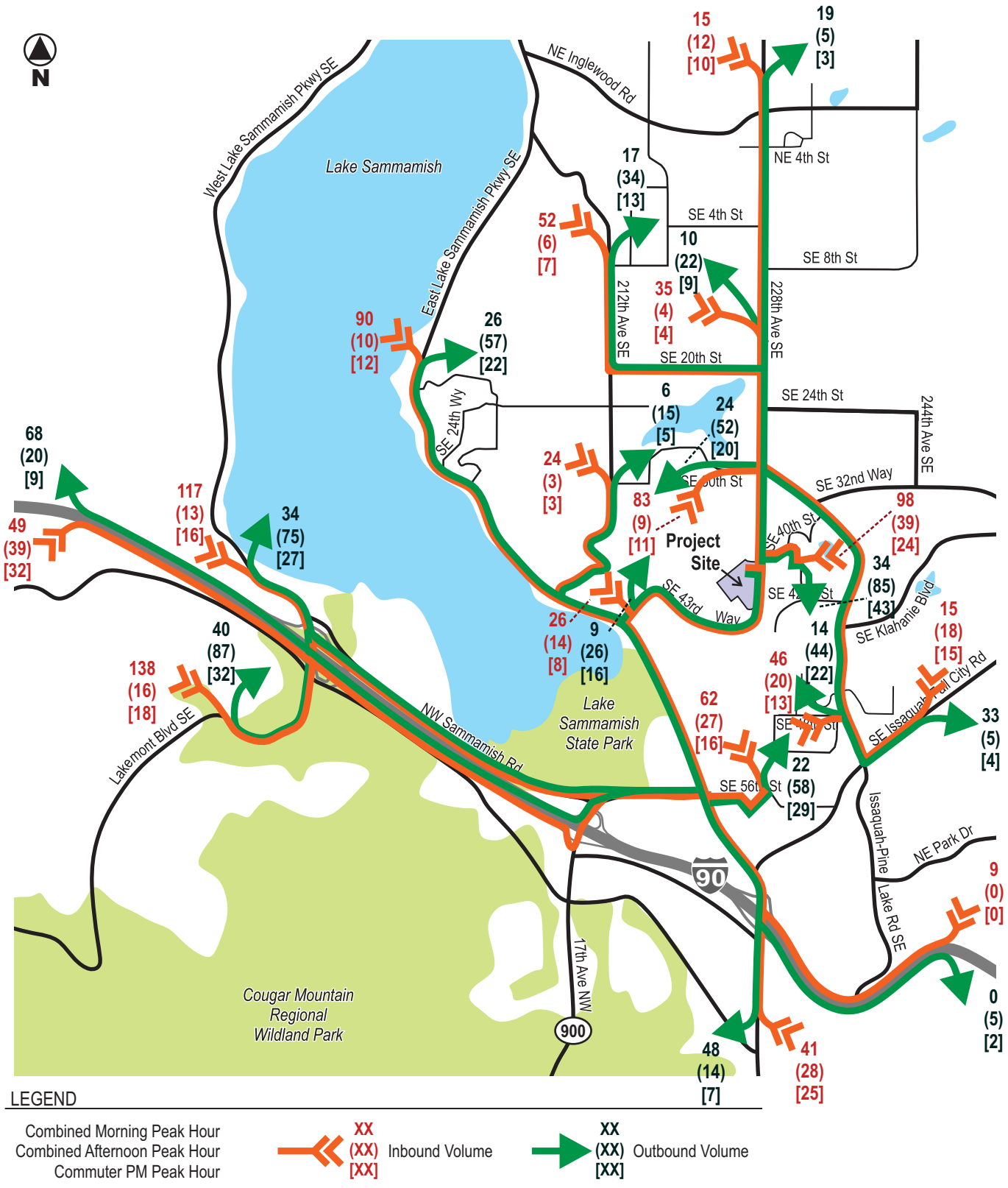


High School #4
Elementary #17

Figure 11
Trip Assignments for High School
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

07.27.20

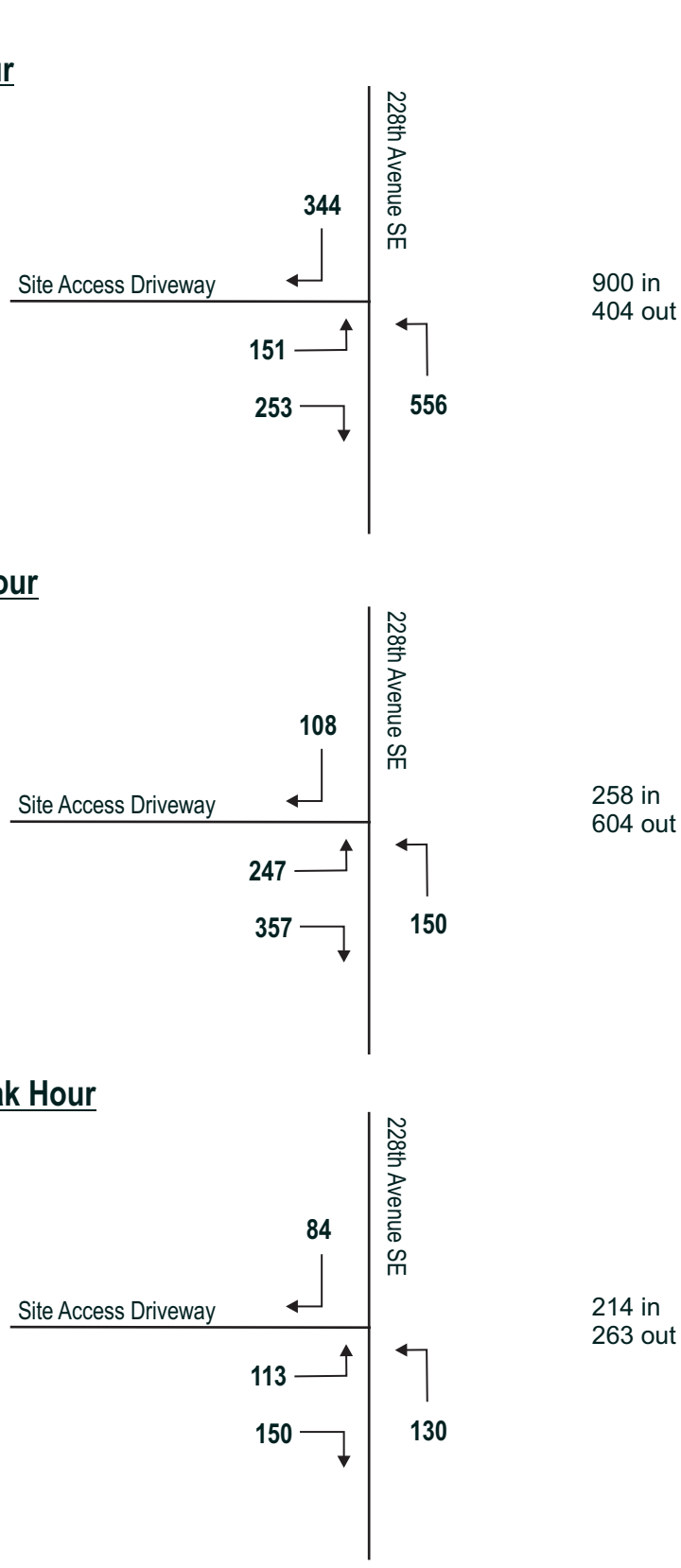


High School #4
Elementary #17

Figure 12
Trip Assignments for Combined Schools
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

07.27.20



High School #4
Elementary #17

Figure 13
School Trips at Site Access Driveway
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

07.27.20

PRJ19-00008 Attachment 060

6. Shifted School-Generated Trips

It is important to note that if the proposed schools are not constructed, the students living in the enrollment areas would still need to attend a different school, and therefore, would still generate trips to and from the schools they would otherwise attend. Additionally, morning drop-off trips and afternoon pick-up trips linked to work trips would also still occur. Therefore, while the school-generated trips shown on the figures would be new trips at and near the site access location, and would affect traffic volumes in the vicinity of the site, farther away from the site most would not be new trips on the street system.

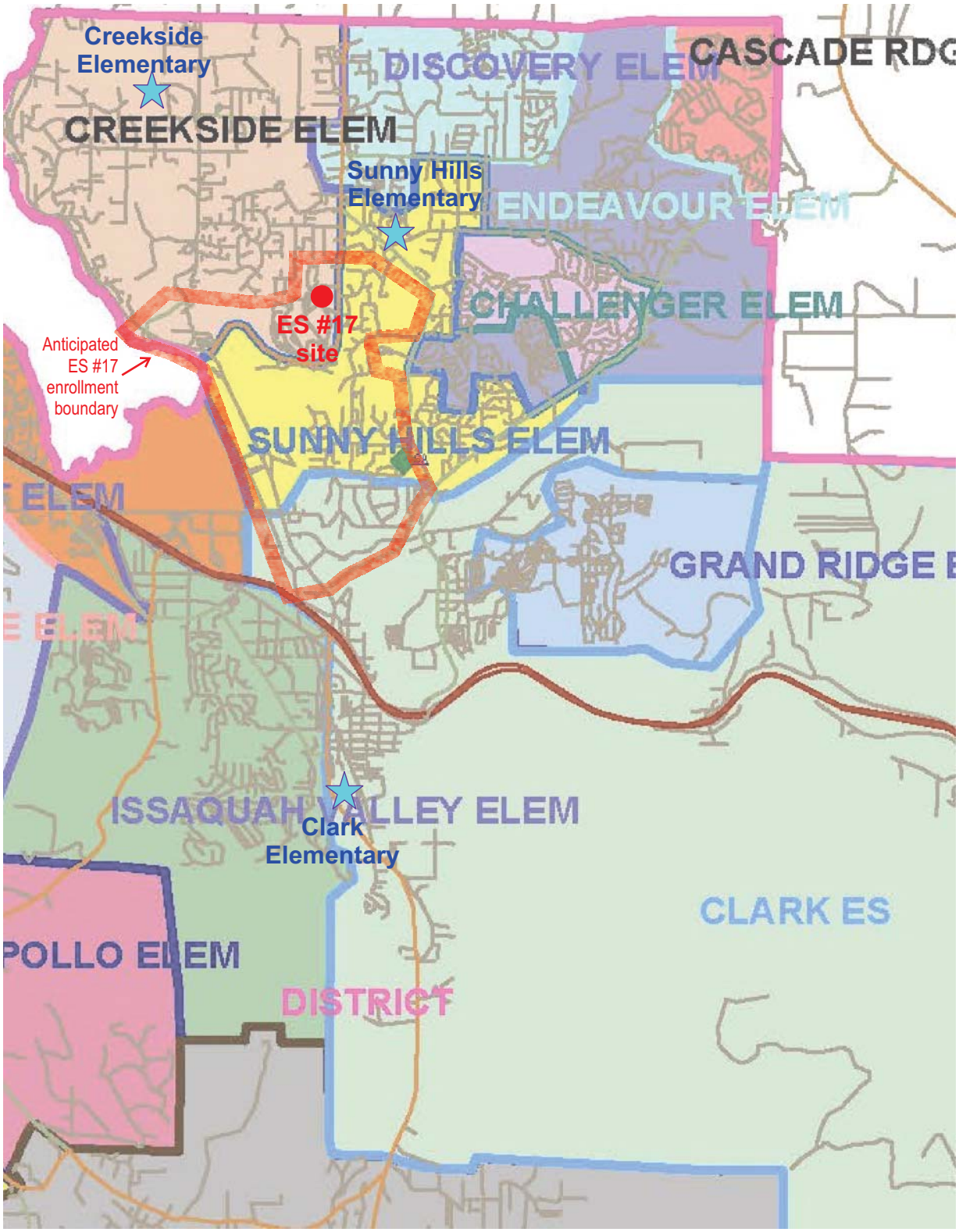
The overlap between the anticipated boundary for the proposed new schools and existing school boundaries are shown on **Figure 14** for the elementary school and **Figure 15** for the high school. Based upon the relative residential densities in the overlap areas, it is expected that the enrollment for Elementary School #17 would be comprised of about 57% from Sunny Hills Elementary, 28% from Clark Elementary, and 15% from Creekside Elementary. The trips that would be generated by the additional students at these schools if the proposed project is not constructed are shown on **Figure 16**, **Figure 17**, and **Figure 18**, respectively.

The enrollment for High School #4 would be comprised of about 50% from Skyline and 50% from Issaquah. The trips that would be generated by the additional students at these schools if the proposed project is not constructed are shown on **Figure 19** and **Figure 20**, respectively.

With the new schools in place, the trips generated by these students would be shifted from these existing schools that they would otherwise attend. Future traffic forecasts and operational analysis completed for the project reflect the shifts that would occur with and without the project.

JAB/mch

Attachment: School Trip Generation Count Data



Source: Issaquah School District, April 2020

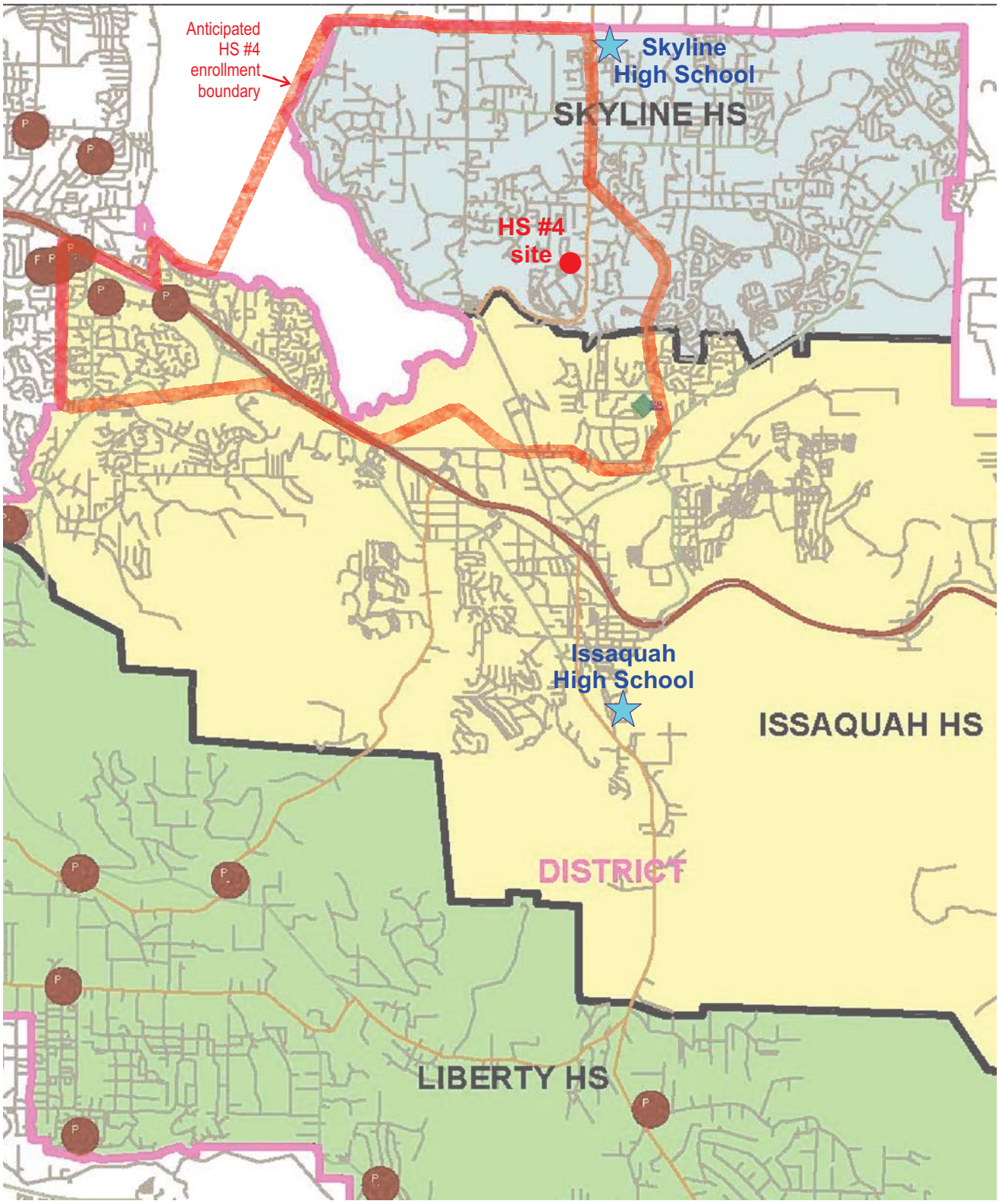
High School #4
Elementary #17

Figure14

Elementary School Boundary Overlap

heffron transportation inc

06.09.20



Source: Issaquah School District, April 2020

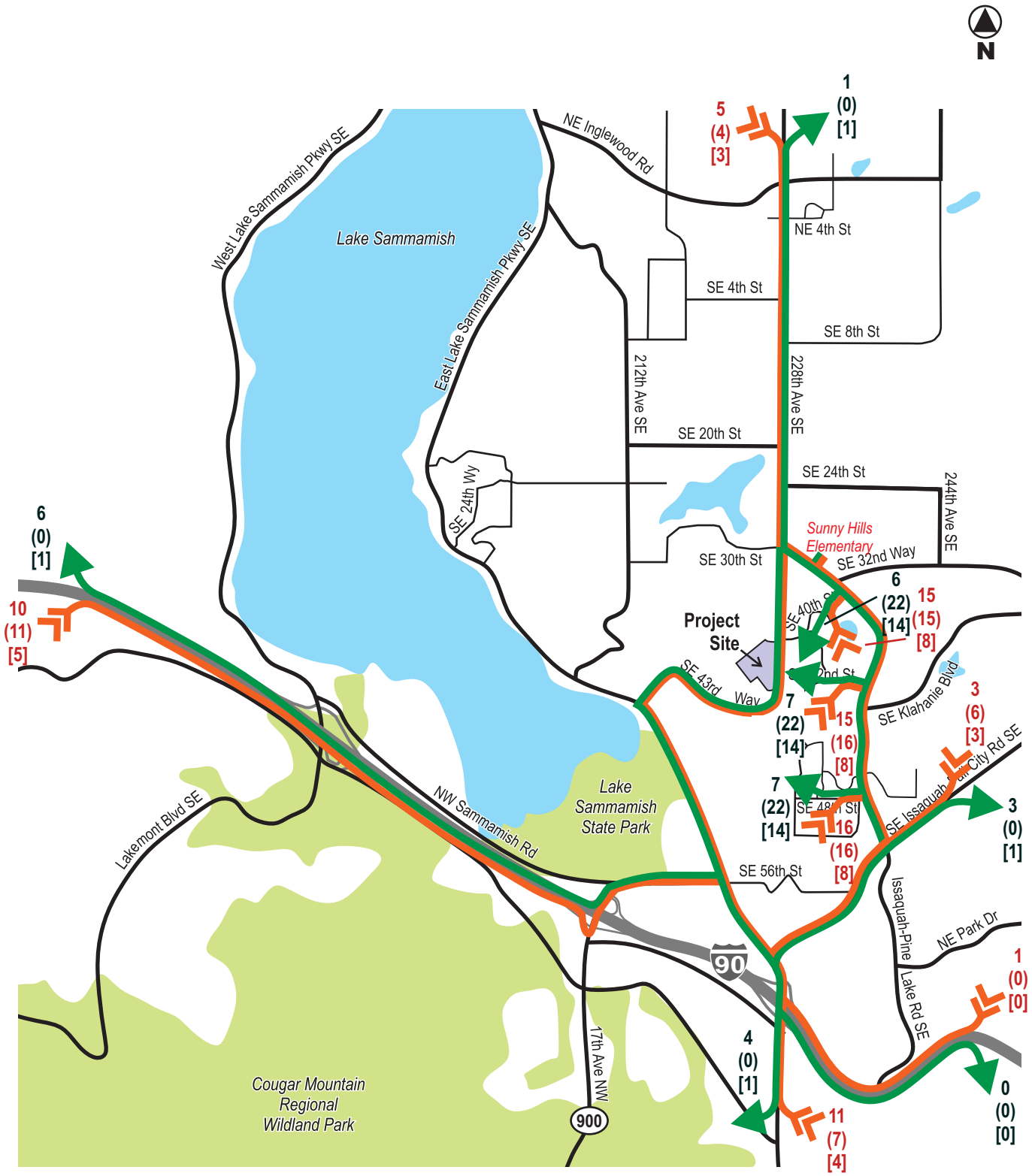
High School #4
Elementary #17

Figure 15

High School Boundary Overlap

heffron transportation inc

06.09.20



LEGEND

Combined Morning Peak Hour
Combined Afternoon Peak Hour
Commuter PM Peak Hour

XX (XX) [XX] Inbound Volume

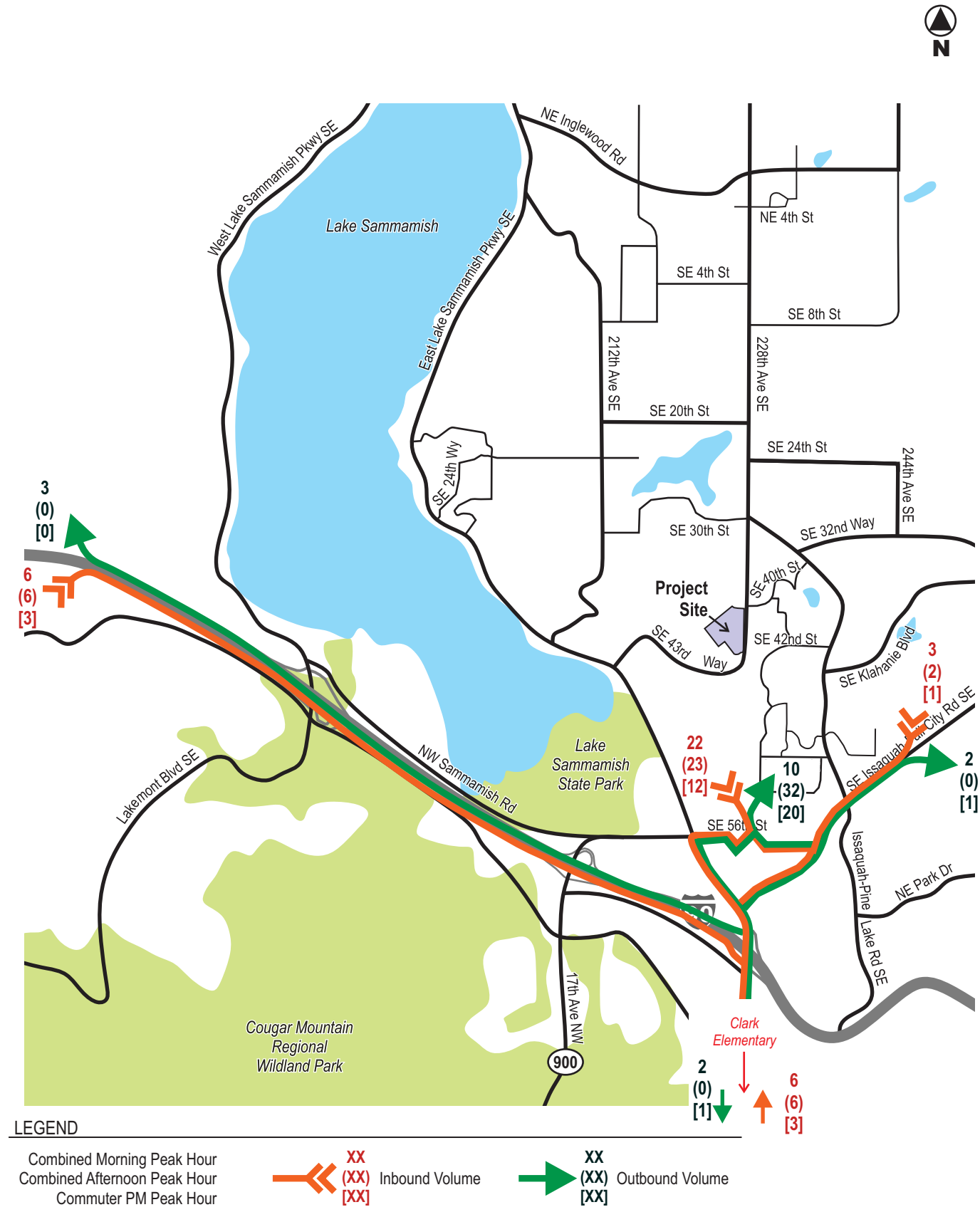
XX (XX) [XX] Outbound Volume

High School #4
Elementary #17

Figure 16
Trips Removed from Sunny Hills Elementary
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20



High School #4
Elementary #17

Figure 17
Trips Removed from Clark Elementary
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20

High School #4
Elementary #17

Figure 18
Trips Removed from Creekside Elementary
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

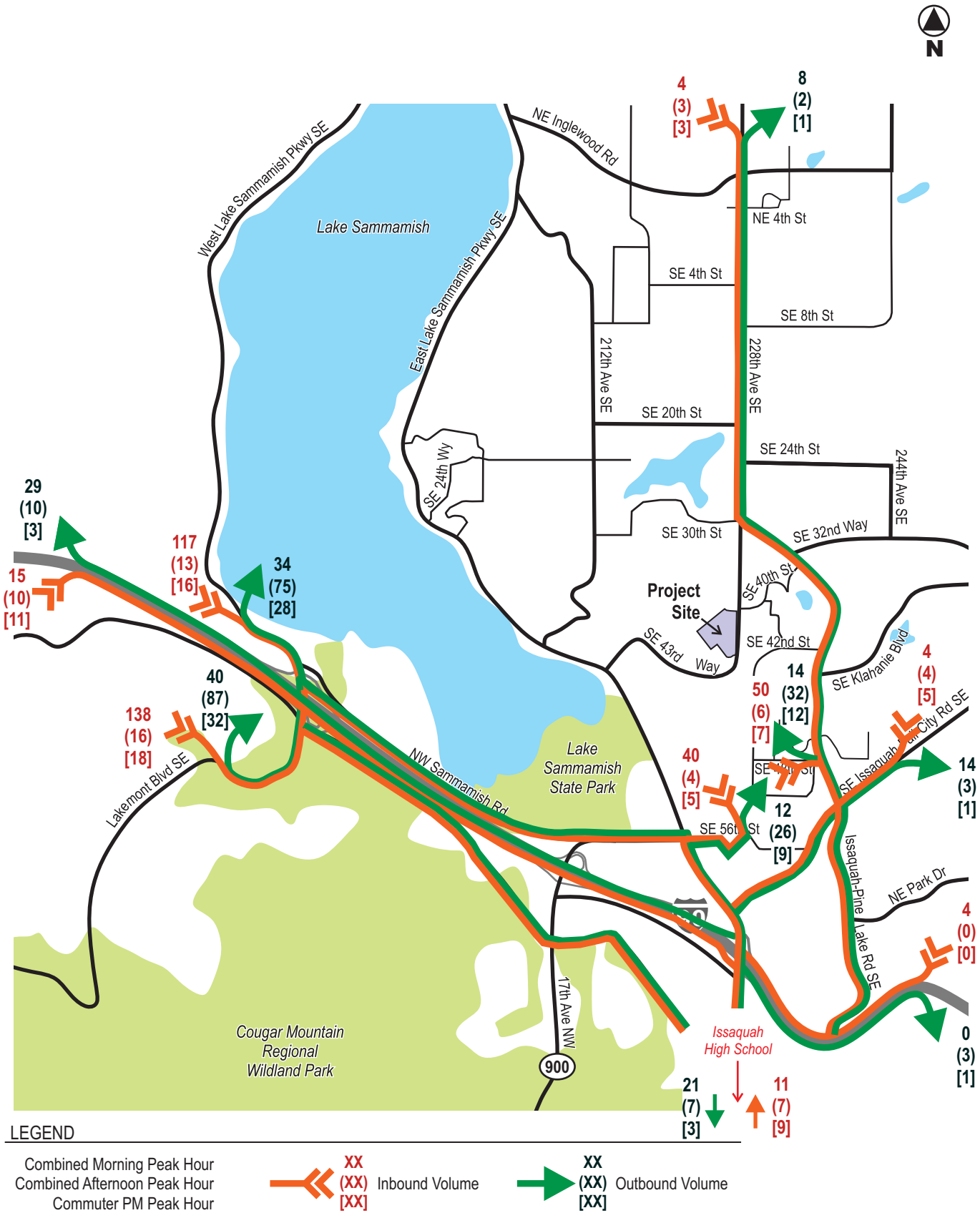
06.09.20

High School #4
Elementary #17

Figure 19
Trips Removed from Skyline High School
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20



High School #4
Elementary #17

Figure 20
Trips Removed from Issaquah High School
Combined AM, Afternoon, & PM Peak Hours

heffron transportation inc

06.09.20

PRJ19-00008 Attachment 060

ATTACHMENT
SCHOOL TRIP GENERATION COUNT DATA

PRJ19-00008 Attachment 060

Summary of Driveway Trips
Discovery Elementary School

	Tuesday, October 1, 2019			Thursday, October 3, 2019			Average of Tues & Thurs		
Time	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
7:30 AM	13	2	15	13	6	19	13	4	17
7:45 AM	22	2	24	24	6	30	23	4	27
8:00 AM	23	12	35	63	47	110	43	30	73
8:15 AM	24	8	32	25	25	50	17	17	33
8:30 AM	8	8	16	17	6	23	36	14	50
8:45 AM	55	21	76	35	12	47	56	45	100
9:00 AM	76	77	153	69	70	139	37	51	88
9:15 AM	5	32	37	5	24	29	5	28	33
2:00 PM	4	6	10	2	6	8	3	6	9
2:15 PM	5	3	8	4	4	8	5	4	8
2:30 PM	6	4	10	2	1	3	4	3	7
2:45 PM	6	2	8	11	5	16	9	4	12
3:00 PM	7	2	9	13	2	15	10	2	12
3:15 PM	36	3	39	31	5	36	34	4	38
3:30 PM	23	21	44	25	21	46	24	21	45
3:45 PM	14	58	72	16	64	80	15	61	76
4:00 PM	4	26	30	9	22	31	7	24	31
4:15 PM	5	10	15	4	16	20	5	13	18
4:30 PM	14	14	28	13	15	28	14	15	28
4:45 PM	16	30	46	22	15	37	19	23	42
5:00 PM	16	20	36	12	31	43	14	26	40
5:15 PM	11	13	24	12	13	25	12	13	25
5:30 PM	13	19	32	16	9	25	15	14	29
5:45 PM	9	13	22	6	6	12	8	10	17
6:00 PM	9	11	20	6	12	18	8	12	19
6:15 PM	5	8	13	4	7	11	5	8	12
6:30 PM	3	13	16	2	6	8	3	10	12
6:45 PM	1	4	5	1	4	5	1	4	5
7:00 PM	0	0	0	1	1	2	1	1	1
7:15 PM	1	1	2	0	1	1	1	1	2
7:30 PM	2	0	2	0	0	0	1	0	1
7:45 PM	0	0	0	2	2	4	1	1	2

Peak Hour Conditions

Summary of Driveway Trips
Sunny Hills Elementary

Time	Tuesday, October 1, 2019			Thursday, October 3, 2019			Average of Tues & Thurs		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
7:30 AM	7	0	7	15	5	20	11	3	14
7:45 AM	11	5	16	11	4	15	11	5	16
8:00 AM	24	4	28	47	19	66	36	12	47
8:15 AM	25	10	35	55	40	95	38	22	59
8:30 AM	20	3	23	22	12	34	29	15	44
8:45 AM	35	18	53	26	13	39	59	54	112
9:00 AM	91	94	185	98	87	185	55	57	112
9:15 AM	12	27	39	12	29	41	12	28	40
2:00 PM	2	1	3	1	4	5	2	3	4
2:15 PM	4	4	8	9	1	10	7	3	9
2:30 PM	5	5	10	4	2	6	5	4	8
2:45 PM	7	5	12	6	5	11	7	5	12
3:00 PM	25	4	29	26	3	29	26	4	29
3:15 PM	42	7	49	41	6	47	42	7	48
3:30 PM	27	23	50	17	20	37	22	22	44
3:45 PM	13	77	90	17	89	106	15	83	98
4:00 PM	3	26	29	6	23	29	5	25	29
4:15 PM	8	15	23	12	17	29	10	16	26
4:30 PM	11	16	27	14	13	27	13	15	27
4:45 PM	18	20	38	13	29	42	16	25	40
5:00 PM	18	32	50	9	13	22	14	23	36
5:15 PM	5	10	15	16	11	27	11	11	21
5:30 PM	10	16	26	5	12	17	8	14	22
5:45 PM	10	10	20	8	8	16	9	9	18
6:00 PM	11	15	26	7	9	16	9	12	21
6:15 PM	5	3	8	4	6	10	5	5	9
6:30 PM	3	12	15	0	10	10	2	11	13
6:45 PM	0	1	1	0	0	0	0	1	1
7:00 PM	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	1	0	1	1	0	1

Peak Hour Conditions

PRJ19-00008 Attachment 060

Summary of School Trips (Includes Driveways plus Trips to Off-Site Lots)
Skyline High School

	Tuesday, October 1, 2019			Thursday, October 3, 2019			Average of Tues & Thurs		
Time	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
6:30 AM	10	2	12	12	4	16	11	3	14
6:45 AM	27	6	33	34	7	41	31	7	38
7:00 AM	36	4	40	44	5	49	40	5	45
7:15 AM	114	11	125	130	21	151	121	16	137
7:30 AM	346	93	439	334	75	409	340	84	424
7:45 AM	321	147	468	368	132	500	345	140	485
8:00 AM	24	105	129	45	142	187	35	123	158
8:15 AM	14	3	17	29	20	49	22	12	34
2:00 PM	11	28	39	17	43	60	14	36	50
2:15 PM	21	18	39	16	10	26	19	14	33
2:30 PM	57	21	78	54	19	73	56	20	76
2:45 PM	66	85	151	68	94	162	63	58	120
3:00 PM	46	308	354	40	297	337	53	191	244
3:15 PM	29	149	178	23	108	131	35	208	243
3:30 PM	21	40	61	30	67	97	30	108	138
3:45 PM	37	46	83	49	56	105	43	51	94
4:00 PM	31	53	84	51	81	132	41	67	108
4:15 PM	23	39	62	26	40	66	25	40	65
4:30 PM	12	16	28	25	59	84	19	38	57
4:45 PM	12	21	33	44	52	96	28	37	65
5:00 PM	40	30	70	37	66	103	39	48	87
5:15 PM	64	63	127	59	74	133	62	69	131
5:30 PM	41	44	85	25	37	62	33	41	74
5:45 PM	35	33	68	14	44	58	24	38	62
6:00 PM	57	44	101	37	16	53	47	30	77
6:15 PM	51	69	120	55	28	83	53	49	102
6:30 PM	38	49	87	40	17	57	39	33	72
6:45 PM	71	19	90	28	46	74	50	33	83
7:00 PM	181	52	233	38	38	76	110	45	155
7:15 PM	76	69	145	17	25	42	47	47	94
7:30 PM	53	53	106	9	9	18	31	31	62
7:45 PM	24	34	58	8	15	23	16	25	41

Peak Hour Conditions
Afterschool and Evening Events

Summary of School Trips (Includes Driveways plus Trips to On-Street Parking)
Liberty High School

	Tuesday, October 1, 2019			Thursday, October 3, 2019			Average of Tues & Thurs		
Time	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
6:30 AM	6	0	6	11	1	12	9	1	10
6:45 AM	14	5	19	17	6	23	16	6	22
7:00 AM	14	2	16	16	2	18	15	2	17
7:15 AM	72	16	88	98	21	119	85	19	104
7:30 AM	188	53	241	184	57	241	186	55	241
7:45 AM	250	134	384	247	137	384	249	136	385
8:00 AM	26	45	71	28	38	66	27	41	68
8:15 AM	7	10	17	8	7	15	8	9	17
2:00 PM	10	8	18	3	7	10	7	8	15
2:15 PM	9	13	22	9	3	12	9	8	17
2:30 PM	30	14	44	27	9	36	29	12	41
2:45 PM	69	64	133	63	57	120	66	60	126
3:00 PM	28	184	212	30	187	217	29	186	215
3:15 PM	28	52	80	23	52	75	26	52	78
3:30 PM	17	30	47	13	23	36	15	27	42
3:45 PM	13	19	32	18	31	49	16	25	41
4:00 PM	22	20	42	22	24	46	22	22	44
4:15 PM	38	29	67	32	43	75	35	36	71
4:30 PM	30	49	79	30	71	101	30	60	90
4:45 PM	21	27	48	26	28	54	24	28	52
5:00 PM	34	25	59	42	55	97	38	40	78
5:15 PM	10	17	27	33	58	91	22	38	60
5:30 PM	15	23	38	13	23	36	14	23	37
5:45 PM	11	33	44	19	23	42	15	28	43
6:00 PM	12	24	36	3	12	15	8	18	26
6:15 PM	15	46	61	8	2	10	12	24	36
6:30 PM	4	22	26	5	11	16	5	17	22
6:45 PM	3	3	6	9	18	27	6	11	17
7:00 PM	17	17	34	29	24	53	23	21	44
7:15 PM	10	27	37	7	22	29	9	25	34
7:30 PM	7	10	17	0	1	1	4	6	10
7:45 PM	1	2	3	1	5	6	1	4	5

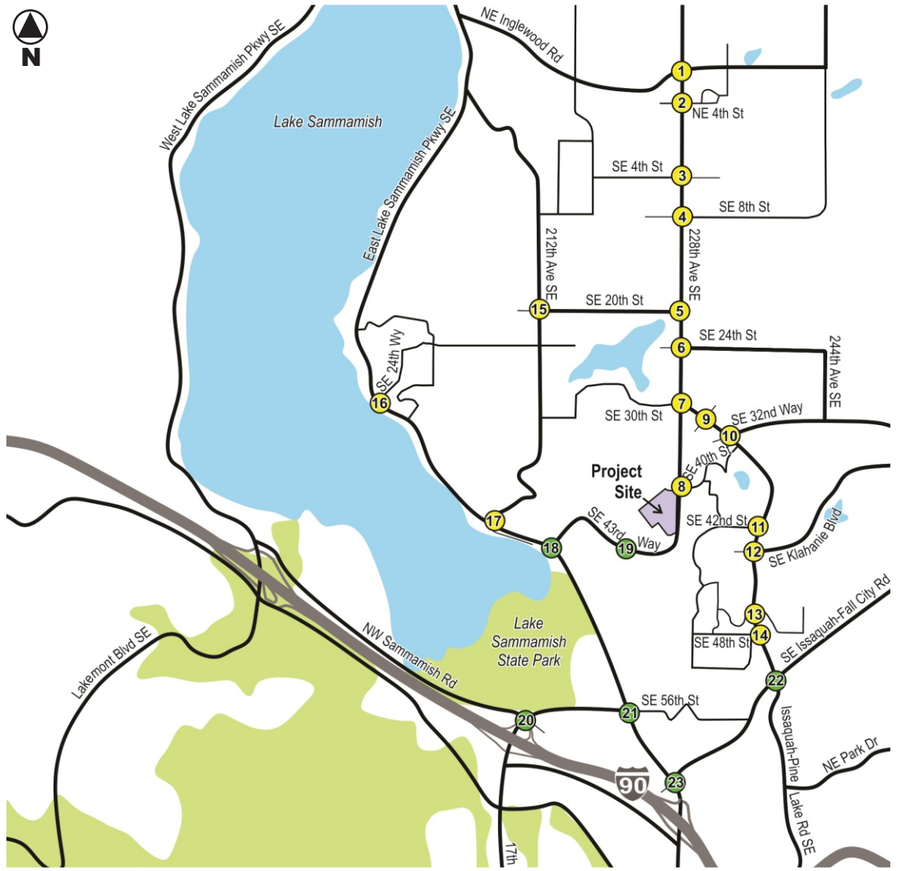
Peak Hour Conditions

PRJ19-00008 Attachment 060

APPENDIX G

TOTAL PROJECT AND SHIFTED TRIPS
WITH PROJECT

September 1, 2020



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[0] [10] [0]		0 (0) [0]
(0) (12) (0)		0 (0) [0]
0 15 0		0 (0) [0]
[0] (0) 0	0 19 0	
[0] (0) 0	(0) (5) (0)	
[0] (0) 0	[0] [3] [0]	

2 228th Ave NE/NE 4th St

[0] [10] [0]		0 (0) [0]
(0) (12) (0)		0 (0) [0]
0 15 0		0 (0) [0]
[0] (0) 0	0 19 0	
[0] (0) 0	(0) (5) (0)	
[0] (0) 0	[0] [3] [0]	

3 228th Ave SE/SE 4th St

[0] [10] [0]		0 (0) [0]
(0) (12) (0)		0 (0) [0]
0 15 0		0 (0) [0]
[0] (0) 0	0 19 0	
[0] (0) 0	(0) (5) (0)	
[0] (0) 0	[0] [3] [0]	

4 228th Ave SE/SE 8th St

[0] [10] [0]		0 (0) [0]
(0) (12) (0)		0 (0) [0]
0 15 0		0 (0) [0]
[0] (0) 0	0 19 0	
[0] (0) 0	(0) (5) (0)	
[0] (0) 0	[0] [3] [0]	

5 228th Ave SE/SE 20th St

[0] [14] [0]		0 (0) [0]
(0) (16) (0)		0 (0) [0]
0 50 0		0 (0) [0]
[0] (0) 0	17 29 0	
[0] (0) 0	(34) (27) (0)	
[7] (6) 52	[13] [12] [0]	

6 228th Ave SE/SE 24th St

[0] [21] [0]		0 (0) [0]
(0) (22) (0)		0 (0) [0]
0 102 0		0 (0) [0]
[0] (0) 0	0 46 0	
[0] (0) 0	(0) (61) (0)	
[0] (0) 0	[0] [25] [0]	

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[0] [21] [0]		0 (0) [0]
(0) (22) (0)		0 (0) [0]
0 102 0		61 (38) [28]
[0] (0) 0	24 46 47	
[0] (0) 0	(52) (61) (49)	
[11] (9) 83	[20] [25] [25]	

8 228th Ave SE/SE 40th St

[60] [0]		0 (0) [0]
(69) (0)		
246 0		98 (39) [24]
	117 34	
	(162) (85)	
	[70] [43]	

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[0] [25] [0]		0 (0) [0]
(0) (49) (0)		0 (0) [0]
0 47 0		0 (0) [0]
[0] (0) 0	0 61 0	
[0] (0) 0	(0) (38) (0)	
[0] (0) 0	[0] [28] [0]	

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[0] [25] [0]		0 (0) [0]
(0) (49) (0)		0 (0) [0]
0 47 0		0 (0) [0]
[0] (0) 0	0 61 0	
[0] (0) 0	(0) (38) (0)	
[0] (0) 0	[0] [28] [0]	

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[0] [25]		
(0) (49)		
0 47		
[0] (0) 0	0 61	
	(0) (38)	
[0] (0) 0	[0] [28]	

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[0] [25] [0]		0 (0) [0]
(0) (49) (0)		0 (0) [0]
0 47 0		0 (0) [0]
[0] (0) 0	0 61 0	
[0] (0) 0	(0) (38) (0)	
[0] (0) 0	[0] [28] [0]	

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[3] [20] [0]		0 (0) [0]
(10) (29) (0)		0 (0) [0]
3 42 0		0 (0) [0]
[1] (2) 5	0 51 0	
[0] (0) 0	(0) (34) (0)	
[0] (0) 0	[0] [25] [0]	

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[16] [4]		
(24) (5)		
9 33		
[10] (16) 36	0 15	
	(0) (18)	
[0] (0) 0	[0] [15]	

15 212th Ave SE/SE 20th St

[0] [0] [7]		17 (34) [13]
(0) (0) (6)		0 (0) [0]
0 0 52		0 (0) [0]
[0] (0) 0	0 0 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[12] [0]		0 (0) [0]
(10) (0)		
90 0		0 (0) [0]
	26 0	
	(57) (0)	
	[22] [0]	

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[0] [0] [3]		6 (15) [5]
(0) (0) (3)		26 (57) [22]
0 0 24		0 (0) [0]
[0] (0) 0	0 0 0	
[12] (10) 90	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[27] [115]		416 (123) [107]
(72) (273)		0 (0) [0]
32 238		
[15] (13) 114		
[0] (0) 0		

19 Providence Point Dr SE/ SE 43rd Way

[0] [0] [0]		
(0) (0) (0)		253 (357) [150]
0 0 0		0 (0) [0]
[0] (0) 0	0 0 0	
[130] (150) 556	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

20 NW Sammamish Rd/ 17th Ave NW

[27] [0] [0]		0 (0) [0]
(75) (0) (0)		0 (0) [0]
34 0 0		0 (0) [0]
[16] (13) 117	0 187 0	
[0] (0) 0	(0) (55) (0)	
[0] (0) 0	[0] [50] [0]	

21 E Lake Sammamish Pkwy SE/ SE 56th St

[68] [9] [30]		62 (27) [16]
(182) (19) (58)		0 (0) [0]
142 48 22		0 (0) [0]
[66] (68) 304	0 50 0	
[0] (0) 0	(0) (28) (0)	
[0] (0) 0	[0] [25] [0]	

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[0] [0] [4]		15 (18) [15]
(0) (0) (5)		0 (0) [0]
0 0 33		0 (0) [0]
[0] (0) 0	0 0 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

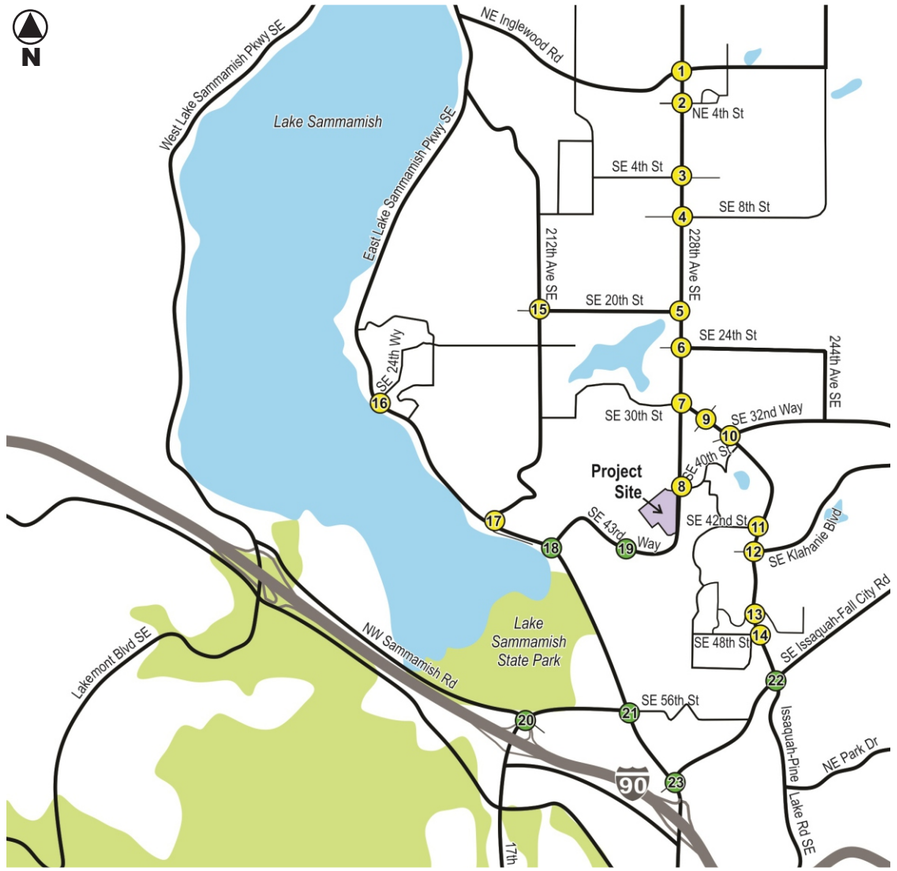
[0] [9] [0]		0 (0) [0]
(0) (19) (0)		0 (0) [0]
0 48 0		0 (0) [0]
[0] (0) 0	0 50 0	
[0] (0) 0	(0) (28) (0)	
[0] (0) 0	[0] [25] [0]	

High School #4
Elementary #17

Figure G-1
HS4/ES17 Total Project Trips
AM, Afternoon and Commuter PM Peak Periods

heffron transportation inc

08.15.20



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[0] [7] [0]
(0) (6) (0)
0 8 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 17 0
(0) (5) (0)
[0] [2] [0]

2 228th Ave NE/NE 4th St

[0] [7] [0]
(0) (6) (0)
0 8 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 17 0
(0) (5) (0)
[0] [2] [0]

3 228th Ave SE/SE 4th St

[0] [7] [0]
(0) (6) (0)
0 8 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[12] (10) 57

30 17 0
(65) (5) (0)
[22] [2] [0]

4 228th Ave SE/SE 8th St

[0] [3] [16]
(0) (3) (13)
0 16 45

25 (48) [18]
0 (0) [0]
73 (109) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 22 0
(0) (22) (0)
[0] [6] [0]

5 228th Ave SE/SE 20th St

[14] [49] [0]
(32) (125) (0)
14 113 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[8] (7) 95
[0] (0) 0
[0] (0) 0

0 201 0
(0) (42) (0)
[0] [45] [0]

6 228th Ave SE/SE 24th St

[0] [49] [0]
(0) (125) (0)
0 113 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 201 0
(0) (42) (0)
[0] [46] [0]

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[20] [28] [1]
(52) (71) (2)
24 71 18

12 (5) [5]
0 (0) [0]
0 (0) [0]

[11] (9) 83
[0] (0) 0
[0] (0) 0

0 106 0
(0) (28) (0)
[0] [30] [0]

8 228th Ave SE/SE 40th St

[13] [12]
(37) (31)
57 14

48 (6) [6]
0 (0) [0]

58 0
(20) (0)
[23] [0]

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[0] [4] [0]
(0) (5) (0)
0 18 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 12 0
(0) (7) (0)
[0] [6] [0]

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[0] [4] [0]
(0) (5) (0)
0 18 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 12 0
(0) (7) (0)
[0] [6] [0]

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[0] [4]
(0) (5)
0 18

[0] (0) 0
[0] (0) 0

0 12
(0) (7)
[0] [6]

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[0] [4] [0]
(0) (5) (0)
0 18 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 12 0
(0) (7) (0)
[0] [6] [0]

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[0] [4] [0]
(0) (5) (0)
0 18 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[2] (1) 6

3 12 0
(6) (7) (0)
[3] [6] [0]

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[0] [6]
(0) (6)
0 24

[0] (0) 0
[5] (5) 44

11 15
(26) (13)
[9] [9]

15 212th Ave SE/SE 20th St

[0] [0] [2]
(0) (0) (2)
0 0 17

5 (13) [5]
0 (0) [0]
9 (19) [9]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 0 25
(0) (0) (5)
[0] [0] [6]

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[0] [0]
(0) (0)
0 0

0 (0) [0]
0 (0) [0]

0 0
(0) (0)
[0] [0]

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[0] [0] [2]
(0) (0) (2)
0 0 14

4 (9) [3]
0 (0) [0]
0 (0) [0]

[0] (0) 0
[0] (0) 0
[0] (0) 0

0 0 0
(0) (0) (0)
[0] [0] [0]

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[3] [9]
(9) (21)
4 63

30 (16) [19]
0 (0) [0]

[2] (2) 14
[0] (0) 0

19 Providence Point Dr SE/ SE 43rd Way

[0] [0] [0]
(0) (0) (0)
0 0 0

57 (37) [13]
0 (0) [0]

[0] (0) 0
[23] (20) 58
[0] (0) 0

0 0 0
(0) (0) (0)
[0] [0] [0]

20 NW Sammamish Rd/ 17th Ave NW

[14] [0] [0]
(37) (0) (0)
17 0 0

0 (0) [0]
0 (0) [0]
0 (0) [0]

[8] (7) 59
[0] (0) 0
[0] (0) 0

0 15 0
(0) (9) (0)
[0] [11] [0]

21 E Lake Sammamish Pkwy SE/ SE 56th St

[4] [3] [0]
(10) (9) (0)
29 20 0

0 (0) [0]
0 (0) [0]
20 (2) [3]

[11] (9) 15
[0] (0) 0
[8] (7) 59

17 15 6
(37) (7) (13)
[14] [8] [5]

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[10] [0] [1]
(9) (0) (2)
54 0 14

4 (5) [5]
4 (4) [5]
0 (0) [0]

[13] (34) 22
[1] (3) 14
[0] (0) 0

0 0 0
(0) (0) (0)
[0] [0] [0]

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[0] [14] [0]
(0) (18) (0)
0 99 0

0 (0) [0]
0 (0) [0]
78 (15) [17]

[0] (0) 0
[0] (0) 0
[0] (0) 0

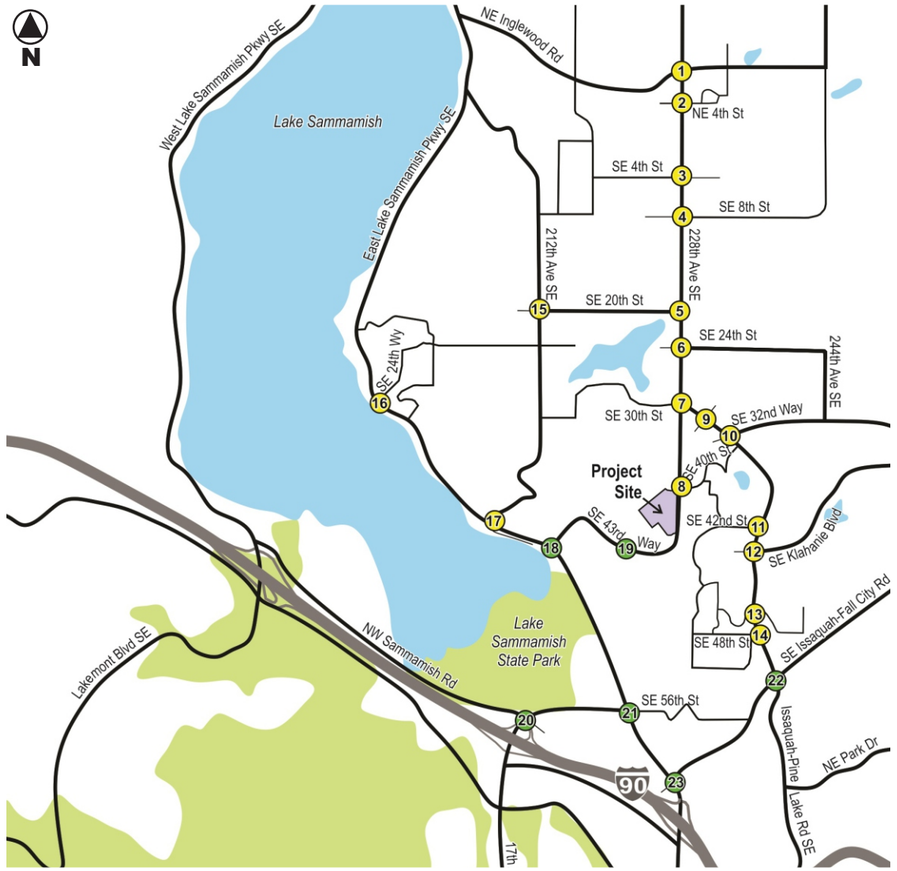
0 38 42
(0) (57) (50)
[0] [27] [18]

High School #4
Elementary #17

Figure G-2
High School Trips Removed with Project
AM, Afternoon and Commuter PM Peak Periods

heffron transportation inc

08.15.20



Legend:

- Sammamish Analysis Intersection
- Issaquah Analysis Intersection

XX Morning Peak Hour Volume
(XX) Afternoon Peak Hour Volume
[XX] Commuter PM Peak Hour Volume

1 228th Ave NE/ NE Inglewood Hill Rd

[0] [3] [0]	0 (0) [0]	
(0) (6) (0)	0 (0) [0]	
0 7 0	0 (0) [0]	
[0] (0) 0	0 2 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

2 228th Ave NE/NE 4th St

[0] [3] [0]	0 (0) [0]	
(0) (6) (0)	0 (0) [0]	
0 7 0	0 (0) [0]	
[0] (0) 0	0 2 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

3 228th Ave SE/SE 4th St

[0] [3] [0]	0 (0) [0]	
(2) (4) (0)	0 (0) [0]	
2 5 0	0 (0) [0]	
[0] (0) 1	0 1 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

4 228th Ave SE/SE 8th St

[0] [3] [0]	0 (0) [0]	
(0) (4) (0)	0 (0) [0]	
0 5 0	0 (0) [0]	
[0] (0) 0	0 1 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

5 228th Ave SE/SE 20th St

[0] [3] [0]	0 (0) [0]	
(0) (4) (0)	0 (0) [0]	
0 5 0	0 (0) [0]	
[0] (0) 0	0 1 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

6 228th Ave SE/SE 24th St

[0] [3] [0]	0 (0) [0]	
(0) (4) (0)	0 (0) [0]	
0 5 0	0 (0) [0]	
[0] (0) 0	0 1 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

7 228th Ave SE/ Issaquah-Pine Lake Rd SE

[0] [0] [3]	1 (0) [1]	
(0) (0) (4)	0 (0) [0]	
0 0 5	6 (0) [1]	
[0] (0) 0	0 0 10	
[0] (0) 0	(0) (0) (11)	
[0] (0) 0	[0] [0] [5]	

8 228th Ave SE/SE 40th St

[1] [0]	0 (0) [0]	
(0) (0)		
6 0	0 (0) [0]	
	10 0	
	(11) (0)	
	[5] [0]	

9 Issaquah-Pine Lake Rd SE/ 230th Ln SE

[0] [5] [0]	0 (0) [0]	
(0) (11) (0)	0 (0) [0]	
0 10 0	0 (0) [0]	
[0] (0) 0	0 6 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

10 Issaquah-Pine Lake Rd SE/ SE 32nd Way

[0] [44] [0]	0 (0) [0]	
(0) (66) (0)	0 (0) [0]	
0 27 0	0 (0) [0]	
[0] (0) 0	0 61 0	
[0] (0) 0	(0) (60) (0)	
[0] (0) 0	[0] [31] [0]	

11 Issaquah-Pine Lake Rd SE/ SE 42nd St

[14] [16]		
(22) (22)		
7 14		
[8] (16) 15	0 31	
	(0) (29)	
[0] (0) 0	[0] [15]	

12 Issaquah-Pine Lake Rd SE/ SE Klahanie Blvd

[0] [16] [0]	0 (0) [0]	
(0) (22) (0)	0 (0) [0]	
0 14 0	0 (0) [0]	
[0] (0) 0	0 31 0	
[0] (0) 0	(0) (29) (0)	
[0] (0) 0	[0] [15] [0]	

13 Issaquah-Pine Lake Rd SE/ 238th Way SE

[2] [14] [0]	0 (0) [0]	
(5) (17) (0)	0 (0) [0]	
2 12 0	0 (0) [0]	
[2] (6) 6	0 25 0	
[0] (0) 0	(0) (23) (0)	
[0] (0) 0	[0] [13] [0]	

14 Issaquah-Pine Lake Rd SE/ SE 48th St

[12] [2]		
(17) (0)		
5 7		
[6] (10) 10	0 15	
	(0) (13)	
[0] (0) 0	[0] [7]	

15 212th Ave SE/SE 20th St

[0] [12] [0]	0 (0) [0]	
(0) (17) (0)	0 (0) [0]	
0 7 0	0 (0) [0]	
[0] (0) 0	0 1 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [1] [0]	

16 E Lake Sammamish Pkwy SE/ SE 24th Way

[0] [0]	0 (0) [0]	
(0) (0)		
0 0	0 (0) [0]	
	0 0	
	(0) (0)	
	[0] [0]	

17 E Lake Sammamish Pkwy SE/ 212th Way SE

[0] [0] [12]	18 (17) [10]	
(0) (0) (17)	0 (0) [0]	
0 0 7	0 (0) [0]	
[0] (0) 0	0 0 0	
[0] (0) 0	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

18 E Lake Sammamish Pkwy SE/ SE 43rd Way

[0] [1]	10 (11) [5]	
(0) (0)	6 (5) [4]	
0 6		
[11] (17) 5		
[1] (0) 2		

19 Providence Point Dr SE/ SE 43rd Way

[0] [0] [0]	0 (0) [0]	
(0) (0) (0)	6 (0) [1]	
0 0 0	0 (0) [0]	
[0] (0) 0	0 0 0	
[5] (11) 10	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

20 NW Sammamish Rd/ 17th Ave NW

[0] [0] [0]	0 (0) [0]	
(0) (0) (0)	0 (0) [0]	
0 0 0	0 (0) [0]	
[0] (0) 0	0 13 0	
[0] (0) 0	(0) (14) (0)	
[0] (0) 0	[0] [7] [0]	

21 E Lake Sammamish Pkwy SE/ SE 56th St

[2] [0] [0]	0 (0) [0]	
(0) (0) (0)	0 (0) [0]	
7 1 0	11 (12) [6]	
[7] (14) 13	0 3 5	
[0] (0) 0	(0) (2) (16)	
[0] (0) 0	[0] [2] [10]	

22 Issaquah-Pine Lake Rd SE/ SE Issaquah-Fall City Rd

[1] [0] [1]	3 (6) [3]	
(0) (0) (0)	4 (3) [2]	
4 0 3	0 (0) [0]	
[4] (7) 12	0 0 0	
[1] (0) 2	(0) (0) (0)	
[0] (0) 0	[0] [0] [0]	

23 E Lake Sammamish Pkwy SE/ SE Issaquah-Fall City Rd

[0] [6] [0]	0 (0) [0]	
(0) (12) (0)	0 (0) [0]	
0 12 0	18 (13) [8]	
[0] (0) 0	0 7 19	
[0] (0) 0	(0) (17) (23)	
[0] (0) 0	[0] [10] [15]	

High School #4
Elementary #17

Figure G-3
Elementary School Trips Removed with Project
AM, Afternoon and Commuter PM Peak Periods

heffron transportation inc

08.15.20

PRJ19-00008 Attachment 060

APPENDIX H

SITE ACCESS OPERATIONAL AND QUEUING SUMMARY REPORTS

September 1, 2020

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	151	253	556	424	1008	344
Future Volume (vph)	151	253	556	424	1008	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	390			260
Storage Lanes	2	1	1			1
Taper Length (ft)	50		50			
Lane Util. Factor	0.97	1.00	0.91	0.91	0.95	1.00
Ped Bike Factor		0.96	0.99	1.00		0.96
Frt		0.850				0.850
Flt Protected	0.950		0.950	0.976		
Satd. Flow (prot)	3434	1529	1511	3135	3370	1375
Flt Permitted	0.950		0.950	0.976		
Satd. Flow (perm)	3434	1472	1502	3127	3370	1321
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		10				22
Link Speed (mph)	25			40	40	
Link Distance (ft)	431			1211	380	
Travel Time (s)	11.8			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.63	0.63	0.63	0.92	0.92	0.63
Heavy Vehicles (%)	4%	4%	4%	2%	2%	8%
Adj. Flow (vph)	240	402	883	461	1096	546
Shared Lane Traffic (%)			50%			
Lane Group Flow (vph)	240	402	441	903	1096	546
Turn Type	Prot	pm+ov	Split	NA	NA	pm+ov
Protected Phases	4	2	2	2	6	4
Permitted Phases		4				6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	12.0	12.0	12.0	33.0	33.0
Total Split (s)	33.0	42.0	42.0	42.0	45.0	33.0
Total Split (%)	27.5%	35.0%	35.0%	35.0%	37.5%	27.5%
Maximum Green (s)	28.0	37.0	37.0	37.0	40.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	18.0				18.0	18.0
Pedestrian Calls (#/hr)	20				20	20

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	23.5	63.0	39.5	39.5	42.0	65.5
Actuated g/C Ratio	0.20	0.52	0.33	0.33	0.35	0.55
v/c Ratio	0.36	0.51	0.89	0.88	0.93	0.74
Control Delay	42.4	17.4	59.7	49.0	44.5	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	17.4	59.7	49.0	44.5	23.5
LOS	D	B	E	D	D	C
Approach Delay	26.8			52.5	37.5	
Approach LOS	C			D	D	
Queue Length 50th (ft)	83	162	346	352	428	309
Queue Length 95th (ft)	78	143	316	#508	m428	213
Internal Link Dist (ft)	351			1131	300	
Turn Bay Length (ft)		200	390			260
Base Capacity (vph)	801	830	497	1031	1179	741
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.48	0.89	0.88	0.93	0.74

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 6:SBT, Start of 1st Green, Master Intersection
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 41.2 Intersection LOS: D
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy

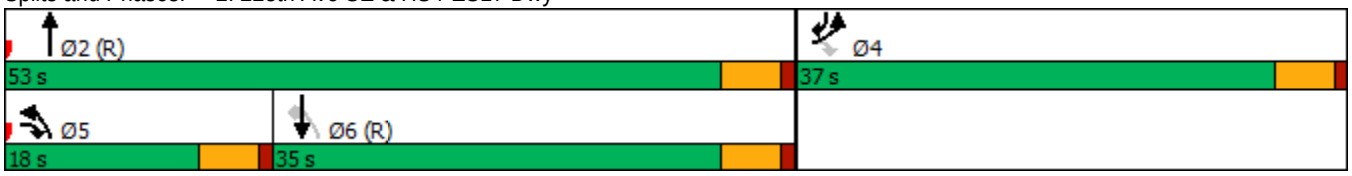
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	247	357	150	887	719	108
Future Volume (vph)	247	357	150	887	719	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	390			260
Storage Lanes	2	1	1			1
Taper Length (ft)	50		50			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.97	0.99			0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3401	1515	1570	3386	3370	1350
Flt Permitted	0.950		0.248			
Satd. Flow (perm)	3401	1468	408	3386	3370	1306
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		39				140
Link Speed (mph)	25			40	40	
Link Distance (ft)	435			1211	381	
Travel Time (s)	11.9			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.69	0.69	0.77	0.92	0.92	0.77
Heavy Vehicles (%)	5%	5%	10%	2%	2%	10%
Adj. Flow (vph)	358	517	195	964	782	140
Shared Lane Traffic (%)						
Lane Group Flow (vph)	358	517	195	964	782	140
Turn Type	Prot	pm+ov	D.P+P	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4	6			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	33.0	12.0	12.0	15.0	33.0	33.0
Total Split (s)	37.0	18.0	18.0	53.0	35.0	37.0
Total Split (%)	41.1%	20.0%	20.0%	58.9%	38.9%	41.1%
Maximum Green (s)	32.0	13.0	13.0	48.0	30.0	32.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	C-Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	18.0				18.0	18.0
Pedestrian Calls (#/hr)	20				20	20

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	28.6	38.8	46.4	51.4	36.2	64.8
Actuated g/C Ratio	0.32	0.43	0.52	0.57	0.40	0.72
v/c Ratio	0.33	0.78	0.57	0.50	0.58	0.14
Control Delay	23.6	25.2	17.7	13.4	20.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	25.2	17.7	13.4	20.9	2.1
LOS	C	C	B	B	C	A
Approach Delay	24.6			14.1	18.1	
Approach LOS	C			B	B	
Queue Length 50th (ft)	76	190	54	170	196	12
Queue Length 95th (ft)	80	171	79	231	231	14
Internal Link Dist (ft)	355			1131	301	
Turn Bay Length (ft)		200	390			260
Base Capacity (vph)	1209	695	389	1932	1354	993
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.74	0.50	0.50	0.58	0.14

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:NBSB, Start of 1st Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 59.1% ICU Level of Service B
Analysis Period (min) 15
Description: Background vols approximated from 2018 count @ SE40th St

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	150	130	1176	550	84
Future Volume (vph)	113	150	130	1176	550	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	390			260
Storage Lanes	2	1	1			1
Taper Length (ft)	50		50			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor		0.95	0.99			0.95
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3501	1559	1710	3386	3370	1470
Flt Permitted	0.950		0.408			
Satd. Flow (perm)	3501	1488	725	3386	3370	1401
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		172				97
Link Speed (mph)	25			40	40	
Link Distance (ft)	435			1211	383	
Travel Time (s)	11.9			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.87
Heavy Vehicles (%)	2%	2%	1%	2%	2%	1%
Adj. Flow (vph)	130	172	149	1278	598	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	172	149	1278	598	97
Turn Type	Prot	pm+ov	D.P+P	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4	6			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	33.0	12.0	12.0	15.0	33.0	33.0
Total Split (s)	42.0	22.0	22.0	118.0	96.0	42.0
Total Split (%)	26.3%	13.8%	13.8%	73.8%	60.0%	26.3%
Maximum Green (s)	37.0	17.0	17.0	113.0	91.0	37.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	C-Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	18.0				18.0	18.0
Pedestrian Calls (#/hr)	20				20	20

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	20.1	31.1	124.9	129.9	113.9	134.0
Actuated g/C Ratio	0.13	0.19	0.78	0.81	0.71	0.84
v/c Ratio	0.30	0.40	0.24	0.46	0.25	0.08
Control Delay	63.0	8.3	5.0	6.1	8.3	0.9
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	63.0	8.3	5.0	6.1	8.3	0.9
LOS	E	A	A	A	A	A
Approach Delay	31.9			6.0	7.3	
Approach LOS	C			A	A	
Queue Length 50th (ft)	60	0	36	240	144	6
Queue Length 95th (ft)	91	52	54	280	177	19
Internal Link Dist (ft)	355			1131	303	
Turn Bay Length (ft)		200	390			260
Base Capacity (vph)	809	522	691	2749	2400	1197
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	285	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.33	0.22	0.52	0.25	0.08

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:NBSB, Start of 1st Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 9.6 Intersection LOS: A
Intersection Capacity Utilization 57.4% ICU Level of Service B
Analysis Period (min) 15
Description: Background vols approximated from 2018 count @ SE40th St

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	151	253	556	424	1008	344
Future Volume (vph)	151	253	556	424	1008	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	355			260
Storage Lanes	2	1	2			1
Taper Length (ft)	50		75			
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Ped Bike Factor		0.97				0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3434	1529	3221	3386	3370	1375
Flt Permitted	0.950		0.136			
Satd. Flow (perm)	3434	1479	461	3386	3370	1327
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		12				16
Link Speed (mph)	25			40	40	
Link Distance (ft)	431			1211	380	
Travel Time (s)	11.8			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.63	0.63	0.63	0.92	0.92	0.63
Heavy Vehicles (%)	4%	4%	4%	2%	2%	8%
Adj. Flow (vph)	240	402	883	461	1096	546
Shared Lane Traffic (%)						
Lane Group Flow (vph)	240	402	883	461	1096	546
Turn Type	Prot	pm+ov	D.P+P	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4	6			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	36.0	12.0	12.0	12.0	33.0	36.0
Total Split (s)	36.0	31.0	31.0	74.0	43.0	36.0
Total Split (%)	32.7%	28.2%	28.2%	67.3%	39.1%	32.7%
Maximum Green (s)	31.0	26.0	26.0	69.0	38.0	31.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	C-Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	21.0				18.0	21.0
Pedestrian Calls (#/hr)	20				20	20

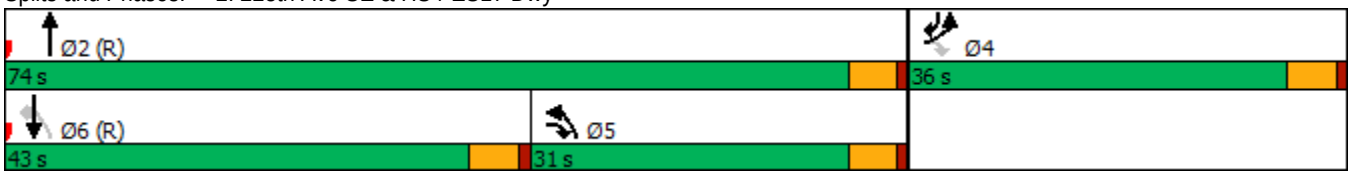
PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	19.0	45.6	76.0	81.0	49.4	68.4
Actuated g/C Ratio	0.17	0.41	0.69	0.74	0.45	0.62
v/c Ratio	0.41	0.64	0.89	0.18	0.72	0.65
Control Delay	40.6	25.2	43.5	5.9	22.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	25.2	43.5	5.9	22.3	8.4
LOS	D	C	D	A	C	A
Approach Delay	30.9			30.6	17.7	
Approach LOS	C			C	B	
Queue Length 50th (ft)	84	220	212	33	220	107
Queue Length 95th (ft)	68	138	184	92	m338	75
Internal Link Dist (ft)	351			1131	300	
Turn Bay Length (ft)		200	355			260
Base Capacity (vph)	967	792	987	2493	1512	838
Starvation Cap Reductn	0	0	0	0	0	7
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.51	0.89	0.18	0.72	0.66

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:NBSB, Start of 1st Green, Master Intersection
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 24.8 Intersection LOS: C
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	247	357	150	887	719	108
Future Volume (vph)	247	357	150	887	719	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	355			260
Storage Lanes	2	1	2			1
Taper Length (ft)	50		50			
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Ped Bike Factor		0.97	0.99			0.97
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3401	1515	3045	3386	3370	1350
Flt Permitted	0.950		0.253			
Satd. Flow (perm)	3401	1470	804	3386	3370	1309
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		39				140
Link Speed (mph)	25			40	40	
Link Distance (ft)	435			1211	381	
Travel Time (s)	11.9			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.69	0.69	0.77	0.92	0.92	0.77
Heavy Vehicles (%)	5%	5%	10%	2%	2%	10%
Adj. Flow (vph)	358	517	195	964	782	140
Shared Lane Traffic (%)						
Lane Group Flow (vph)	358	517	195	964	782	140
Turn Type	Prot	pm+ov	D.P+P	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4	6			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	36.0	12.0	12.0	15.0	33.0	36.0
Total Split (s)	43.0	12.0	12.0	47.0	35.0	43.0
Total Split (%)	47.8%	13.3%	13.3%	52.2%	38.9%	47.8%
Maximum Green (s)	38.0	7.0	7.0	42.0	30.0	38.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	C-Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	21.0				18.0	21.0
Pedestrian Calls (#/hr)	20				20	20

PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	30.7	38.1	44.3	49.3	36.9	67.7
Actuated g/C Ratio	0.34	0.42	0.49	0.55	0.41	0.75
v/c Ratio	0.31	0.80	0.34	0.52	0.57	0.14
Control Delay	21.5	26.6	13.1	15.4	20.4	1.2
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	21.5	26.6	13.1	15.4	20.4	1.2
LOS	C	C	B	B	C	A
Approach Delay	24.5			15.1	17.5	
Approach LOS	C			B	B	
Queue Length 50th (ft)	75	200	26	174	190	6
Queue Length 95th (ft)	71	171	43	270	231	8
Internal Link Dist (ft)	355			1131	301	
Turn Bay Length (ft)		200	355			260
Base Capacity (vph)	1435	718	578	1853	1383	1032
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	130	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.72	0.34	0.56	0.57	0.14

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:NBSB, Start of 1st Green, Master Intersection
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 18.6 Intersection LOS: B
Intersection Capacity Utilization 57.9% ICU Level of Service B
Analysis Period (min) 15
Description: Background vols approximated from 2018 count @ SE40th St

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	150	130	1176	550	84
Future Volume (vph)	113	150	130	1176	550	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	10	11	10
Grade (%)	-11%			-5%	3%	
Storage Length (ft)	0	200	355			260
Storage Lanes	2	1	2			1
Taper Length (ft)	50		50			
Lane Util. Factor	0.97	1.00	0.97	0.95	0.95	1.00
Ped Bike Factor		0.96	0.98			0.96
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3501	1559	3317	3386	3370	1470
Flt Permitted	0.950		0.410			
Satd. Flow (perm)	3501	1493	1401	3386	3370	1406
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		172				97
Link Speed (mph)	25			40	40	
Link Distance (ft)	435			1211	383	
Travel Time (s)	11.9			20.6	6.5	
Confl. Peds. (#/hr)		20	20			20
Confl. Bikes (#/hr)						5
Peak Hour Factor	0.87	0.87	0.87	0.92	0.92	0.87
Heavy Vehicles (%)	2%	2%	1%	2%	2%	1%
Adj. Flow (vph)	130	172	149	1278	598	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	172	149	1278	598	97
Turn Type	Prot	pm+ov	D.P+P	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4	6			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0
Minimum Split (s)	36.0	12.0	12.0	15.0	33.0	36.0
Total Split (s)	45.0	14.0	14.0	115.0	101.0	45.0
Total Split (%)	28.1%	8.8%	8.8%	71.9%	63.1%	28.1%
Maximum Green (s)	40.0	9.0	9.0	110.0	96.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	None	C-Min	C-Min	None
Walk Time (s)	10.0				10.0	10.0
Flash Dont Walk (s)	21.0				18.0	21.0
Pedestrian Calls (#/hr)	20				20	20

PRJ19-00008 Attachment 060

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	21.9	28.9	123.1	128.1	116.1	137.9
Actuated g/C Ratio	0.14	0.18	0.77	0.80	0.73	0.86
v/c Ratio	0.27	0.42	0.13	0.47	0.24	0.08
Control Delay	60.8	9.0	4.7	6.9	7.4	0.8
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	60.8	9.0	4.7	7.0	7.4	0.8
LOS	E	A	A	A	A	A
Approach Delay	31.3			6.7	6.4	
Approach LOS	C			A	A	
Queue Length 50th (ft)	59	0	19	262	142	6
Queue Length 95th (ft)	89	53	28	305	157	16
Internal Link Dist (ft)	355			1131	303	
Turn Bay Length (ft)		200	355			260
Base Capacity (vph)	875	520	1202	2711	2444	1234
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	291	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.33	0.12	0.53	0.24	0.08

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:NBT and 6:NBSB, Start of 1st Green, Master Intersection
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 57.2% ICU Level of Service B
Analysis Period (min) 15
Description: Background vols approximated from 2018 count @ SE40th St

Splits and Phases: 2: 228th Ave SE & HS4-ES17 Dwy

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.4	3.8	0.1	0.1	1.8	1.7	1.2
Total Del/Veh (s)	57.6	16.3	4.8	2.3	45.0	33.3	26.5

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.4	0.7	0.3	0.1	0.2	0.3
Total Del/Veh (s)	41.3	13.3	41.6	37.1	31.6	11.9	30.8

Total Zone Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	1335.8

PRJ19-00008 Attachment 060

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	369	200	226	100	196	70	1206
Average Queue (ft)	128	37	67	7	29	7	394
95th Queue (ft)	282	124	204	48	114	38	1134
Link Distance (ft)	505		126	302	302		3108
Upstream Blk Time (%)	0		3		0		
Queuing Penalty (veh)	0		19		0		
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	10	0					13
Queuing Penalty (veh)	5	0					1

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	B6	B6
Directions Served	L	L	R	L	LT	T	T	T	R	T	T
Maximum Queue (ft)	179	134	200	410	534	408	384	380	300	44	54
Average Queue (ft)	85	44	86	200	261	191	256	264	115	2	4
95th Queue (ft)	155	114	172	354	444	330	374	379	249	24	34
Link Distance (ft)					1151	1151	302	302	302	126	126
Upstream Blk Time (%)							4	5	0	0	0
Queuing Penalty (veh)							20	22	1	0	0
Storage Bay Dist (ft)			200	370							
Storage Blk Time (%)			1	1	3						
Queuing Penalty (veh)			1	3	11						

Zone Summary

Zone wide Queuing Penalty: 84

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.3	4.0	0.2	0.5	1.3	0.7	0.5
Total Del/Veh (s)	36.0	21.0	7.4	5.0	42.1	7.6	8.4

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.6	1.0	0.1	0.0	0.0	0.2
Total Del/Veh (s)	26.9	11.8	16.3	12.6	12.6	1.4	13.7

Total Zone Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	651.7

PRJ19-00008 Attachment 060

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	139	59	243	330	348	69	260
Average Queue (ft)	41	12	151	99	158	12	81
95th Queue (ft)	101	43	288	286	341	42	201
Link Distance (ft)	505		125	304	304		3076
Upstream Blk Time (%)			11	1	4		
Queuing Penalty (veh)			124	8	22		
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	0						4
Queuing Penalty (veh)	0						1

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	190	160	208	157	247	251	229	227	70
Average Queue (ft)	103	60	107	65	97	107	105	104	17
95th Queue (ft)	172	134	191	125	207	218	191	194	50
Link Distance (ft)					1149	1149	304	304	304
Upstream Blk Time (%)							0	0	
Queuing Penalty (veh)							0	0	
Storage Bay Dist (ft)			200	370					
Storage Blk Time (%)		0	2		0				
Queuing Penalty (veh)		0	3		1				

Zone Summary

Zone wide Queuing Penalty: 158

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	4.0	0.2	0.1	1.5	0.6	0.4
Total Del/Veh (s)	66.7	38.9	6.8	4.3	112.0	6.4	9.2

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	1.5	0.1	0.0	0.0	0.2
Total Del/Veh (s)	49.7	6.8	10.2	11.5	7.2	0.7	11.5

Total Zone Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	816.6

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	121	72	237	356	393	77	240
Average Queue (ft)	40	19	142	168	235	26	64
95th Queue (ft)	94	53	291	366	416	70	199
Link Distance (ft)	505		123	306	306		3079
Upstream Blk Time (%)			9	2	8		
Queuing Penalty (veh)			120	13	55		
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	0					3	3
Queuing Penalty (veh)	0					19	1

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	159	126	96	126	306	315	155	167	41
Average Queue (ft)	72	33	45	45	109	118	62	61	8
95th Queue (ft)	138	100	75	110	260	270	125	132	29
Link Distance (ft)					1149	1149	306	306	306
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			200	370					
Storage Blk Time (%)					1				
Queuing Penalty (veh)					1				

Zone Summary

Zone wide Queuing Penalty: 209

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.5	3.8	0.0	0.1	1.9	1.8	1.2
Total Del/Veh (s)	50.5	12.0	4.9	2.6	34.3	26.9	21.9

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.4	2.7	0.6	0.1	0.1	0.7
Total Del/Veh (s)	37.5	12.8	43.4	5.5	17.3	7.0	20.3

Total Zone Performance

Denied Del/Veh (s)	1.9
Total Del/Veh (s)	1214.1

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	324	160	214	29	86	84	983
Average Queue (ft)	112	31	84	2	8	8	328
95th Queue (ft)	245	99	178	16	46	42	842
Link Distance (ft)	505		126	302	302		3108
Upstream Blk Time (%)	0		3				
Queuing Penalty (veh)	0		17				
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	7	0					14
Queuing Penalty (veh)	3	0					1

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB	B6
Directions Served	L	L	R	L	L	T	T	T	T	R	T
Maximum Queue (ft)	168	139	198	389	423	506	121	325	331	298	6
Average Queue (ft)	81	43	84	164	197	59	46	171	177	87	0
95th Queue (ft)	147	114	161	330	364	267	103	294	301	217	7
Link Distance (ft)						1151	1151	302	302		126
Upstream Blk Time (%)								0	0	0	
Queuing Penalty (veh)								3	3	0	
Storage Bay Dist (ft)			200	355	355					230	
Storage Blk Time (%)		0	1	1	3				4	0	
Queuing Penalty (veh)		0	1	1	7				16	2	

Zone Summary

Zone wide Queuing Penalty: 54

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	4.0	0.3	0.3	1.1	0.7	0.5
Total Del/Veh (s)	35.7	21.0	7.9	5.4	60.8	8.4	9.1

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.6	1.1	0.1	0.0	0.0	0.2
Total Del/Veh (s)	26.9	11.3	16.7	16.5	12.8	2.1	15.0

Total Zone Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	744.3

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	134	51	238	357	381	99	283
Average Queue (ft)	41	12	161	116	175	15	94
95th Queue (ft)	101	39	289	319	371	54	221
Link Distance (ft)	505		125	304	304		3076
Upstream Blk Time (%)			12	2	5		
Queuing Penalty (veh)			140	12	29		
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	0					0	5
Queuing Penalty (veh)	0					3	1

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	L	T	T	T	T	R
Maximum Queue (ft)	188	174	208	76	173	312	310	214	210	70
Average Queue (ft)	104	56	104	21	60	114	127	103	103	17
95th Queue (ft)	173	134	188	59	140	267	277	184	186	51
Link Distance (ft)						1148	1148	304	304	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			200	355	355					230
Storage Blk Time (%)		0	2			1			0	
Queuing Penalty (veh)		0	3			2			0	

Zone Summary

Zone wide Queuing Penalty: 189

PRJ19-00008 Attachment 060

1: 228th Ave SE & SE 40th St Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	4.2	0.1	0.2	1.2	0.5	0.3
Total Del/Veh (s)	71.0	47.6	7.0	4.7	111.4	5.4	9.0

2: 228th Ave SE & HS4-ES17 Dwy Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	1.5	0.1	0.0	0.0	0.2
Total Del/Veh (s)	53.0	6.9	11.3	15.7	7.6	1.2	14.3

Total Zone Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	906.1

Intersection: 1: 228th Ave SE & SE 40th St

Movement	WB	WB	NB	B6	B6	SB	SB
Directions Served	L	R	TR		T	L	T
Maximum Queue (ft)	109	63	233	387	396	98	186
Average Queue (ft)	37	19	146	200	252	28	50
95th Queue (ft)	86	52	291	416	435	72	136
Link Distance (ft)	505		123	306	306		3079
Upstream Blk Time (%)			10	4	12		
Queuing Penalty (veh)			125	29	80		
Storage Bay Dist (ft)		150				90	
Storage Blk Time (%)	0					1	2
Queuing Penalty (veh)	0					8	0

Intersection: 2: 228th Ave SE & HS4-ES17 Dwy

Movement	EB	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	L	T	T	T	T	R
Maximum Queue (ft)	170	141	100	39	173	379	383	147	155	36
Average Queue (ft)	77	38	46	9	45	135	147	61	60	9
95th Queue (ft)	143	112	81	33	131	316	328	128	135	31
Link Distance (ft)						1148	1148	306	306	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			200	355	355					230
Storage Blk Time (%)		0				2				
Queuing Penalty (veh)		0				3				

Zone Summary

Zone wide Queuing Penalty: 245

PRJ19-00008 Attachment 060

APPENDIX I

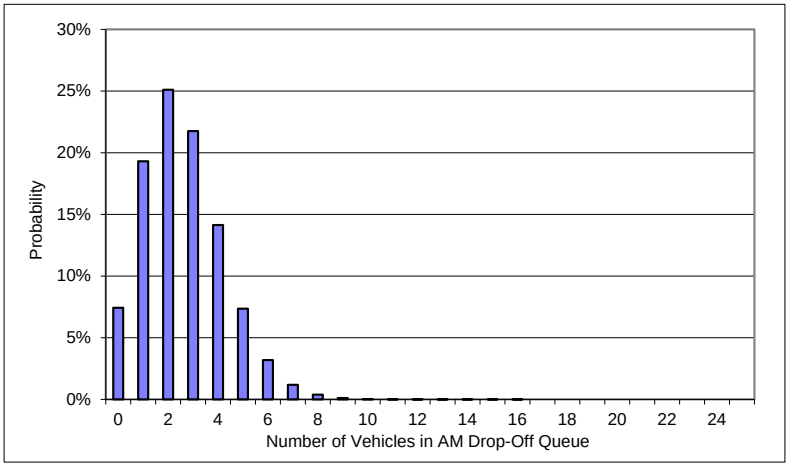
VEHICLE LOADING AREA QUEUING MODEL SUMMARY REPORTS

September 1, 2020

M/M/s Queueing Model for proposed ES #17 morning drop-off

Data

λ =	312.0	(average arrival rate)	veh/hour
μ =	120.0	(average service rate)	veh/hour/station
s =	10	(# loading stations)	



where:
L = average number of vehicles in line at any one time
L_q=average number of vehicles in queue
W = average wait time at the garage (hours)
W_q = ave. wait time in queue (hours)
ρ = garage drop-off utilization
P_0 = probability of 0 vehicles at the garage loop
P_1 = probability of 1 vehicle at the garage loop, etc.

3 =Average number of drop-off vehicles in queue any one time
5 =Peak (95th-percentile) number of drop-off vehicles in the queue at any one time

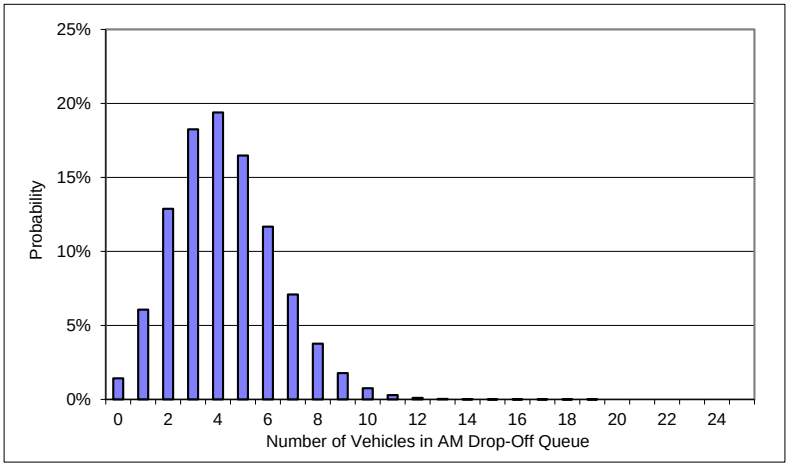
Results

L =	2.600137186	
L_q =	0.000137186	
W =	0.008333773	
W_q =	4.39697E-07	
ρ =	0.26	
		Prob <= "X" vehicles
P_0 =	0.074272479	7%
P_1 =	0.193108444	27%
P_2 =	0.251040978	52%
P_3 =	0.217568847	74%
P_4 =	0.141419751	88%
P_5 =	0.07353827	95%
P_6 =	0.031866584	98%
P_7 =	0.01183616	99%
P_8 =	0.003846752	100%
P_9 =	0.001111284	100%
P_{10} =	0.000288934	100%
P_{11} =	7.51228E-05	100%
P_{12} =	1.95319E-05	100%
P_{13} =	5.0783E-06	100%
P_{14} =	1.32036E-06	100%
P_{15} =	3.43293E-07	100%
P_{16} =	8.92562E-08	100%
P_{17} =	2.32066E-08	100%
P_{18} =	6.03372E-09	100%
P_{19} =	1.56877E-09	100%
P_{20} =	4.07879E-10	100%
P_{21} =	1.06049E-10	100%
P_{22} =	2.75727E-11	100%
P_{23} =	7.16889E-12	100%
P_{24} =	1.86391E-12	100%
P_{25} =	4.84617E-13	100%

M/M/s Queueing Model for proposed HS #4 morning drop-off

Data

λ =	510.0	(average arrival rate)	veh/hour
μ =	120.0	(average service rate)	veh/hour/station
s =	15	(# loading stations)	



where:

L = average number of vehicles in line at any one time

L_q=average number of vehicles in queue

W = average wait time at the garage (hours)

W_q = ave. wait time in queue (hours)

ρ = garage drop-off utilization

P_0 = probability of 0 vehicles at the garage loop

P_1 = probability of 1 vehicle at the garage loop, etc.

5 =Average number of drop-off vehicles in queue any one time

8 =Peak (95th-percentile) number of drop-off vehicles in the queue at any one time

Results

L =	4.250016042	
L_q =	1.60415E-05	
W =	0.008333365	
W_q =	3.1454E-08	
ρ =	0.283333333	
		Prob <= "X" vehicles
P_0 =	0.014264216	1%
P_1 =	0.060622918	7%
P_2 =	0.128823701	20%
P_3 =	0.182500243	39%
P_4 =	0.193906508	58%
P_5 =	0.164820532	74%
P_6 =	0.116747877	86%
P_7 =	0.070882639	93%
P_8 =	0.037656402	97%
P_9 =	0.01778219	99%
P_{10} =	0.007557431	100%
P_{11} =	0.002919916	100%
P_{12} =	0.001034137	100%
P_{13} =	0.000338083	100%
P_{14} =	0.000102632	100%
P_{15} =	2.90792E-05	100%
P_{16} =	8.2391E-06	100%
P_{17} =	2.33441E-06	100%
P_{18} =	6.61417E-07	100%
P_{19} =	1.87401E-07	100%
P_{20} =	5.30971E-08	100%
P_{21} =	1.50442E-08	100%
P_{22} =	4.26252E-09	100%
P_{23} =	1.20771E-09	100%
P_{24} =	3.42185E-10	100%
P_{25} =	9.69525E-11	100%