MEMORANDUM

To: Doug Schlepp P.E., City of Issaquah
From: Brad Lincoln, PE
Subject: Evergreen Ford-Lincoln – Trip Generation/Mitigation Fee Update
Date: February 22, 2019
Project: GTC #18-228

Gibson Traffic Consultants, Inc. (GTC) has been retained to provide an updated trip generation for the proposed Evergreen Ford-Lincoln dealership. This memo follows up the traffic impact analysis conducted by GTC dated December 20, 2018.

Trip Generation

The December 2018 TIA completed by GTC identified the square-footage (SF) for the proposed development to be 49,544 SF. Updates to the proposed site plan have reduced the applicable square-footage to 48,839 SF. A breakdown of the proposed development's updated square footage is shown below:

Table 1: Development Square-Footage

Use	Use Square-Footage	Applicable to Trip Generation?
Main Floor (Service/Check-in/Delivery/Parts/etc.)	43,361	Yes
Second Floor (Office/Admin)	5,478	Yes
Parking (Second Floor, Tier 3 and Tier 4)	96,463	No
Total SF	145,302	
Total Applicable SF	**48,839**	

The trip generation calculations for the Evergreen Ford-Lincoln development are based on data published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 10th Edition (2017).* The average trip generation rates for ITE Land Use Code (LUC) 840, Automobile Sales – New, have been used. The trip generation of the development is summarized in Table 2.

Table 2: Trip Generation Summary

48,839 SF of Automobile Sales (New)	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Generation Rate	27.84 trips per 1,000 SF			1.87 trips per 1,000 SF			2.43 trips per 1,000 SF		
Splits	50%	50%	100%	73%	27%	100%	40%	60%	100%
Trips	680	680	1,360	66	25	91	48	71	119

The Evergreen Ford-Lincoln development is anticipated to generate approximately 1,360 new average daily trips with 91 new AM peak-hour trips and 119 new PM peak-hour trips. Trip generation calculations are included in the attachments.

Mitigation Fees

The operational analysis conducted as part of the December 2018 TIA shows the Evergreen Ford-Lincoln development will not significantly impact the operations of the study intersections analyzed in the AM and PM peak-hours, which are anticipated to operate at acceptable levels of service with the development. This analysis was conducted with the previously higher estimated trip generation. The development should therefore only be required to provide frontage improvements and pay the appropriate traffic impact fee. The current traffic impact fee is $17.79 per square foot for the motorized impact fee and $1.71 per square foot for non-motorized impact fee for a combined fee rate of $19.50 per square foot for New Auto Sales. The development is proposed to consist of 48,839 SF which corresponds to a total impact fee of $952,360.50. It is important to note that the fee is assessed at the time of building permit issuance and may increase from what is identified in this report.

Conclusion

This memo updates the trip generation and mitigation fee calculation for the proposed Evergreen Ford-Lincoln development that was previously identified in the December 2018 TIA completed by GTC. The previous TIA identified a higher building square-footage and therefore a higher trip generation estimate for the proposed development. The TIA's intersection analysis did not identify any off-site mitigation that should be required as a result of the added trips from the Evergreen Ford-Lincoln development, and therefore the reduced building square-footage and trip generation are not expected to trigger any new off-site mitigation. The updated site plan of the Evergreen Ford-Lincoln development is proposed to consist of 48,839 SF and generate 1,360 new daily trips, 91 new AM peak-hour trips, and 119 new PM peak-hour trips. The development's updated traffic mitigation fees would total $952,360.50.

Building Use Summary

Strotkamp Architects
P.O. Box 501
Burlington WA 98233

Code Analysis

To: **FILE**

From: Strotkamp Architects
David Estes

Date: 15 October 2018
Updated 01 Feb 2019

(206)-979-8320
Email: dhestes_aia@frontier.com

Re: Evergreen Ford Lincoln

Area summary Main Building (IBC Gross Square Footage)

Building Area/Use		**Area**		**Occupant Load**	**Occupants**
	S-1 Occupancy				
Main Floor					
	Service	17,011	Sq. ft.	1/300	55
	Check-in	4,567	Sq. ft.	1/300	15
	New Car Delivery	1,579	Sq. ft.	1/100	16
	Parts	3,967	Sq. ft.	1/100	40
	Sub-total	27,124	Sq. ft.		126
	B Occupancy				
	Lincoln display/sales	5,884	Sq. ft.	1/100	59
	Administration	6,030	Sq. ft.	1/100	60
	Display/Sales	3,120	Sq. ft.	1/100	32
	Tech Support	1,203	Sq. ft.	1/100	12
	Sub-total	16,237	Sq. ft.		163
Second Floor (Tier 1)					
B	Office/Admin	5,478	Sq. ft.	1/100	55
S-2	Parking	28,607	Sq. ft.	1/300	96
	Sub-total	34,085	Sq. ft.		151

Tier 3 Parking

S-2	Parking	33,928	Sq. ft.	1/300	114

Tier 4 Parking

S-2	Parking	33,928	Sq. ft.	1/300	114
Total		145,302	Sq. ft.		668

Gibson Traffic Consultants
2813 Rockefeller Avenue
Suite B
Everett, WA 98201
425.339.8266

Evergreen Ford-Lincoln Development
Traffic Impact Analysis

Jurisdiction: City of Issaquah

December 2018

GTC #18-228

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1. EXECUTIVE SUMMARY

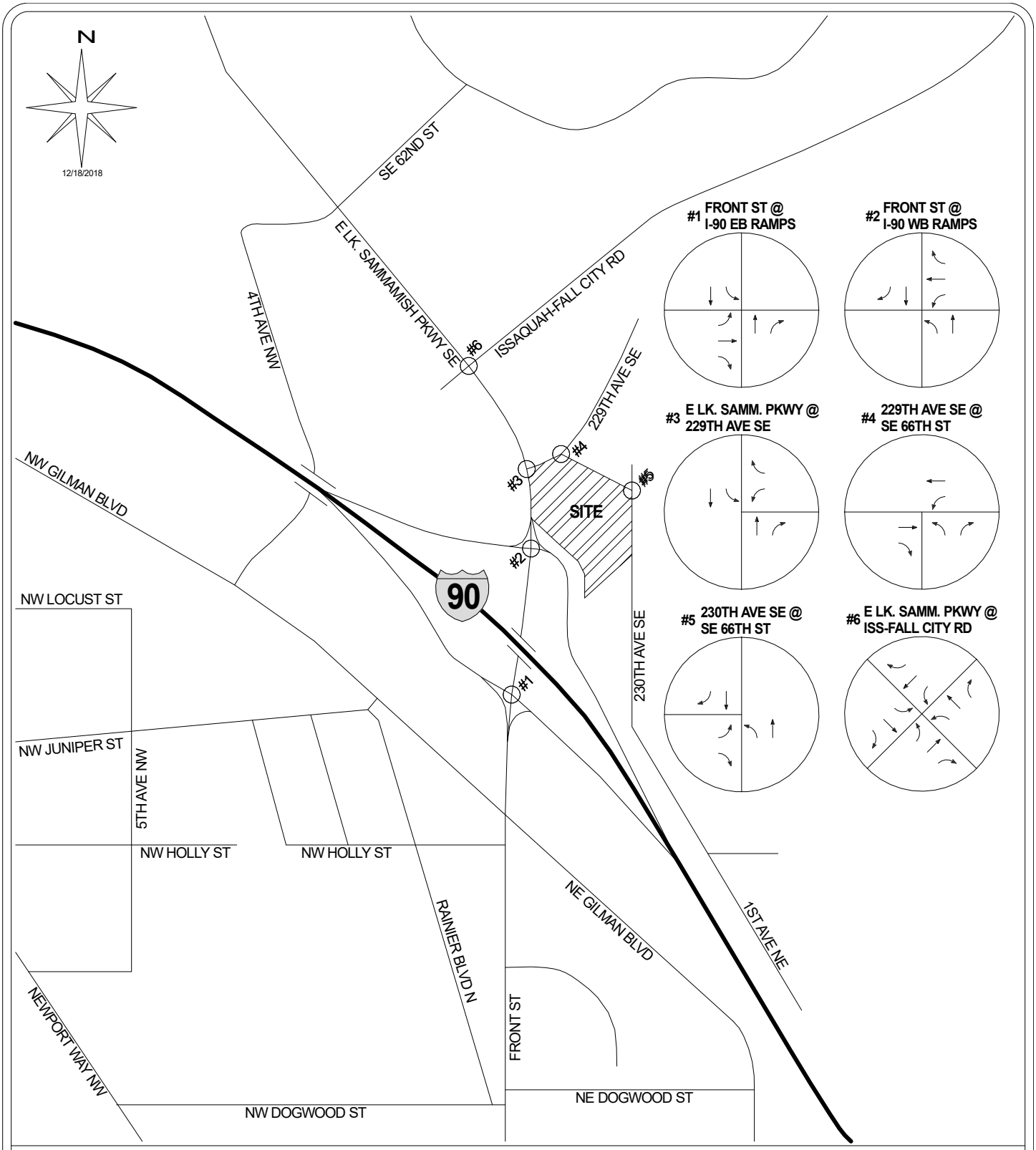
Gibson Traffic Consultants, Inc. (GTC) was hired to provide a traffic analysis of the proposed Evergreen Ford-Lincoln development. The development is located on the east side of E. Lake Sammamish Parkway (ELSP), south of 229th Avenue SE. The analysis was scoped with City of Issaquah staff to include six total off-site intersections in the surrounding area. The analysis shows that the study intersections and the site access will operate at acceptable levels of service during the AM and PM peak-hours with the development. Frontage improvements and payment of the appropriate traffic impact fee is all that should be required to mitigate the impacts of the development. The current motorized and non-motorized traffic impact fee, totaling $19.50 per square-foot, results in a total traffic mitigation fee of $966,108.

2. PROPOSED DEVELOPMENT

The Evergreen Ford-Lincoln development is located along the east side of E. Lake Sammamish Parkway (ELSP), south of 229th Avenue SE. The development is proposed to consist of 144,328 SF of total building space, including sales areas and parking areas. However, only 49,544 SF of building space is associated with automobile sales. The remaining space includes structured parking for vehicles for sale. These parking areas would typically be a parking lot at a conventional automobile sales location. The site is currently vacant. Access is proposed to include three access locations—one on SE 66th Street and two on 230th Avenue SE. A site vicinity map showing the site is included in Figure 1.

2.1 Methodology

A detailed scoping process was performed with City of Issaquah staff. The scoping process identified the trip generation methodology, and scope of the full analysis. The City of Issaquah provided existing and future PM peak hour demand model outputs to establish the trip distribution of the proposed development. The City of Issaquah has identified that trip generation is to be based on data from the latest edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition (2017)* and that the average rate for ITE Land Use Code (LUC) 840, Automobile Sales (new), should be utilized. The trip generation and trip distribution were approved as part of the scoping process.



GIBSON TRAFFIC CONSULTANTS

TRAFFIC IMPACT STUDY
GTC #18-228

EVERGREEN FORD-LINCOLN
49,544 SF AUTO SALES

CITY OF ISSAQUAH

LEGEND

DEVELOPMENT SITE

STUDY INTERSECTION

FIGURE 1
SITE VICINITY MAP

During the scoping process the City of Issaquah staff identified the following off-site intersections for analysis:

1. Front Street at Eastbound I-90 Ramps
2. Front Street at Westbound I-90 Ramps
3. E. Lake Sammamish Parkway at 229th Avenue SE
4. SE 66th Street at 229th Avenue SE
5. SE 66th Street at 230th Avenue SE
6. E. Lake Sammamish Parkway at Issaquah-Fall City Road

It is important to note that no other WSDOT intersections will be impacted with 25 PM peak-hour trips, which is the threshold identified in the WSDOT *Development Services Manual* for "Non Fee-Based Mitigation" impacts. The intersection analysis has been performed for the AM peak-hour, the highest hour between 7:00 AM and 9:00 AM, and the PM peak-hour, the highest hour between 4:00 PM and 6:00 PM.

A 2% annually compounding growth rate has been included in the calculations of future vehicles at the study intersections. Calculated annual compounding growth rates from the travel demand model provided by the City ranged from 1.2-1.6% on streets near the analysis area. The use of a 2.0% annually compounding growth rate is therefore a conservatively high assumption.

The intersection analysis has been performed for the following conditions, based on the City of Issaquah's TIA Guidelines:

- 2018 Existing Conditions
- 2025 Baseline Conditions
- 2025 Future with Development Conditions

Congestion at intersections and along arterials is generally measured in terms of level of service (LOS). In accordance with *Highway Capacity Manual (HCM) 6th Edition* by the Transportation Research Board, road facilities and intersections are rated between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. The level of service at signalized, roundabout and all-way stop-controlled intersections is based on the average delay of all approaches. The level of service for two-way stop-controlled intersections is based on average delays for the critical stopped approach. Geometric characteristics and conflicting traffic movements are taken into consideration when determining level of service values. A summary of the intersection level of service criteria is included in Table 1.

Table 1: Level of Service Criteria for Intersections

Level of Service [1]	Expected Delay	Intersection Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	Average Delays	>15 and ≤25	>20 and ≤35
D	Long Delays	>25 and ≤35	>35 and ≤55
E	Very Long Delays	>35 and ≤50	>55 and ≤80
F	Extreme Delays	>50	>80

The City of Issaquah uses LOS D as the acceptable level of service threshold; however, the WSDOT level of service standards have been applied for the intersections controlled by WSDOT (Eastbound and Westbound I-90 Ramp Terminals, and ELSP at 229th Avenue SE). The WSDOT *Development Services Manual* identifies LOS E as an acceptable level of service for urban non-Highways of Statewide Significance that are within a 3-mile buffer of freeways, such as I-90. These are considered Tier 1 roadways. The WSDOT level of service criteria are included in the attachments.

[1] **Source:** *Highway Capacity Manual 6th Edition*.

LOS A: Free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).
LOS B: Generally stable traffic flow conditions.
LOS C: Occasional back-ups may develop, but delay to vehicles is short term and still tolerable.
LOS D: During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).
LOS E: Intersections operate at or near capacity, with long queues developing on all approaches and long delays.
LOS F: Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

3. EXISTING CONDITIONS

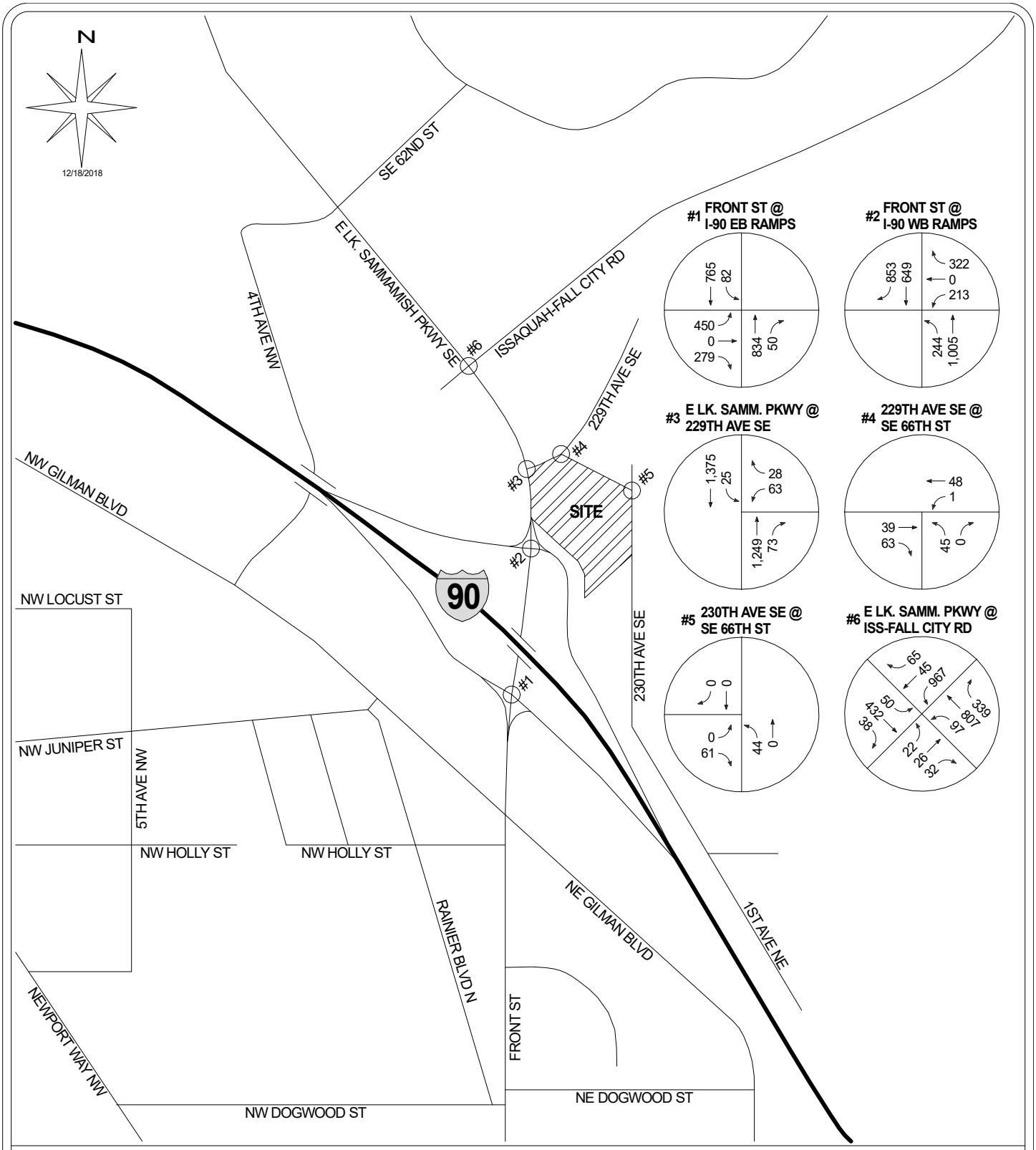
3.1 Existing Roadway Conditions

The proposed Evergreen Ford-Lincoln development would include one new access to SE 66th Street and two new accesses to 230th Avenue SE. A short description of the existing intersection control and channelization for each off-site study intersection is included below:

- Front Street at Eastbound I-90 Ramps: signalized intersection with protected southbound and eastbound left turns; two through lanes in the northbound and southbound directions each; right-turn radii for eastbound and northbound right-turns. Intersection operates in coordination with the westbound I-90 ramps and the signals along ELSP at 229th Avenue SE and Issaquah-Fall City Road to the north.
- Front Street at Westbound I-90 Ramps: signalized intersection with protected northbound and westbound left turns; two through lanes in the northbound and southbound directions each, right-turn radii for the southbound and westbound right-turns. There is an additional HOV bypass lane for the southbound-right turning movement that is utilized during the AM peak-hour when the I-90 westbound on ramp is metered. A lane utilization factor was calculated from the observed general purpose and HOV lane volumes according to Synchro methodology for the AM peak-hour only. A single southbound right-turn lane was assumed for the PM peak-hour conditions to more accurately replicate observed conditions. The intersection operates in coordination with the eastbound I-90 ramps and the signals along ELSP at 229th Avenue SE and Issaquah-Fall City Road to the north.
- ELSP at 229th Avenue SE: signalized intersection with protected/permitted southbound left turns and protected westbound left turns; two northbound through lanes and three southbound through lanes. Signal is coordinated with the I-90 ramp terminals to the south and the ESPL/Issaquah-Fall City Road intersection to the north
- ELSP at Issaquah-Fall City Road: signalized intersection with two northbound and southbound through lanes; eastbound/westbound split phasing with right-turn overlaps for the eastbound and westbound movements. The signal is coordination with the three intersections directly to the south along ELSP/Front Street.
- 229th Avenue SE/SE 66th Street: two-lane access roads that serve local trips to the east of ELSP; minor-leg stop-controlled intersections.

3.2 Existing Traffic Volumes

Existing AM and PM peak-hour turning movements were collected in November and December 2018 by IDAX, an independent data collector. The count data from the intersection of SE 66th Street and 230th Avenue SE has been used for the access analysis for the driveway on the south side of SE 66th Street. The existing AM and PM peak-hour turning movements are shown in Figure 2 and Figure 3, respectively. The existing turning movement counts are included in the attachments.



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TRAFFIC IMPACT STUDY
GTC #18-228

EVERGREEN FORD-LINCOLN
49,544 SF AUTO SALES

CITY OF ISSAQUAH

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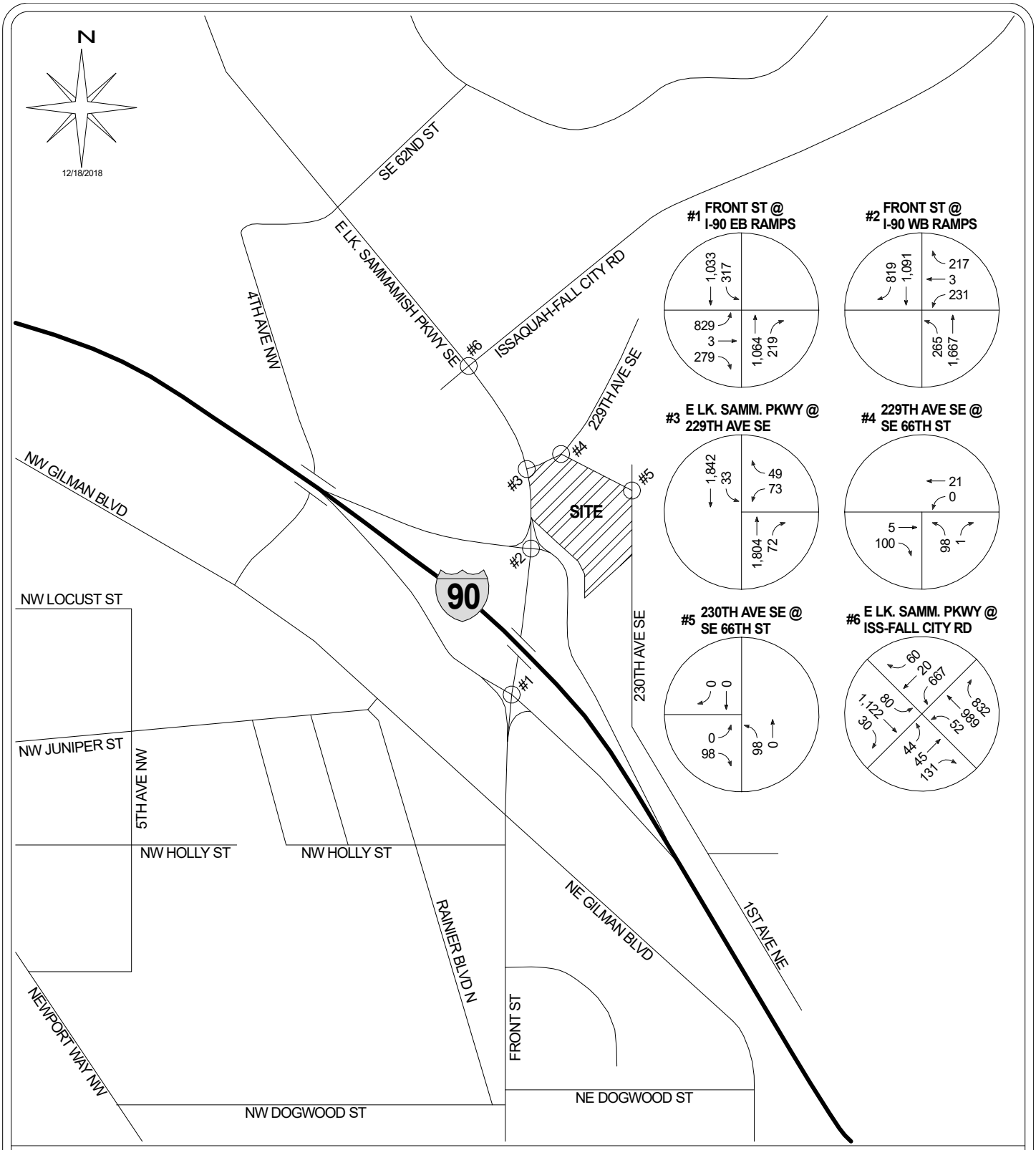
XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 2
2018 EXISTING TURNING MOVEMENTS AM PEAK-HOUR



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XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 3
2018 EXISTING TURNING MOVEMENTS PM PEAK-HOUR

4. FUTURE CONDITIONS

4.1 Future Roadway Conditions

Currently, WSDOT is analyzing the Front Street/I-90 interchange for improvements. WSDOT has not identified a preferred alternative for the improvements, therefore, no baseline improvements for the study intersection have been assumed. Additionally, no signal timing changes have been assumed. This methodology has been used in the event that improvements related to the Front Street/I-90 interchange do not occur before the horizon year used in this analysis (2025).

4.2 Baseline Traffic Volumes

The baseline traffic volumes at the study intersections have been calculated by applying a 2% annually compounding growth rate to the 2018 existing turning movements. No pipeline trips from other proposed developments were included in the analysis.

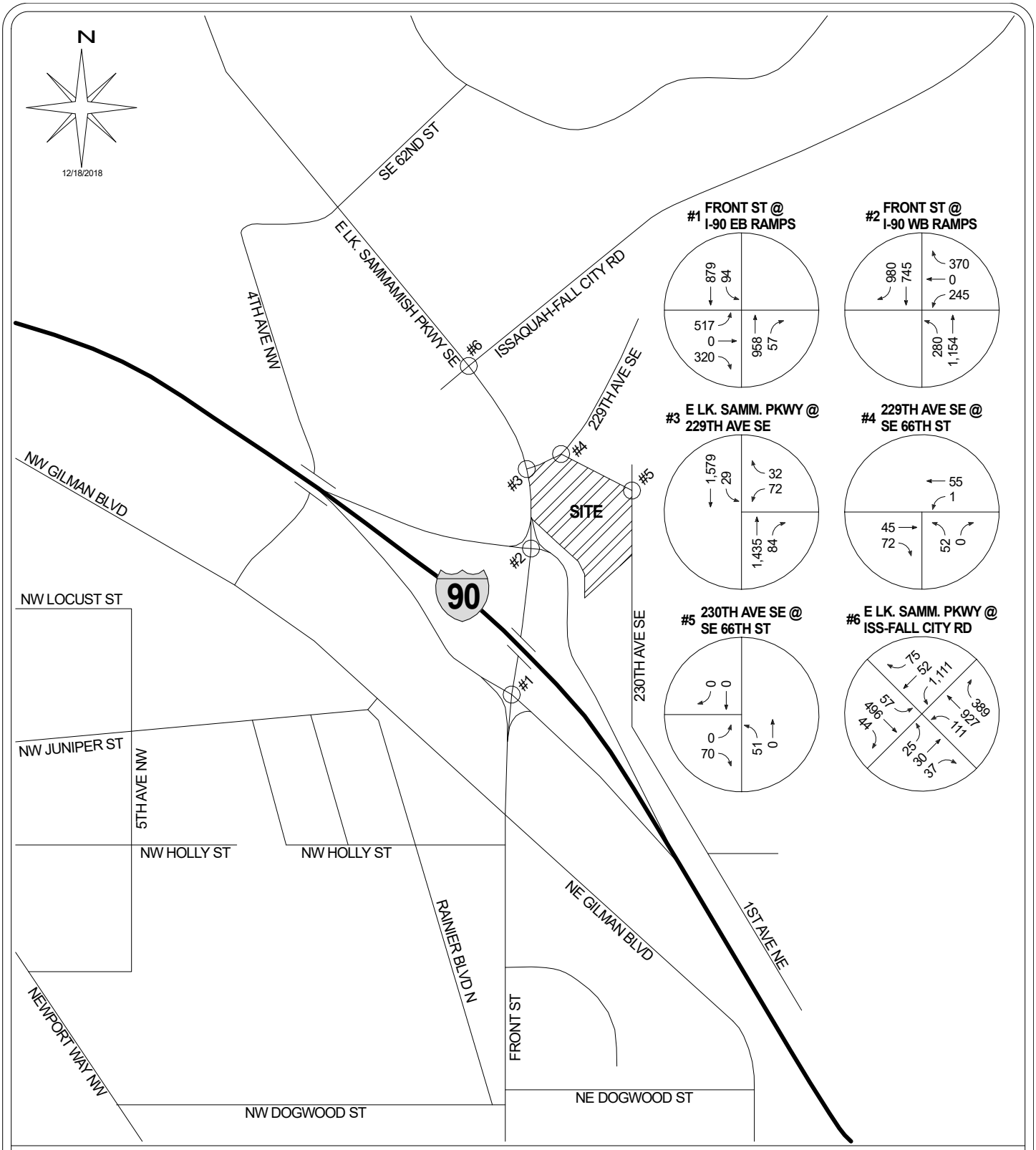
4.3 Trip Generation

The trip generation methodology and calculations for the Evergreen Ford-Lincoln development were approved as part of the scoping process with City of Issaquah staff. The trip generation calculations are based on the national data available in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition (2017).* The trip generation calculations have been performed using the average trip generation rates for ITE Land Use Land Use Code 840, Automobile Sales (New). The trip generation of the development is summarized in Table 2.

Table 2: Trip Generation Summary

49,544 SF of Automobile Sales (New)	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Generation Rate	27.84 trips per 1,000 SF			1.87 trips per 1,000 SF			2.43 trips per 1,000 SF		
Splits	50%	50%	100%	73%	27%	100%	40%	60%	100%
Trips	690	689	1,379	68	25	93	48	72	120

The proposed development would generate 1,379 average weekday daily trips, 93 average weekday AM peak-hour trips, and 120 average weekday PM peak-hour trips. It should be noted that the industry standard for trip reduction from pass-by trips for LUC 840 Automobile Sales is 25%. This 25% reduction was not applied to the trip generation calculations in Table 2. Therefore, the trip generation volumes from Table 2 used in the intersection operations analysis represent a conservative estimate of the number of new trips the development would likely add to the surrounding street network. The trip generation calculations are included in the attachments.



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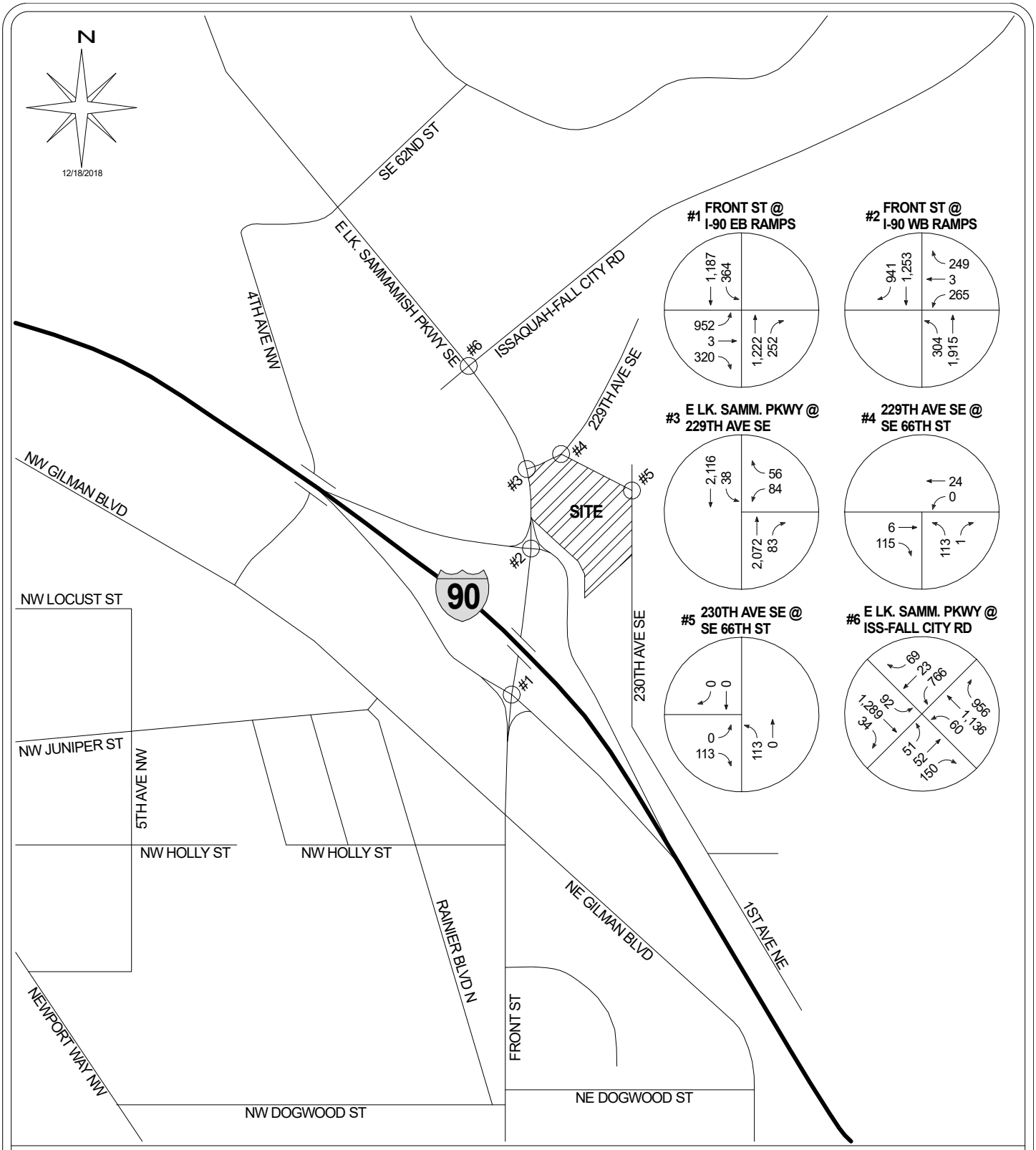
XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 4
2025 BASELINE TURNING MOVEMENTS AM PEAK-HOUR



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EVERGREEN FORD-LINCOLN
49,544 SF AUTO SALES

CITY OF ISSAQUAH

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XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

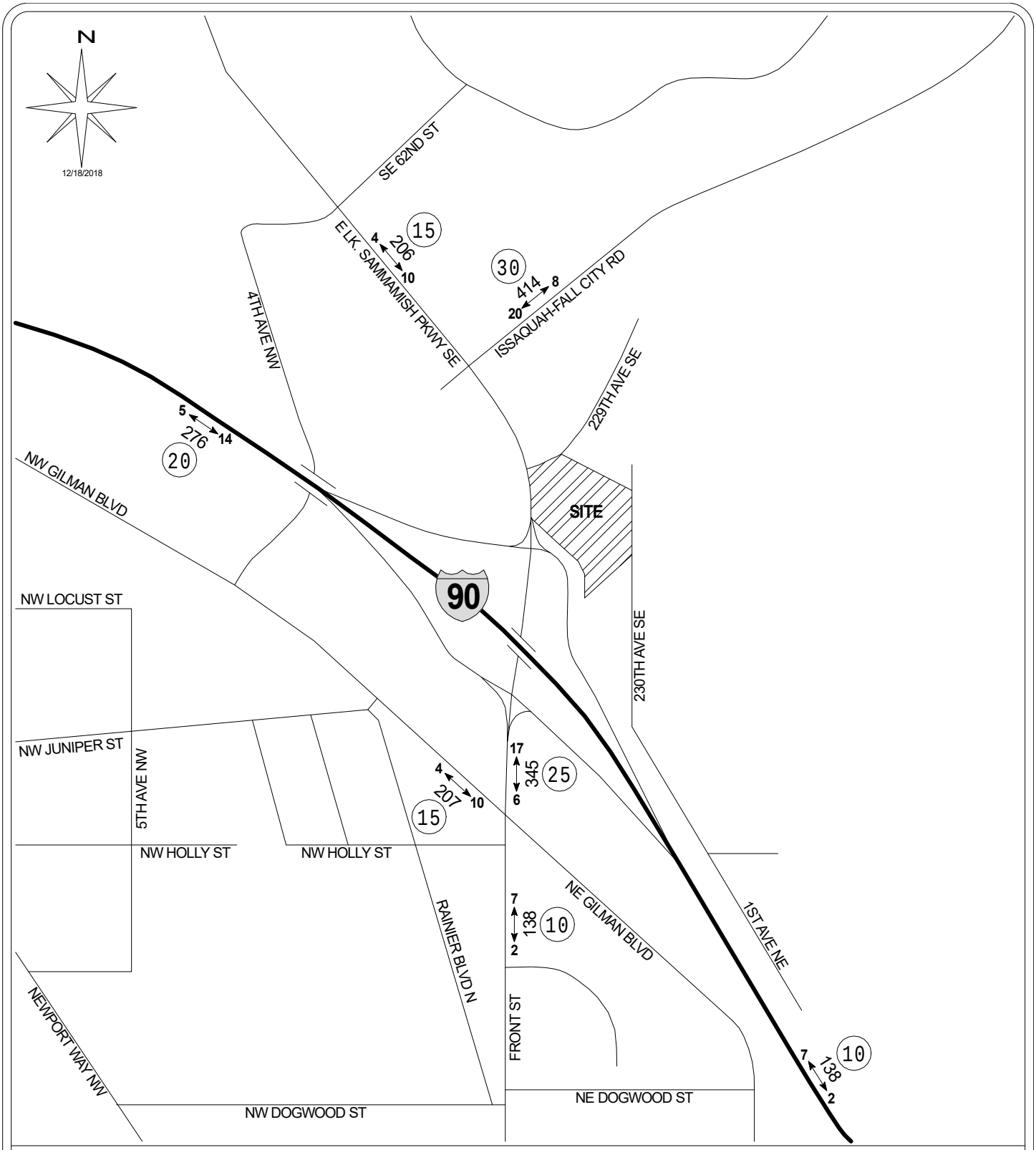
FIGURE 5
2025 BASELINE TURNING MOVEMENTS PM PEAK-HOUR

4.4 Trip Distribution and Assignment

Trip distribution and traffic assignments for the Evergreen Ford-Lincoln development are based on model data provided by the City of Issaquah. The model runs show approximately 30% of the trips generated by the development will travel along I-90, twenty percent to and from the west and ten percent to and from the east. Approximately 25% of the trips generated by the development are expected to travel to and from the south along Front Street. An additional 15% of the trips generated by the development are expected to travel to and from the north along E. Lake Sammamish Parkway. The remaining 30% of the trips generated by the development will travel to and from the east along Issaquah-Fall City Road. The detailed trip distributions and trip assignments at the study intersections are shown in Figure 6 for the AM peak-hour and Figure 7 for the PM peak-hour.

4.5 Future with Development Traffic Volumes

The 2025 future with development traffic volumes have been calculated by adding the trips from the development to the 2025 baseline traffic volumes. No reduction for pass-by trips was assumed in the intersection analysis. The 2025 future with development traffic volumes at the study intersections are shown in Figure 8 and Figure 9 for the AM and PM peak-hours, respectively.



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49,544 SF AUTO SALES

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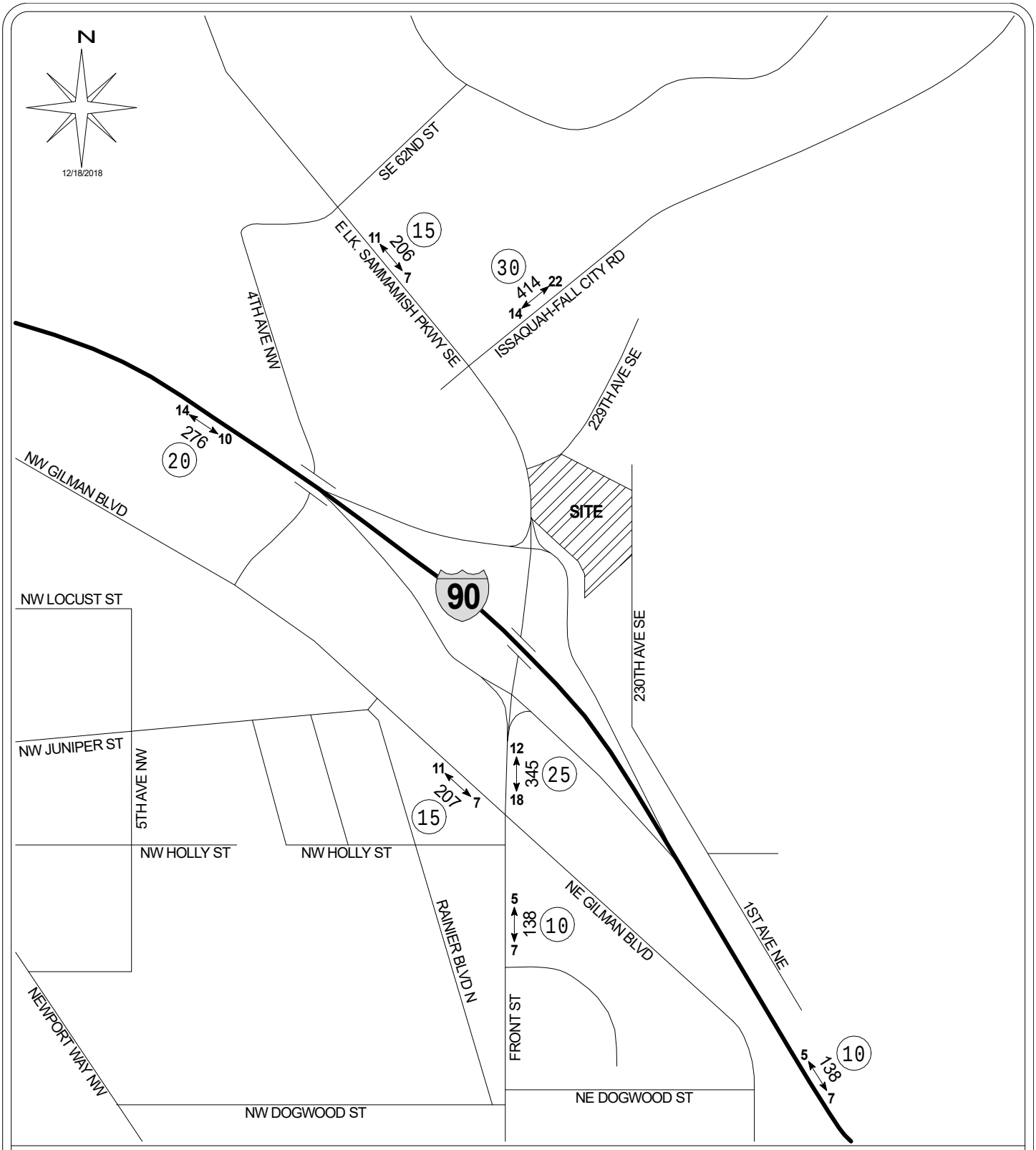
AWDT
AM ← → PEAK — NEW SITE TRAFFIC (DAILY/PEAK HOUR)

XX — TRIP DISTRIBUTION %

FIGURE 6
DEVELOPMENT TRIP DISTRIBUTION
AM PEAK-HOUR



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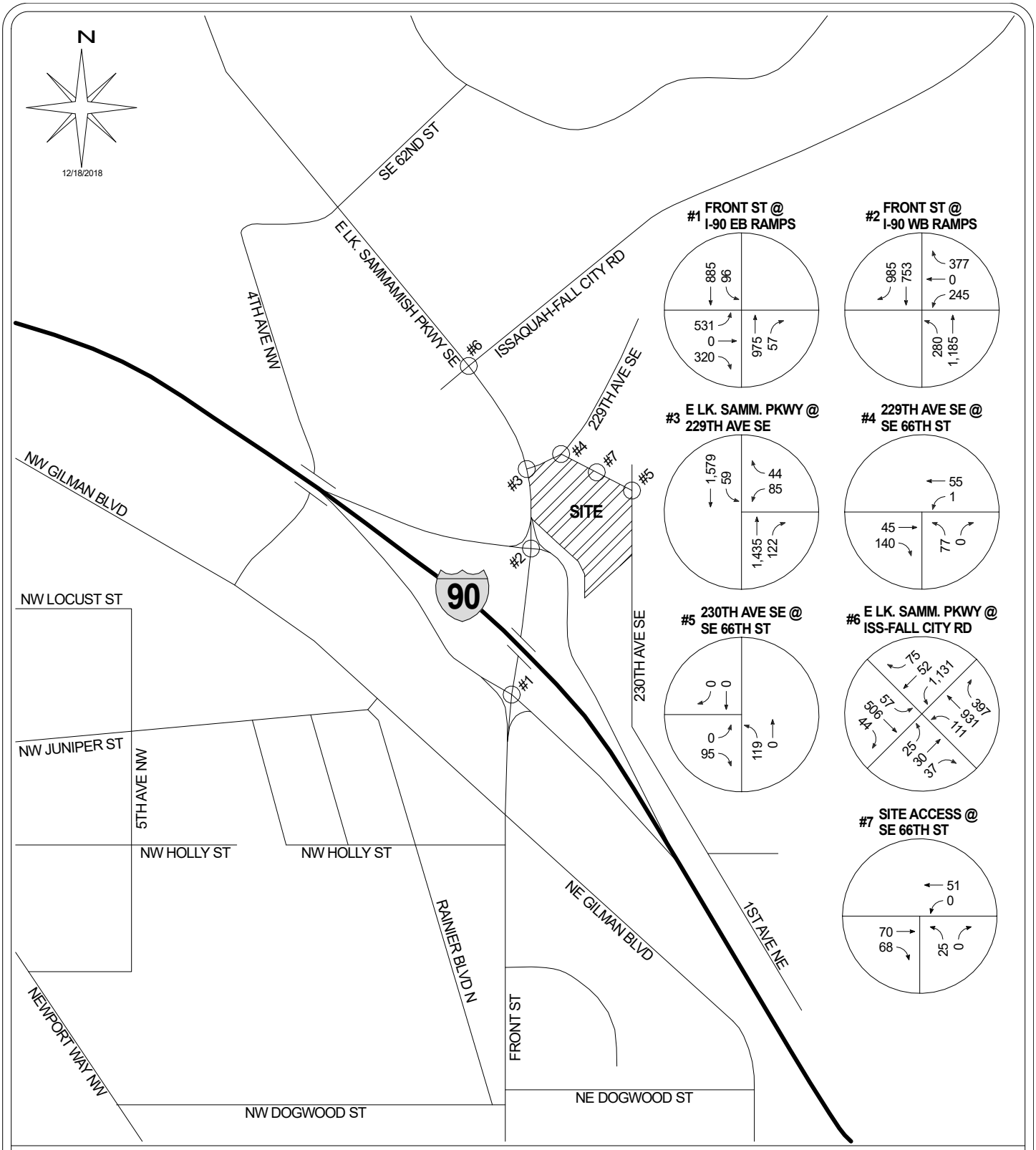
AWDT
PM ← → PEAK — NEW SITE TRAFFIC (DAILY/PEAK HOUR)

XX — TRIP DISTRIBUTION %

FIGURE 7
DEVELOPMENT TRIP DISTRIBUTION
PM PEAK-HOUR



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49,544 SF AUTO SALES

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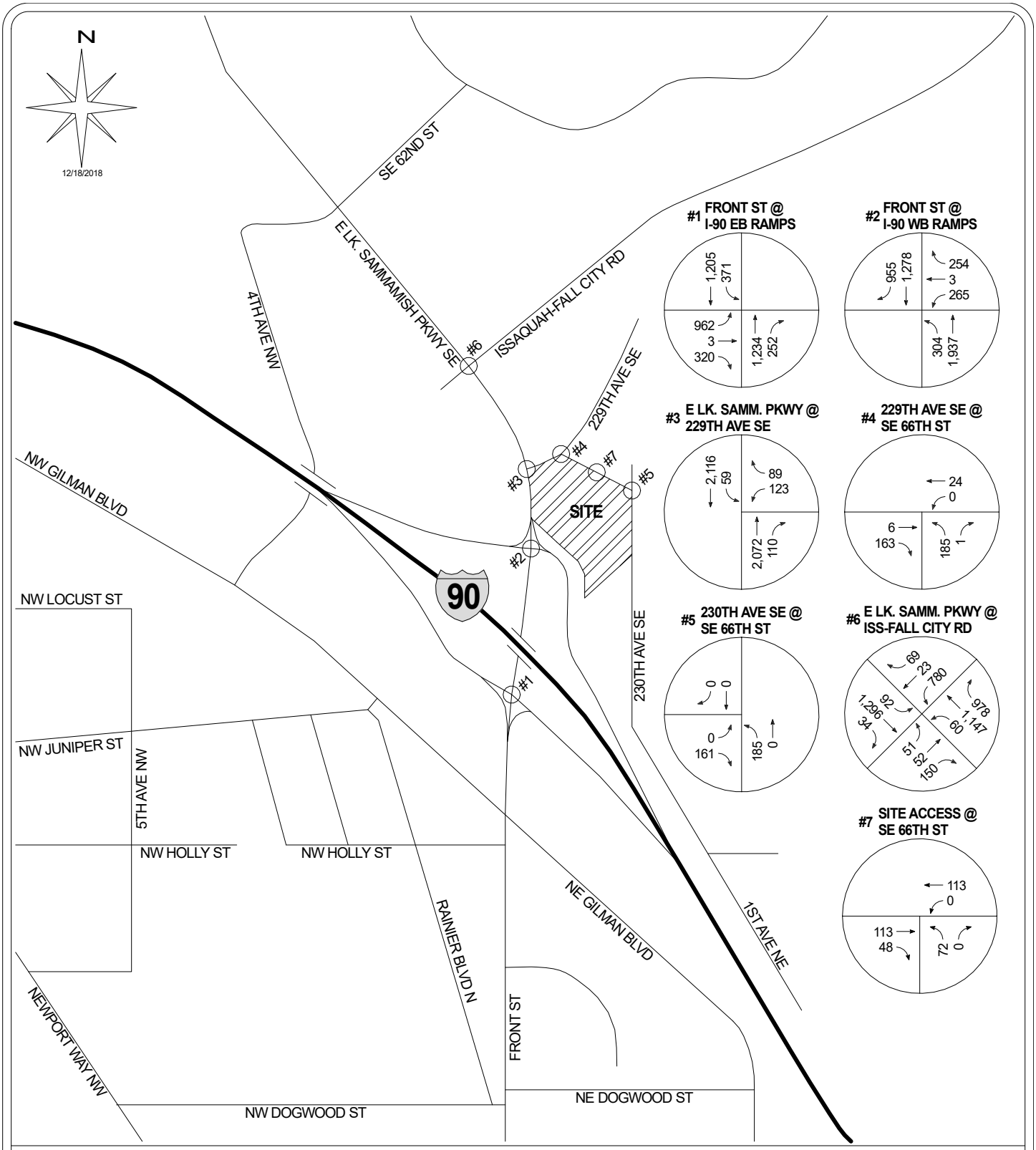
XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 8
2025 FUTURE W/ DEV. TURNING MOVEMENTS AM PEAK-HOUR



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49,544 SF AUTO SALES

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XX→ PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 9
2025 FUTURE W/ DEV. TURNING MOVEMENTS PM PEAK-HOUR

5. TRAFFIC ANALYSIS AND IMPACT

The traffic analysis has been performed for the AM and PM peak-hours at the following study intersections:

1. Front Street at Eastbound I-90 Ramps
2. Front Street at Westbound I-90 Ramps
3. E. Lake Sammamish Parkway at 229th Avenue SE
4. SE 66th Street at 229th Avenue SE
5. SE 66th Street at 230th Avenue SE
6. E. Lake Sammamish Parkway at Issaquah-Fall City Road

Additionally, the proposed development's expected main access on the south side of SE 66th Street was analyzed with 100% of the trips from the development to analyze a worst-case scenario. Additionally, the SE 66th Street and 230th Avenue SE intersection was also loaded with 100% of the trips from the development to analyze the worst-case scenario for operations if development trips disproportionately use the two proposed access locations on the east side of the property. The analysis has been performed for the following conditions:

- 2018 Existing Conditions
- 2025 Baseline Conditions
- 2025 Future with Development Conditions

The traffic analysis has been performed using the *Synchro 10.1, Build 0* software. The analysis of the signalized intersections used existing signal timing information. The intersection analysis has been performed in accordance with City of Issaquah guidelines. HCM 6th Edition and HCM 2010 methodology cannot evaluate signalized intersection levels of service with shared lane configurations or non-NEMA phasing. Two signalized intersections (Front Street at Eastbound I-90 Ramps and ELSP at Issaquah-Fall City Road) could not report HCM 6th Edition or HCM 2010 results because of these limitations. Instead, all signalized intersections used Synchro's signalized intersection analysis methodology. This methodology reported a higher average delay than the HCM 6th Edition results at the other two signalized intersections where a comparison could be made in the PM peak-hour.

The operations of the study intersections during the AM peak-hour are summarized in Table 3. Table 3 reports the intersection-average vehicle delay and v/c for signalized intersections, and the critical approach-average vehicle delay and v/c for unsignalized intersections.

Table 3: Intersection Operations Summary – AM Peak-Hour

Intersection	Intersection Control	2018 Existing Conditions			2025 Baseline Conditions			2025 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Front St @ EB I-90 Ramps	Signal	C	23.9	0.70	C	26.5	0.79	C	26.8	0.79
2. Front St @ WB I-90 Ramps	Signal	C	23.7	0.70	C	25.3	0.79	C	25.6	0.79
3. ELSP @ 229th Ave SE	Signal	A	6.2	0.51	A	6.7	0.57	A	9.0	0.64
4. 229th Ave SE @ SE 66th St	Minor-Leg Stop-Control	A	9.8 Northbound	0.06	B	10.0 Northbound	0.07	B	10.5 Northbound	0.11
5. 230th Ave SE @ SE 66th St	Minor-Leg Stop-Control	-	-	-	-	-	-	*B*	*10.3 Southbound*	-
6. ELSP @ Iss-Fall City Rd	Signal	D	44.0	0.74	D	50.8	0.82	D	52.3	0.82
7. Site Driveway @ SE 66th St	Minor-Leg Stop-Control	-	-	-	-	-	-	A	9.5 Northbound	0.03

All study intersections are expected to operate at acceptable levels of service in the AM peak-hour based on the City of Issaquah's concurrency standards. It should be noted that no volume was recorded in the stop-controlled, southbound direction at the 230th Avenue SE and SE 66th Street intersection during the entire 2-hour count period and therefore no delay would be reported. A 5-trip placeholder for southbound-left trips were added to the intersection to estimate the delay that would be experienced by a vehicle if it made the turning movement. The estimated delay experienced by the hypothetical vehicle trips is expected to meet the City's concurrency standards.

The operations of the study intersections during the PM peak-hour are summarized in Table 4.

Table 4: Intersection Operations Summary – PM Peak-Hour

Intersection	Intersection Control	2018 Existing Conditions			2025 Baseline Conditions			2025 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Front St @ EB I-90 Ramps	Signal	D	44.0	0.94	E	57.7	1.06	E	59.9	1.07
2. Front St @ WB I-90 Ramps	Signal	C	22.4	0.94	C	27.4	1.06	C	28.0	1.07
3. ELSP @ 229th Ave SE	Signal	A	5.7	0.67	A	8.8	0.72	B	13.2	0.78
4. 229th Ave SE @ SE 66th St	Minor-Leg Stop-Control	A	9.5 Northbound	0.12	A	9.7 Northbound	0.14	B	10.4 Northbound	0.24
5. 230th Ave SE @ SE 66th St	Minor-Leg Stop-Control	-	-	-	-	-	-	*B*	*10.9 Southbound*	-
6. ELSP @ Issq-Fall City Rd	Signal	C	30.8	0.75	D	40.1	0.83	D	42.7	0.85
7. Site Driveway @ SE 66th St	Minor-Leg Stop-Control	-	-	-	-	-	-	B	10.6 Northbound	0.11

The level of service analysis for the PM peak-hour shows all intersections will operate at acceptable level of service standards as defined by the City of Issaquah and WSDOT. The same assumptions applied to the 230th Avenue SE at SE 66th Street intersection in the AM peak-hour were applied to the PM peak-hour as well. Level of service calculations are included in the attachments.

5.1 Operations by Movement

The City of Issaquah requires that the operations of each movement be summarized even if the intersection-average delay meets the City of Issaquah standards. The operations of the individual movements at the study intersections are summarized in Table 5 for the AM peak-hour. The PM peak-hour operations of the individual movements at the study intersections are summarized in Table 6.

Table 5: Movement Operations Summary – AM Peak-Hour

Intersection	Movement	2018 Existing Conditions			2025 Baseline Conditions			2025 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Front St @ EB I-90 Front St	Eastbound Left	E	58.3	0.71	E	55.9	0.73	E	55.9	0.73
	Eastbound Through	-	-	-	-	-	-	-	-	-
	Eastbound Right	C	25.0	0.65	D	37.1	0.75	D	36.8	0.74
	Northbound Left	-	-	-	-	-	-	-	-	-
	Northbound Through	B	18.8	0.45	C	22.2	0.55	C	22.8	0.56
	Northbound Right	A	2.8	0.06	A	3.8	0.07	A	3.8	0.07
	Southbound Left	E	59.4	0.57	E	63.6	0.66	E	62.8	0.67
	Southbound Through	A	6.5	0.33	A	7.4	0.40	A	7.9	0.40
	Southbound Right	-	-	-	-	-	-	-	-	-
2. Front St @ WB I-90 Front St	Westbound Left	E	57.7	0.67	D	51.4	0.63	D	50.7	0.62
	Westbound Through	-	-	-	-	-	-	-	-	-
	Westbound Right	D	52.8	0.86	E	63.8	0.91	E	67.1	0.92
	Northbound Left	E	65.7	0.79	E	62.2	0.81	E	61.6	0.81
	Northbound Through	B	12.0	0.43	B	13.1	0.53	B	13.6	0.55
	Northbound Right	-	-	-	-	-	-	-	-	-
	Southbound Left	-	-	-	-	-	-	-	-	-
	Southbound Through	C	26.0	0.41	C	30.2	0.55	C	30.6	0.56
	Southbound Right	A	4.1	0.55	A	4.2	0.63	A	4.0	0.63
3. ELSP @ 229th Ave SE	Westbound Left	E	71.8	0.55	E	72.1	0.58	E	72.4	0.62
	Westbound Through	-	-	-	-	-	-	-	-	-
	Westbound Right	C	20.5	0.22	B	19.2	0.23	B	17.3	0.27
	Northbound Left	-	-	-	-	-	-	-	-	-
	Northbound Through-Right	A	8.3	0.52	A	9.9	0.60	B	14.1	0.67
	Southbound Left	A	0.8	0.09	A	0.8	0.13	A	3.4	0.29
	Southbound Through	A	1.0	0.34	A	0.5	0.40	A	0.5	0.42
	Southbound Right	-	-	-	-	-	-	-	-	-
4. 229th Ave SE @ SE 66th St	Westbound Left	A	7.8	0.00	A	7.8	0.00	A	8.0	0.00
	Northbound Left-Right	A	9.8	0.06	B	10.0	0.07	B	10.5	0.11
6. ELSP @ Issq-Fall City Rd	Eastbound Through-Left	E	73.5	0.48	E	76.8	0.54	E	76.8	0.54
	Eastbound Right	A	2.9	0.11	A	4.4	0.13	A	4.4	0.13
	Westbound Through-Left	E	57.2	0.89	E	61.9	0.95	E	64.3	0.95
	Westbound Right	A	1.0	0.10	A	1.4	0.11	A	1.4	0.11
	Northbound Left	D	38.2	0.26	D	42.9	0.36	D	42.8	0.37
	Northbound Through	D	49.0	0.60	E	61.8	0.78	E	64.5	0.79
	Northbound Right	C	20.9	0.43	C	24.0	0.50	C	25.5	0.51
	Southbound Left	C	24.3	0.23	C	29.5	0.37	C	29.8	0.37
	Southbound Through-Right	C	33.2	0.39	D	37.7	0.49	D	38.0	0.51
7. Site Driveway @ SE 66th St	Northbound Left-Right	-	-	-	-	-	-	A	9.5	0.03

Table 6: Movement Operations Summary – PM Peak-Hour

Intersection	Movement	2018 Existing Conditions			2025 Baseline Conditions			2025 Future with Development Conditions		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1. Front St @ EB I-90 Front St	Eastbound Left	E	62.1	0.85	E	66.5	0.90	E	67.5	0.91
	Eastbound Through	-	-	-	-	-	-	-	-	-
	Eastbound Right	C	29.0	0.53	D	35.9	0.60	D	36.3	0.60
	Northbound Left	-	-	-	-	-	-	-	-	-
	Northbound Through	D	44.8	0.79	E	78.9	1.02	F	83.3	1.03
	Northbound Right	C	23.2	0.35	C	27.2	0.44	C	27.3	0.44
	Southbound Left	E	72.0	0.92	E	75.9	0.97	F	81.4	0.99
	Southbound Through	C	28.5	0.48	D	36.0	0.57	D	36.7	0.58
	Southbound Right	-	-	-	-	-	-	-	-	-
2. Front St @ WB I-90 Front St	Westbound Left	E	71.6	0.77	E	75.2	0.81	E	76.0	0.81
	Westbound Through	-	-	-	-	-	-	-	-	-
	Westbound Right	D	48.0	0.68	D	51.5	0.73	D	52.8	0.74
	Northbound Left	F	85.0	0.82	E	77.5	0.87	E	77.1	0.87
	Northbound Through	A	4.7	0.63	A	6.3	0.74	A	6.8	0.75
	Northbound Right	-	-	-	-	-	-	-	-	-
	Southbound Left	-	-	-	-	-	-	-	-	-
	Southbound Through	C	26.4	0.59	C	34.2	0.72	C	34.7	0.74
	Southbound Right	B	11.8	0.73	C	24.9	0.88	C	26.4	0.89
3. ELSP @ 229th Ave SE	Westbound Left	E	73.9	0.52	E	74.3	0.56	E	74.5	0.65
	Westbound Through	-	-	-	-	-	-	-	-	-
	Westbound Right	B	18.7	0.29	B	17.6	0.30	B	14.0	0.36
	Northbound Left	-	-	-	-	-	-	-	-	-
	Northbound Through-Right	A	7.1	0.70	B	12.6	0.83	B	19.8	0.87
	Southbound Left	A	2.6	0.20	B	12.9	0.32	C	23.6	0.46
	Southbound Through	A	1.3	0.45	A	2.0	0.52	A	2.5	0.53
	Southbound Right	-	-	-	-	-	-	-	-	-
4. 229th Ave SE @ SE 66th St	Westbound Left	A	0.0	0.0	A	0.0	0.0	A	0.0	0.0
	Northbound Left-Right	A	9.5	0.12	A	9.7	0.14	B	10.4	0.24
6. ELSP @ Issq-Fall City Rd	Eastbound Through-Left	F	87.8	0.68	F	93.3	0.76	F	93.3	0.76
	Eastbound Right	B	16.0	0.49	B	19.1	0.55	B	19.1	0.55
	Westbound Through-Left	E	75.8	0.89	E	79.6	0.93	F	81.3	0.95
	Westbound Right	A	7.0	0.12	A	6.3	0.13	A	6.3	0.13
	Northbound Left	A	10.0	0.28	C	28.7	0.45	C	29.7	0.45
	Northbound Through	B	16.8	0.60	C	22.7	0.74	C	23.4	0.75
	Northbound Right	B	10.9	0.73	C	30.7	0.85	D	41.2	0.88
	Southbound Left	B	18.4	0.33	C	24.3	0.49	C	25.3	0.51
	Southbound Through-Right	C	31.1	0.69	D	39.0	0.84	D	40.0	0.85
7. Site Driveway @ SE 66th St	Northbound Left-Right	-	-	-	-	-	-	B	10.6	0.11

The I-90 ramp terminals as well as the signalized intersection at ELSP and 229th Avenue SE are all controlled by WSDOT. WSDOT is currently analyzing alternatives for improvements to the I-90/Street interchange, although a preferred alternative has not yet been identified. Such analyses typically analyze volumes 20 or more years beyond the existing year. The City of Issaquah's transportation consultants checked to determine if the expected trips from the Evergreen Ford-Lincoln development would fit within the projected 2040 traffic volumes in the area and confirmed they would. Therefore, any forecasts used by WSDOT or the City of Issaquah for improvements to the Front Street interchange would account for the development trips added by the Evergreen Ford-Lincoln development. No additional mitigation by the applicant should be required for these three intersections.

The only other individual turning movements exceeding the City's LOS D or v/c standards in the PM peak-hour are the eastbound and westbound through-left movements at the intersection of ESLP and Issaquah-Fall City Road. Of these movements, the Evergreen Ford-Lincoln development is only expected to add trips to the westbound through-left movement. The through-left movement is made of approximately 97% left turns during the PM peak-hour, and therefore more realistically operates as a dedicated left-turn movement rather than a shared through-left. The 0.95 v/c ratio for the westbound movement would be under the acceptable 1.00 v/c ratio for dedicated turning movements set by the City. The LOS for the movement currently operates near the LOS E/F threshold in existing conditions and would continue to operate near that threshold in the future with development conditions. The high average delays for the eastbound and westbound movements are a function of their lower volumes compared to the northbound and southbound through movements (and therefore allocated green time from the signal) and the split phasing of the signal. Allocating more green time to these movements by removing green time from the higher volume northbound and southbound movements would increase the intersection's overall average delay and is therefore not recommended. Payment of the City of Issaquah's traffic mitigation fees that could help pay for future improvements would off-set the impact of the new development trips travelling through the intersection. It should be noted that none of this analysis includes credit for the 25% of the development's trips that are likely to be pass-by trips that are already currently travelling on the existing roadway system.

5.2 Queuing Analysis

A queuing analysis for the intersection of E. Lake Sammamish Parkway at 229th Avenue SE has been completed for all movements impacted by development trips in the AM and PM peak-hour. The 50th percentile and 95th percentile queue lengths are summarized in Table 7.

Table 7: E. Lk. Sammamish Parkway at 229th Avenue SE Queue Length Summary

Time	Eastbound Movement	Storage [ft]	2018 Existing Conditions		2025 Baseline Conditions		2025 Future w/ Dev. Conditions	
			50th %	95th %	50th %	95th %	50th %	95th %
AM Peak-Hour	Northbound Thru-Right	340	435*	525*	535*	615*	590*	640*
	Westbound Left	125	55	100	65	115	75	130*
	Westbound Right	125	0	30	0	30	0	35
	Southbound Left	280	0	0	0	0	0	0
PM Peak-Hour	Northbound Thru-Right	340	100	750*	475*	1,170*	770*	1,240*
	Westbound Left	125	70	120	80	130*	115	180*
	Westbound Right	125	0	40	0	45	0	50
	Southbound Left	280	0	5	0	5	10	15

NOTE: Queues are rounded to the nearest 5-ft, *indicates queue may exceed storage capacity

The queueing analysis shows northbound through-right queues currently exceed capacity and are expected to continue doing so in 2025 whether development trips are added to the street network or not. The analysis assumes existing channelization and timings without any improvements from the planned Front Street/I-90 interchange project. The volumes used for WSDOT's Front Street/I-90 interchange project would incorporate the added development trips, as previously discussed in this report. The added trips from the development could cause the westbound left 95th-percentile queue to exceed capacity in the AM peak-hour by 5 feet. The westbound left 95th-percentile queue is expected to exceed capacity in the 2025 baseline conditions. The development would add approximately 50 feet to the 95th-percentile queue (~2 vehicles) while the 50th-percentile queues would remain within the storage capacity. Due to the low intersection volumes west of ELSP on 229th Avenue SE, the 95th-percentile queues are not expected to significantly impact roadway operations.

5.3 Access Analysis

The accesses of the Evergreen Ford-Lincoln Development to SE 66th Street/230th Avenue SE are proposed to be a stop-controlled intersection. The main access does not warrant any additional right-turn channelization based on WSDOT Exhibit 1310-11 from the July 2018 WSDOT Design Manual. The level of service analysis, which does not include separate left and right-turn channelization, shows that the main access is anticipated to operate at acceptable LOS B with 100% of the trips generated by the development using it.

The sight distances at the accesses were also evaluated. The proposed development accesses are expected to have adequate stopping sight distance in both directions based on a design speed 25 mph as long as sight triangles are maintained along the development's frontage.

6. SAFETY ANALYSIS

A safety analysis has been provided to evaluate the vehicle collision history in the vicinity of the Evergreen Ford-Lincoln development.

6.1 Collision History

Collision data at the study intersections for the most recent five complete years-worth of data (Jan 1, 2013 through Dec 31, 2017) from WSDOT was used in the analysis. The collision data is summarized in Table 8 below.

Table 8: Study Intersection Collision Data (2013-2017)

Intersection	# Collisions	# Injury Collisions	# Fatal Collisions	Collision Rate [MEV]	Collision Frequency [per yr]	Two Most Common Collision-Types (#)
1. Front St @ EB I-90 Ramps	37	7	0	0.54	7.4	Rear-End (31) Enter at Angle (3)
2. Front St @ WB I-90 Ramps	32	5	0	0.41	6.4	Rear-End (20) Opposite, one-left/one-straight (4)
3. ELSP @ 229th Ave SE	11	3	0	0.16	2.2	Rear-End (5) Same direction, Sideswipe (3)
4. 229th Ave SE @ SE 66th Street	0	0	0	0.00	0.0	-
5. 230th Ave SE @ SE 66th Street	0	0	0	0.00	0.0	-
6. ELSP @ Issq-Fall City Rd	48	13	0	0.65	9.6	Opposite, one-left/one-straight (13) Rear-End/Sideswipe (12)

The collision data did not show any reported fatality collisions. All the study intersections had a reported collision rate of less than 1.0 collision per million entering vehicles; which is the typical threshold used to determine if further safety analysis is warranted. Additionally, all the collision frequencies at the signalized intersections were less than 10 collisions per year; which is the typical threshold used to determine if further safety analysis is warranted. ELSP at Issaquah-Fall City Road was the only intersection to have 10 or more "correctable" collisions of a particular type. The 13 opposite-direction, one left/one straight collisions are most likely the result of the permitted left turns made by vehicles from ELSP to Issaquah-Fall City Road/226th Place SE. Those left turns also have a protected phase. The trips from the Evergreen Ford-Lincoln development are not expected to significantly impact this collision type and therefore no mitigation is proposed. The WSDOT collision data is included in the attachments.

6.2 Pedestrian Facilities

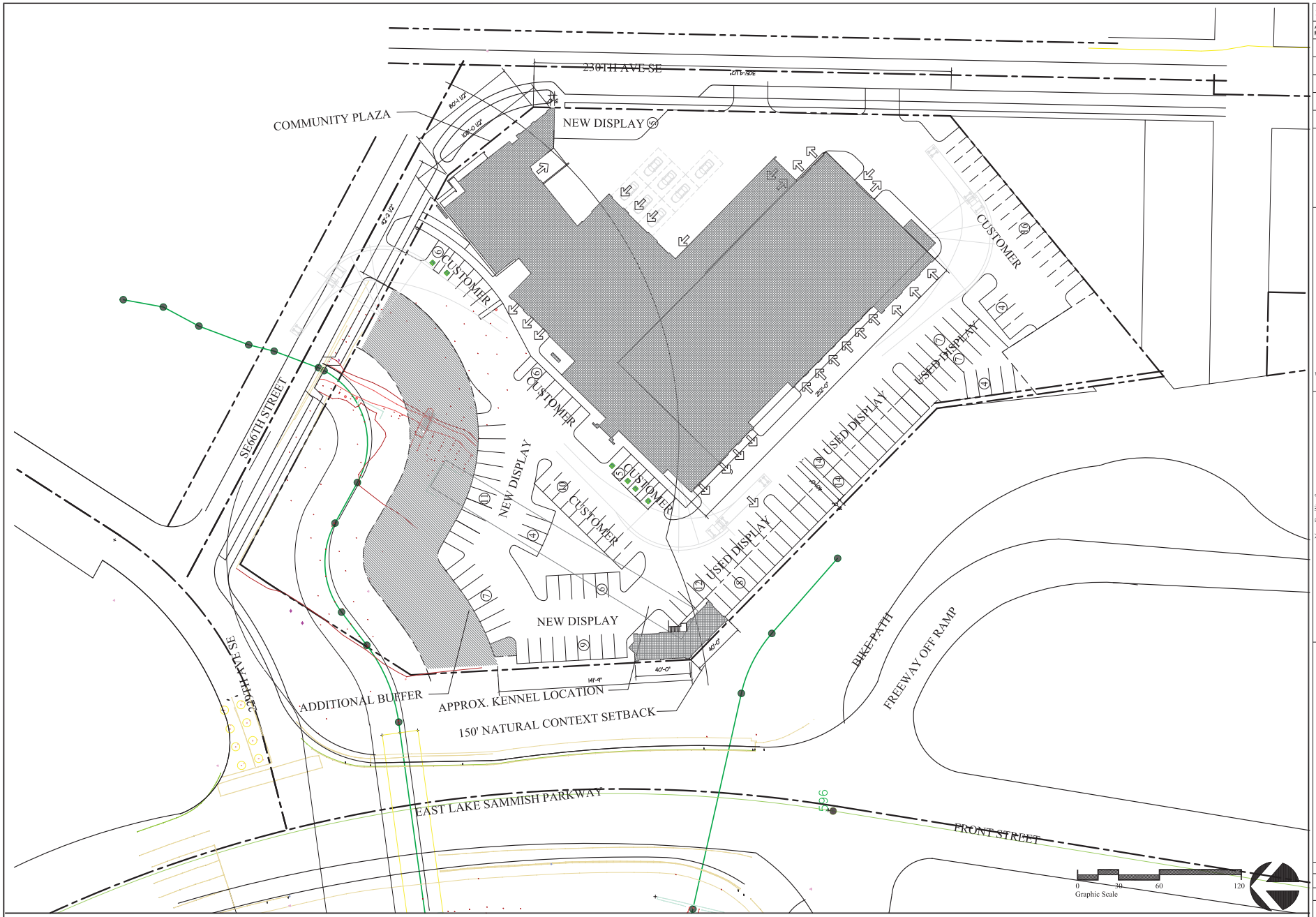
The turning movement counts collected at the study intersections showed approximately 10 pedestrians per hour crossing the east leg of the three southernmost study intersections. These three legs already have marked crosswalks and pedestrian phasing as part of the existing signals. The development is not expected to generate a significant number of pedestrian trips which would

increase pedestrian volumes at these intersections. The development will also be providing frontage improvements including sidewalks.

7. MITIGATION IDENTIFICATION AND RECOMMENDATIONS

The operational analysis shows that the Evergreen Ford-Lincoln development will not significantly impact the operations of the study intersections analyzed in the AM and PM peak-hours, which are anticipated to operate at acceptable levels of service with the development. The development should therefore only be required to provide frontage improvements and pay the appropriate traffic impact fee. The current traffic impact fee is $17.79 per square foot for the motorized impact fee and $1.71 per square foot for non-motorized impact fee for a combined fee rate of $19.50 per square foot for New Auto Sales. The development is proposed to consist of 49,544 SF which corresponds to a total impact fee of $966,108. It is important to note that the fee is assessed at the time of building permit issuance and may increase from what is identified in this report.

Site Plan



Site Plan

Scale 1" = 30'-0"

REVISION	DATE
ASDP Process Rev "D"	16 Oct 2018

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New Facility for:
Evergreen Ford Lincoln
230th Ave SE
Issaquah, WA

Site Plan

PROJ: EFL
DWN: dhe
DATE: 16 Oct 2018
SHEET: A-1.0

Trip Generation and Distribution

Evergreen Ford-Lincoln
GTC #18-228

Trip Generation for: Weekday
(a.k.a.): Average Weekday Daily Trips (AWDT)

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Automobile Sales (New)	49.544 ksf	840	27.84	50%	50%	1379	0%	0	1379	0%	0	0%	0	1379	0	0	0	0	690	689
Totals						1379		0	1379		0		0	1379	0	0	0	0	690	689

Evergreen Ford-Lincoln
GTC #18-228

Trip Generation for: Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Automobile Sales (New)	49.544 ksf	840	1.87	73%	27%	93	0%	0	93	0%	0	0%	0	93	0	0	0	0	68	25
Totals						93		0	93		0		0	93	0	0	0	0	68	25

Evergreen Ford-Lincoln
GTC #18-228

Trip Generation for: Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

									NET EXTERNAL TRIPS BY TYPE											
									IN BOTH DIRECTIONS						DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Automobile Sales (New)	49.544 ksf	840	2.43	40%	60%	120	0%	0	120	0%	0	0%	0	120	0	0	0	0	48	72
Totals						120		0	120		0		0	120	0	0	0	0	48	72

Evergreen Ford-Lincoln
GTC #18-228

AM Peak-Hour

%	New ADT	New AM Peak Hour Trips		
		In	Out	Total
100%	1379	68	25	93.00
1%	13.79	0.68	0.25	0.93
2%	27.58	1.36	0.50	1.86
3%	41.37	2.04	0.75	2.79
4%	55.16	2.72	1.00	3.72
5%	**68.95**	**3.40**	**1.25**	**4.65**
6%	82.74	4.08	1.50	5.58
7%	96.53	4.76	1.75	6.51
8%	110.32	5.44	2.00	7.44
9%	124.11	6.12	2.25	8.37
10%	**137.90**	**6.80**	**2.50**	**9.30**
11%	151.69	7.48	2.75	10.23
12%	165.48	8.16	3.00	11.16
13%	179.27	8.84	3.25	12.09
14%	193.06	9.52	3.50	13.02
15%	**206.85**	**10.20**	**3.75**	**13.95**
16%	220.64	10.88	4.00	14.88
17%	234.43	11.56	4.25	15.81
18%	248.22	12.24	4.50	16.74
19%	262.01	12.92	4.75	17.67
20%	**275.80**	**13.60**	**5.00**	**18.60**
21%	289.59	14.28	5.25	19.53
22%	303.38	14.96	5.50	20.46
23%	317.17	15.64	5.75	21.39
24%	330.96	16.32	6.00	22.32
25%	**344.75**	**17.00**	**6.25**	**23.25**
26%	358.54	17.68	6.50	24.18
27%	372.33	18.36	6.75	25.11
28%	386.12	19.04	7.00	26.04
29%	399.91	19.72	7.25	26.97
30%	**413.70**	**20.40**	**7.50**	**27.90**
31%	427.49	21.08	7.75	28.83
32%	441.28	21.76	8.00	29.76
33%	455.07	22.44	8.25	30.69
34%	468.86	23.12	8.50	31.62
35%	**482.65**	**23.80**	**8.75**	**32.55**
36%	496.44	24.48	9.00	33.48
37%	510.23	25.16	9.25	34.41
38%	524.02	25.84	9.50	35.34
39%	537.81	26.52	9.75	36.27
40%	**551.60**	**27.20**	**10.00**	**37.20**
41%	565.39	27.88	10.25	38.13
42%	579.18	28.56	10.50	39.06
43%	592.97	29.24	10.75	39.99
44%	606.76	29.92	11.00	40.92
45%	**620.55**	**30.60**	**11.25**	**41.85**
46%	634.34	31.28	11.50	42.78
47%	648.13	31.96	11.75	43.71
48%	661.92	32.64	12.00	44.64
49%	675.71	33.32	12.25	45.57
50%	**689.50**	**34.00**	**12.50**	**46.50**

%	New ADT	New AM Peak Hour Trips		
		In	Out	Total
100%	1379	68	25	93
51%	703.29	34.68	12.75	47.43
52%	717.08	35.36	13.00	48.36
53%	730.87	36.04	13.25	49.29
54%	744.66	36.72	13.50	50.22
55%	**758.45**	**37.40**	**13.75**	**51.15**
56%	772.24	38.08	14.00	52.08
57%	786.03	38.76	14.25	53.01
58%	799.82	39.44	14.50	53.94
59%	813.61	40.12	14.75	54.87
60%	**827.40**	**40.80**	**15.00**	**55.80**
61%	841.19	41.48	15.25	56.73
62%	854.98	42.16	15.50	57.66
63%	868.77	42.84	15.75	58.59
64%	882.56	43.52	16.00	59.52
65%	**896.35**	**44.20**	**16.25**	**60.45**
66%	910.14	44.88	16.50	61.38
67%	923.93	45.56	16.75	62.31
68%	937.72	46.24	17.00	63.24
69%	951.51	46.92	17.25	64.17
70%	**965.30**	**47.60**	**17.50**	**65.10**
71%	979.09	48.28	17.75	66.03
72%	992.88	48.96	18.00	66.96
73%	1006.67	49.64	18.25	67.89
74%	1020.46	50.32	18.50	68.82
75%	**1034.25**	**51.00**	**18.75**	**69.75**
76%	1048.04	51.68	19.00	70.68
77%	1061.83	52.36	19.25	71.61
78%	1075.62	53.04	19.50	72.54
79%	1089.41	53.72	19.75	73.47
80%	**1103.20**	**54.40**	**20.00**	**74.40**
81%	1116.99	55.08	20.25	75.33
82%	1130.78	55.76	20.50	76.26
83%	1144.57	56.44	20.75	77.19
84%	1158.36	57.12	21.00	78.12
85%	**1172.15**	**57.80**	**21.25**	**79.05**
86%	1185.94	58.48	21.50	79.98
87%	1199.73	59.16	21.75	80.91
88%	1213.52	59.84	22.00	81.84
89%	1227.31	60.52	22.25	82.77
90%	**1241.10**	**61.20**	**22.50**	**83.70**
91%	1254.89	61.88	22.75	84.63
92%	1268.68	62.56	23.00	85.56
93%	1282.47	63.24	23.25	86.49
94%	1296.26	63.92	23.50	87.42
95%	**1310.05**	**64.60**	**23.75**	**88.35**
96%	1323.84	65.28	24.00	89.28
97%	1337.63	65.96	24.25	90.21
98%	1351.42	66.64	24.50	91.14
99%	1365.21	67.32	24.75	92.07
100%	**1379.00**	**68.00**	**25.00**	**93.00**

Evergreen Ford-Lincoln
GTC #18-228

PM Peak-Hour

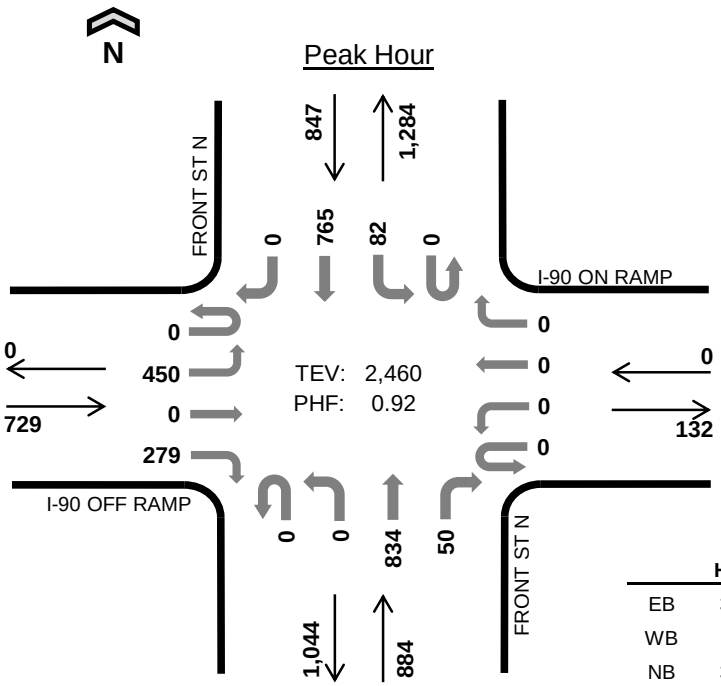
%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	1379	48	72	120.00
1%	13.79	0.48	0.72	1.20
2%	27.58	0.96	1.44	2.40
3%	41.37	1.44	2.16	3.60
4%	55.16	1.92	2.88	4.80
5%	**68.95**	**2.40**	**3.60**	**6.00**
6%	82.74	2.88	4.32	7.20
7%	96.53	3.36	5.04	8.40
8%	110.32	3.84	5.76	9.60
9%	124.11	4.32	6.48	10.80
10%	**137.90**	**4.80**	**7.20**	**12.00**
11%	151.69	5.28	7.92	13.20
12%	165.48	5.76	8.64	14.40
13%	179.27	6.24	9.36	15.60
14%	193.06	6.72	10.08	16.80
15%	**206.85**	**7.20**	**10.80**	**18.00**
16%	220.64	7.68	11.52	19.20
17%	234.43	8.16	12.24	20.40
18%	248.22	8.64	12.96	21.60
19%	262.01	9.12	13.68	22.80
20%	**275.80**	**9.60**	**14.40**	**24.00**
21%	289.59	10.08	15.12	25.20
22%	303.38	10.56	15.84	26.40
23%	317.17	11.04	16.56	27.60
24%	330.96	11.52	17.28	28.80
25%	**344.75**	**12.00**	**18.00**	**30.00**
26%	358.54	12.48	18.72	31.20
27%	372.33	12.96	19.44	32.40
28%	386.12	13.44	20.16	33.60
29%	399.91	13.92	20.88	34.80
30%	**413.70**	**14.40**	**21.60**	**36.00**
31%	427.49	14.88	22.32	37.20
32%	441.28	15.36	23.04	38.40
33%	455.07	15.84	23.76	39.60
34%	468.86	16.32	24.48	40.80
35%	**482.65**	**16.80**	**25.20**	**42.00**
36%	496.44	17.28	25.92	43.20
37%	510.23	17.76	26.64	44.40
38%	524.02	18.24	27.36	45.60
39%	537.81	18.72	28.08	46.80
40%	**551.60**	**19.20**	**28.80**	**48.00**
41%	565.39	19.68	29.52	49.20
42%	579.18	20.16	30.24	50.40
43%	592.97	20.64	30.96	51.60
44%	606.76	21.12	31.68	52.80
45%	**620.55**	**21.60**	**32.40**	**54.00**
46%	634.34	22.08	33.12	55.20
47%	648.13	22.56	33.84	56.40
48%	661.92	23.04	34.56	57.60
49%	675.71	23.52	35.28	58.80
50%	**689.50**	**24.00**	**36.00**	**60.00**

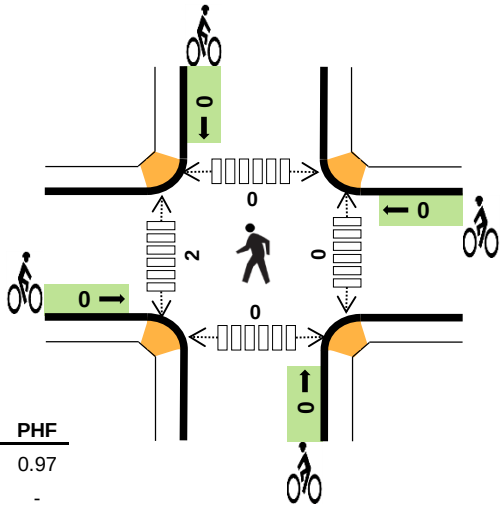
%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	1379	48	72	120
51%	703.29	24.48	36.72	61.20
52%	717.08	24.96	37.44	62.40
53%	730.87	25.44	38.16	63.60
54%	744.66	25.92	38.88	64.80
55%	**758.45**	**26.40**	**39.60**	**66.00**
56%	772.24	26.88	40.32	67.20
57%	786.03	27.36	41.04	68.40
58%	799.82	27.84	41.76	69.60
59%	813.61	28.32	42.48	70.80
60%	**827.40**	**28.80**	**43.20**	**72.00**
61%	841.19	29.28	43.92	73.20
62%	854.98	29.76	44.64	74.40
63%	868.77	30.24	45.36	75.60
64%	882.56	30.72	46.08	76.80
65%	**896.35**	**31.20**	**46.80**	**78.00**
66%	910.14	31.68	47.52	79.20
67%	923.93	32.16	48.24	80.40
68%	937.72	32.64	48.96	81.60
69%	951.51	33.12	49.68	82.80
70%	**965.30**	**33.60**	**50.40**	**84.00**
71%	979.09	34.08	51.12	85.20
72%	992.88	34.56	51.84	86.40
73%	1006.67	35.04	52.56	87.60
74%	1020.46	35.52	53.28	88.80
75%	**1034.25**	**36.00**	**54.00**	**90.00**
76%	1048.04	36.48	54.72	91.20
77%	1061.83	36.96	55.44	92.40
78%	1075.62	37.44	56.16	93.60
79%	1089.41	37.92	56.88	94.80
80%	**1103.20**	**38.40**	**57.60**	**96.00**
81%	1116.99	38.88	58.32	97.20
82%	1130.78	39.36	59.04	98.40
83%	1144.57	39.84	59.76	99.60
84%	1158.36	40.32	60.48	100.80
85%	**1172.15**	**40.80**	**61.20**	**102.00**
86%	1185.94	41.28	61.92	103.20
87%	1199.73	41.76	62.64	104.40
88%	1213.52	42.24	63.36	105.60
89%	1227.31	42.72	64.08	106.80
90%	**1241.10**	**43.20**	**64.80**	**108.00**
91%	1254.89	43.68	65.52	109.20
92%	1268.68	44.16	66.24	110.40
93%	1282.47	44.64	66.96	111.60
94%	1296.26	45.12	67.68	112.80
95%	**1310.05**	**45.60**	**68.40**	**114.00**
96%	1323.84	46.08	69.12	115.20
97%	1337.63	46.56	69.84	116.40
98%	1351.42	47.04	70.56	117.60
99%	1365.21	47.52	71.28	118.80
100%	**1379.00**	**48.00**	**72.00**	**120.00**

Existing Count Data

FRONT ST N
I-90 OFF RAMP

Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	3.6%	0.97
WB	-	-
NB	3.2%	0.94
SB	1.3%	0.81
TOTAL	2.6%	0.92

Two-Hour Count Summaries

Interval Start	I-90 OFF RAMP Eastbound				I-90 ON RAMP Westbound				FRONT ST N Northbound				FRONT ST N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	82	0	51	0	0	0	0	0	0	223	11	0	13	117	0	497	0
7:15 AM	0	93	0	57	0	0	0	0	0	0	202	11	0	5	159	0	527	0
7:30 AM	**0**	**111**	**0**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**224**	**11**	**0**	**20**	**187**	**0**	**626**	0
7:45 AM	**0**	**101**	**0**	**77**	**0**	**0**	**0**	**0**	**0**	**0**	**218**	**13**	**0**	**23**	**238**	**0**	**670**	2,320
8:00 AM	**0**	**106**	**0**	**74**	**0**	**0**	**0**	**0**	**0**	**0**	**196**	**10**	**0**	**19**	**174**	**0**	**579**	2,402
8:15 AM	**0**	**132**	**0**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**196**	**16**	**0**	**20**	**166**	**0**	**585**	**2,460**
8:30 AM	0	102	0	77	0	0	0	0	0	0	187	17	0	13	205	0	601	2,435
8:45 AM	0	99	1	75	0	0	0	0	0	0	223	16	0	23	238	0	675	2,440
Count Total	0	826	1	539	0	0	0	0	0	0	1,669	105	0	136	1,484	0	4,760	0
Peak Hour	**0**	**450**	**0**	**279**	**0**	**0**	**0**	**0**	**0**	**0**	**834**	**50**	**0**	**82**	**765**	**0**	**2,460**	**0**

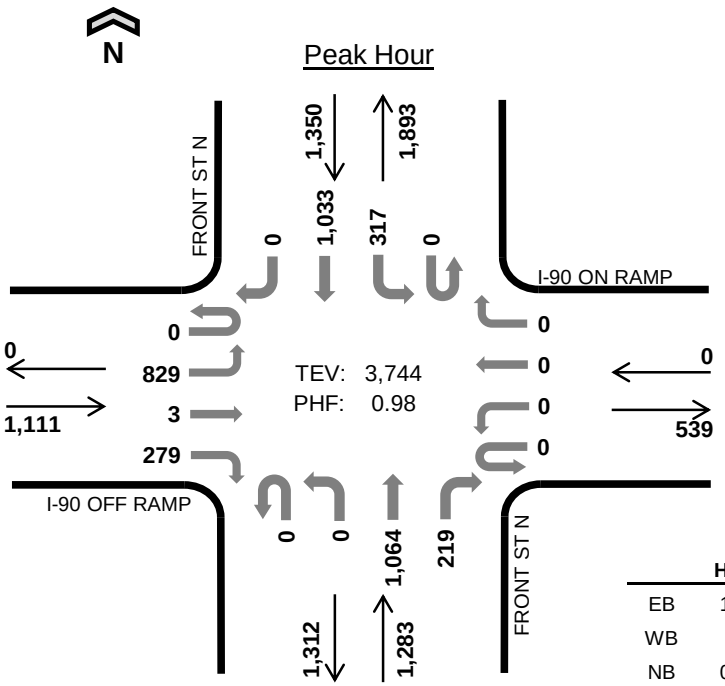
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

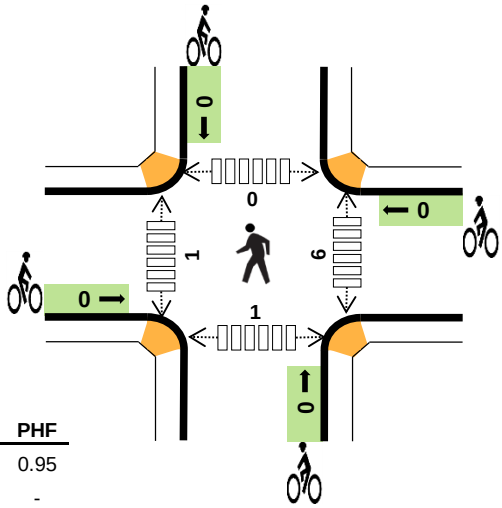
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	0	4	3	*12*	0	0	0	0	*0*	2	0	0	0	*2*
7:15 AM	8	0	4	4	*16*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**8**	**0**	**4**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**5**	**0**	**7**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**6**	**0**	**9**	**5**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**7**	**0**	**8**	**2**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
8:30 AM	5	0	1	12	*18*	0	0	0	0	*0*	2	0	0	0	*2*
8:45 AM	6	0	4	9	*19*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	50	0	41	39	*130*	0	0	0	0	*0*	5	2	0	0	*7*
Peak Hour	**26**	**0**	**28**	**11**	***65***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	***2***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

FRONT ST N
I-90 OFF RAMP

Date: Wed, Nov 28, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.0%	0.95
WB	-	-
NB	0.5%	0.92
SB	0.9%	0.92
TOTAL	0.8%	0.98

Two-Hour Count Summaries

Interval Start	I-90 OFF RAMP Eastbound				I-90 ON RAMP Westbound				FRONT ST N Northbound				FRONT ST N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	216	1	89	0	0	0	0	0	0	278	51	0	73	236	0	944	0
4:15 PM	**0**	**198**	**1**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**256**	**52**	**0**	**88**	**257**	**0**	**925**	0
4:30 PM	**0**	**196**	**1**	**63**	**0**	**0**	**0**	**0**	**0**	**0**	**274**	**64**	**0**	**76**	**248**	**0**	**922**	0
4:45 PM	**0**	**217**	**1**	**70**	**0**	**0**	**0**	**0**	**0**	**0**	**235**	**52**	**0**	**87**	**280**	**0**	**942**	3,733
5:00 PM	**0**	**218**	**0**	**73**	**0**	**0**	**0**	**0**	**0**	**0**	**299**	**51**	**0**	**66**	**248**	**0**	**955**	**3,744**
5:15 PM	0	244	0	58	0	0	0	0	0	0	239	65	0	86	206	0	898	3,717
5:30 PM	0	210	1	48	0	0	0	0	0	0	267	68	0	79	228	0	901	3,696
5:45 PM	0	264	0	59	0	0	0	0	0	0	235	67	0	51	198	0	874	3,628
Count Total	0	1,763	5	533	0	0	0	0	0	0	2,083	470	0	606	1,901	0	7,361	0
Peak Hour	**0**	**829**	**3**	**279**	**0**	**0**	**0**	**0**	**0**	**0**	**1,064**	**219**	**0**	**317**	**1,033**	**0**	**3,744**	**0**

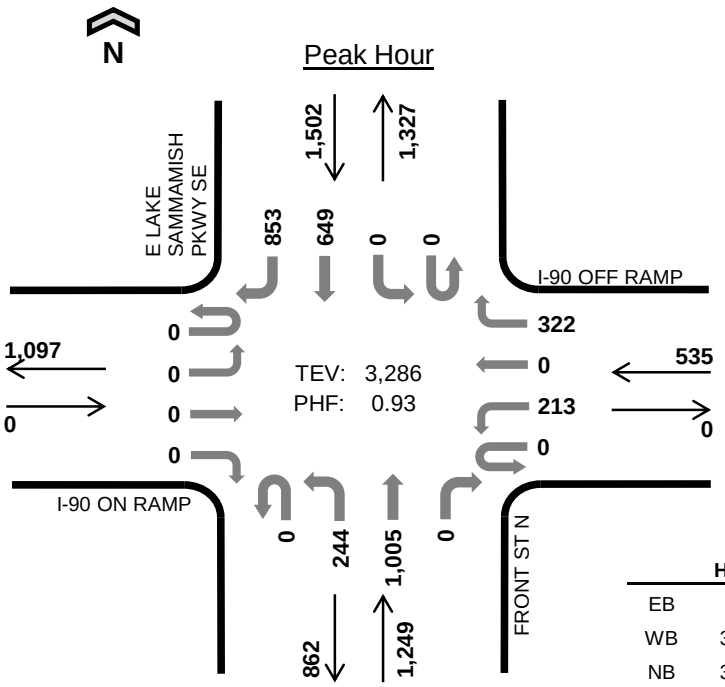
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

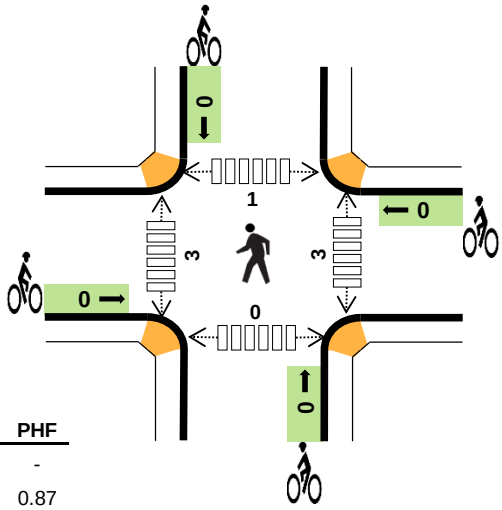
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	0	3	6	*13*	0	0	0	0	*0*	0	0	0	1	*1*
4:15 PM	**5**	**0**	**2**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**0**	**0**	**2**	**7**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**4**	**0**	**2**	**2**	***8***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	*3*
5:00 PM	**2**	**0**	**1**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**1**	***4***
5:15 PM	1	0	1	0	*2*	0	0	0	0	*0*	2	0	0	0	*2*
5:30 PM	0	0	2	1	*3*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	4	0	1	3	*8*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	20	0	14	22	*56*	0	0	0	0	*0*	10	1	0	2	*13*
Peak Hour	**11**	**0**	**7**	**12**	***30***	**0**	**0**	**0**	**0**	***0***	**6**	**1**	**0**	**1**	***8***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

FRONT ST N
I-90 ON RAMP

Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	-	-
WB	3.0%	0.87
NB	3.0%	0.91
SB	3.2%	0.94
TOTAL	3.1%	0.93

Two-Hour Count Summaries

Interval Start	I-90 ON RAMP Eastbound				I-90 OFF RAMP Westbound				FRONT ST N Northbound				E LAKE SAMMAMISH PKWY SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	40	0	98	0	102	211	0	0	0	92	234	777	0
7:15 AM	0	0	0	0	0	47	0	106	0	71	226	0	0	0	123	199	772	0
7:30 AM	0	0	0	0	0	70	0	108	0	64	269	0	0	0	130	178	819	0
7:45 AM	0	0	0	0	0	81	0	97	0	65	248	0	0	0	181	195	867	3,235
8:00 AM	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**96**	**0**	**60**	**233**	**0**	**0**	**0**	**136**	**235**	**817**	3,275
8:15 AM	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**64**	**0**	**55**	**273**	**0**	**0**	**0**	**148**	**193**	**771**	3,274
8:30 AM	**0**	**0**	**0**	**0**	**0**	**50**	**0**	**84**	**0**	**55**	**230**	**0**	**0**	**0**	**170**	**222**	**811**	3,266
8:45 AM	**0**	**0**	**0**	**0**	**0**	**68**	**0**	**78**	**0**	**74**	**269**	**0**	**0**	**0**	**195**	**203**	**887**	**3,286**
Count Total	0	0	0	0	0	451	0	731	0	546	1,959	0	0	0	1,175	1,659	6,521	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**213**	**0**	**322**	**0**	**244**	**1,005**	**0**	**0**	**0**	**649**	**853**	**3,286**	**0**

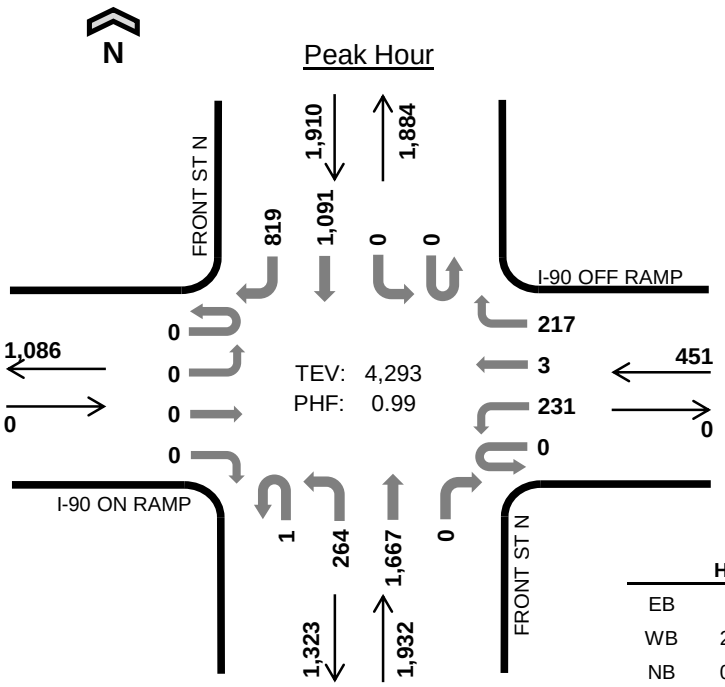
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	2	8	5	*15*	0	0	0	0	*0*	1	0	0	0	*1*
7:15 AM	0	2	11	6	*19*	0	0	0	0	*0*	1	0	0	0	*1*
7:30 AM	0	3	8	5	*16*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	5	8	5	*18*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**0**	**4**	**12**	**9**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**0**	**5**	**12**	**6**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**1**	**0**	*3*
8:30 AM	**0**	**5**	**5**	**18**	***28***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
8:45 AM	**0**	**2**	**9**	**15**	***26***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
Count Total	0	28	73	69	*170*	0	0	0	0	*0*	5	3	1	0	*9*
Peak Hour	**0**	**16**	**38**	**48**	***102***	**0**	**0**	**0**	**0**	***0***	**3**	**3**	**1**	**0**	***7***

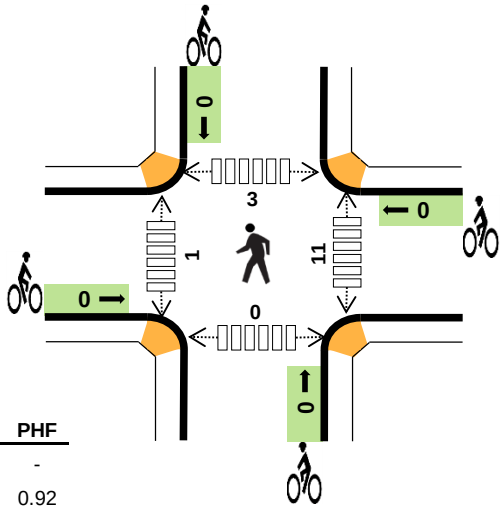
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

FRONT ST N
I-90 ON RAMP

Date: Wed, Nov 28, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	2.2%	0.92
NB	0.8%	0.96
SB	1.0%	0.94
TOTAL	1.1%	0.99



Two-Hour Count Summaries

Interval Start	I-90 ON RAMP Eastbound				I-90 OFF RAMP Westbound				FRONT ST N Northbound				FRONT ST N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	51	0	50	0	68	408	0	0	0	302	167	1,046	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**64**	**0**	**56**	**0**	**67**	**428**	**0**	**0**	**0**	**251**	**219**	**1,085**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**50**	**1**	**75**	**402**	**0**	**0**	**0**	**300**	**209**	**1,075**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**63**	**2**	**57**	**0**	**53**	**403**	**0**	**0**	**0**	**292**	**175**	**1,045**	4,251
5:00 PM	**0**	**0**	**0**	**0**	**0**	**66**	**1**	**54**	**0**	**69**	**434**	**0**	**0**	**0**	**248**	**216**	**1,088**	**4,293**
5:15 PM	0	0	0	0	0	46	0	47	0	58	437	0	0	0	262	194	1,044	4,252
5:30 PM	0	0	0	0	0	32	0	41	0	62	412	0	0	0	240	171	958	4,135
5:45 PM	0	0	0	0	0	39	0	55	0	38	458	0	0	0	240	135	965	4,055
Count Total	0	0	0	0	0	399	3	410	1	490	3,382	0	0	0	2,135	1,486	8,306	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**231**	**3**	**217**	**1**	**264**	**1,667**	**0**	**0**	**0**	**1,091**	**819**	**4,293**	**0**

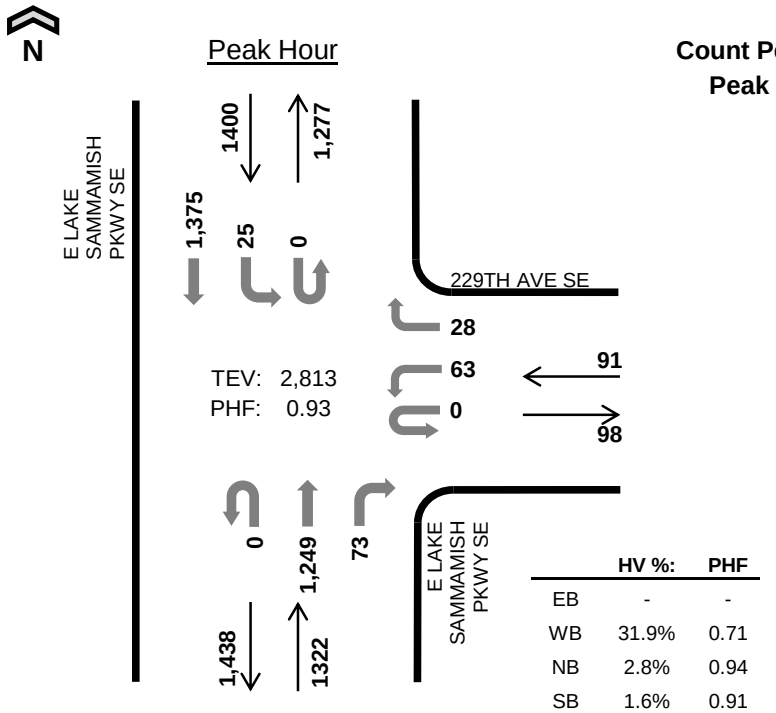
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	0	3	5	11	*19*	0	0	0	0	*0*	0	2	0	0	*2*
4:15 PM	**0**	**3**	**5**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**0**	**3**	**1**	**10**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**3**	**7**	**2**	***12***	**0**	**0**	**0**	**0**	***0***	**9**	**0**	**2**	**0**	*11*
5:00 PM	**0**	**1**	**3**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	***3***
5:15 PM	0	2	1	6	*9*	0	0	0	0	*0*	1	0	1	0	*2*
5:30 PM	0	1	2	2	*5*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	0	1	1	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	17	25	44	*86*	0	0	0	0	*0*	13	3	4	0	*20*
Peak Hour	**0**	**10**	**16**	**20**	***46***	**0**	**0**	**0**	**0**	***0***	**11**	**1**	**3**	**0**	***15***

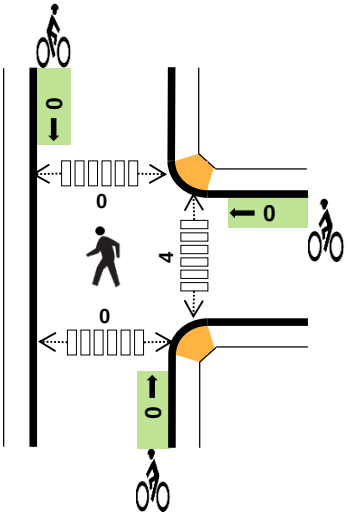
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E LAKE SAMMAMISH PKWY SE
229TH AVE SE

Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	-	-
WB	31.9%	0.71
NB	2.8%	0.94
SB	1.6%	0.91
TOTAL	3.1%	0.93



Two-Hour Count Summaries

Interval Start	0				229TH AVE SE				E LAKE SAMMAMISH PKWY SE				E LAKE SAMMAMISH PKWY SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	14	0	0	0	0	161	18	0	9	205	0	407	0
7:15 AM	0	0	0	0	0	6	0	1	0	0	258	13	0	5	185	0	468	0
7:30 AM	0	0	0	0	0	16	0	1	0	0	318	13	0	7	182	0	537	0
7:45 AM	0	0	0	0	0	11	0	4	0	0	326	20	0	5	314	0	680	2,092
8:00 AM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**6**	**0**	**0**	**298**	**24**	**0**	**5**	**304**	**0**	**648**	2,333
8:15 AM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**8**	**0**	**0**	**320**	**19**	**0**	**5**	**336**	**0**	**699**	2,564
8:30 AM	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**8**	**0**	**0**	**297**	**13**	**0**	**3**	**362**	**0**	**707**	2,734
8:45 AM	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**6**	**0**	**0**	**334**	**17**	**0**	**12**	**373**	**0**	**759**	**2,813**
Count Total	0	0	0	0	0	110	0	34	0	0	2,312	137	0	51	2,261	0	4,905	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**28**	**0**	**0**	**1,249**	**73**	**0**	**25**	**1,375**	**0**	**2,813**	**0**

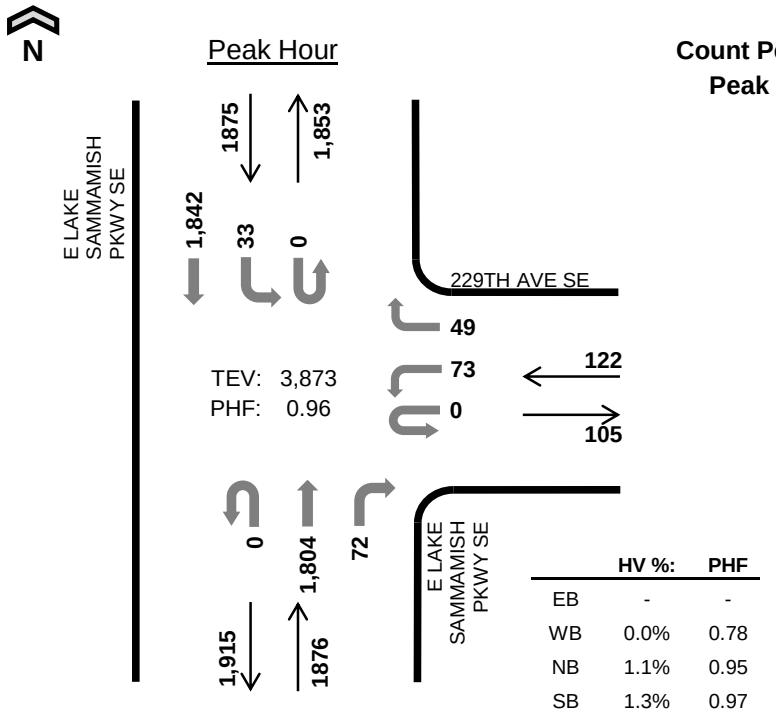
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	2	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	2	2	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	2	4	5	*11*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**0**	**4**	**10**	**3**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**3**	**14**	**5**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:30 AM	**0**	**12**	**7**	**7**	***26***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
8:45 AM	**0**	**10**	**6**	**7**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	0	35	45	29	*109*	0	0	0	0	*0*	4	1	0	0	*5*
Peak Hr	**0**	**29**	**37**	**22**	***88***	**0**	**0**	**0**	**0**	***0***	**4**	**1**	**0**	**0**	***5***

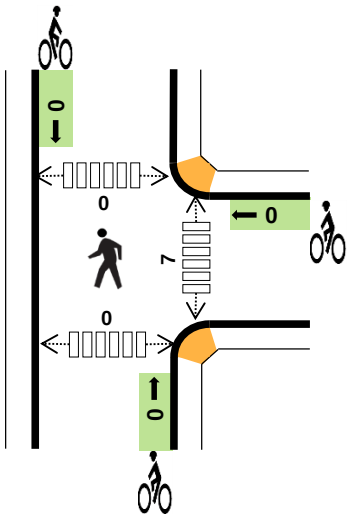
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E LAKE SAMMAMISH PKWY SE
229TH AVE SE

Date: Wed, Nov 28, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.78
NB	1.1%	0.95
SB	1.3%	0.97
TOTAL	1.2%	0.96



Two-Hour Count Summaries

Interval Start	0				229TH AVE SE				E LAKE SAMMAMISH PKWY SE				E LAKE SAMMAMISH PKWY SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	17	0	17	1	0	423	19	0	8	430	0	915	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**10**	**0**	**0**	**450**	**25**	**0**	**7**	**472**	**0**	**979**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**11**	**0**	**0**	**425**	**11**	**0**	**8**	**457**	**0**	**940**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**11**	**0**	**0**	**451**	**18**	**0**	**12**	**438**	**0**	**944**	3,778
5:00 PM	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**17**	**0**	**0**	**478**	**18**	**0**	**6**	**475**	**0**	**1,010**	**3,873**
5:15 PM	0	0	0	0	0	14	0	11	0	0	464	6	0	8	412	0	915	3,809
5:30 PM	0	0	0	0	0	12	0	10	0	0	456	17	0	6	416	0	917	3,786
5:45 PM	0	0	0	0	0	13	0	13	0	0	487	17	0	5	346	0	881	3,723
Count Total	0	0	0	0	0	129	0	100	1	0	3,634	131	0	60	3,446	0	7,501	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**73**	**0**	**49**	**0**	**0**	**1,804**	**72**	**0**	**33**	**1,842**	**0**	**3,873**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	4	6	7	*17*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	**0**	**0**	**6**	**5**	***11***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:30 PM	**0**	**0**	**3**	**12**	***15***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**0**	**0**	**8**	**2**	***10***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
5:00 PM	**0**	**0**	**4**	**5**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	1	3	3	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	1	2	*3*	0	0	0	0	*0*	3	0	0	0	*3*
5:45 PM	0	0	2	4	*6*	0	0	0	0	*0*	0	1	1	0	*2*
Count Total	0	5	33	40	*78*	0	0	0	0	*0*	10	2	1	0	*13*
Peak Hr	**0**	**0**	**21**	**24**	***45***	**0**	**0**	**0**	**0**	***0***	**7**	**0**	**0**	**0**	***7***

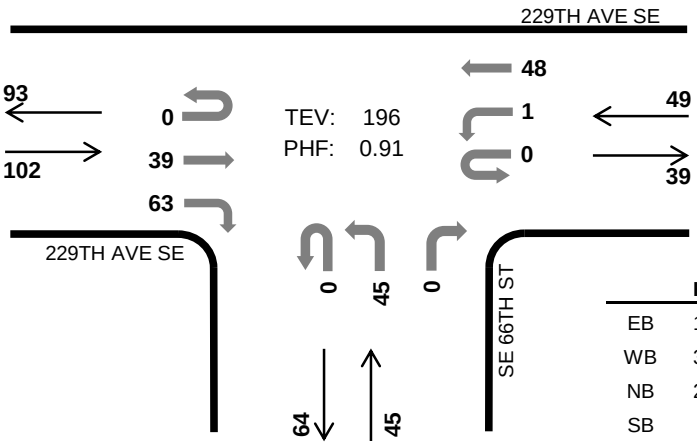
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

SE 66TH ST
229TH AVE SE

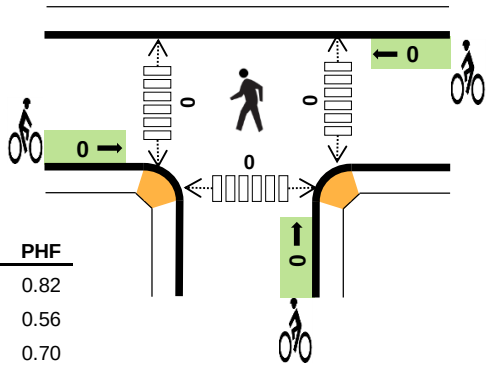
N

Peak Hour

Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	12.7%	0.82
WB	36.7%	0.56
NB	28.9%	0.70
SB	-	-
TOTAL	22.4%	0.91



Two-Hour Count Summaries

Interval Start	229TH AVE SE				229TH AVE SE				SE 66TH ST				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	26	0	1	6	0	0	13	0	0	0	0	0	0	51	0
7:15 AM	0	0	3	11	0	0	7	0	0	6	0	0	0	0	0	0	27	0
7:30 AM	0	0	10	12	0	1	11	0	0	11	0	1	0	0	0	0	46	0
7:45 AM	0	0	11	10	0	0	6	0	0	8	0	0	0	0	0	0	35	159
8:00 AM	**0**	**0**	**17**	**14**	**0**	**0**	**9**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**48**	156
8:15 AM	**0**	**0**	**8**	**16**	**0**	**1**	**9**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	173
8:30 AM	**0**	**0**	**4**	**13**	**0**	**0**	**22**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**50**	177
8:45 AM	**0**	**0**	**10**	**20**	**0**	**0**	**8**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**196**
Count Total	0	0	68	122	0	3	78	0	0	83	0	1	0	0	0	0	355	0
Peak Hour	**0**	**0**	**39**	**63**	**0**	**1**	**48**	**0**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**196**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	3	1	0	*4*	1	0	0	0	*1*	0	0	0	0	*0*
7:30 AM	2	1	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**3**	**4**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**5**	**1**	**2**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**2**	**7**	**6**	**0**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
8:45 AM	**3**	**6**	**5**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	19	27	15	0	*61*	1	0	0	0	*1*	0	0	1	0	*1*
Peak Hr	**13**	**18**	**13**	**0**	***44***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

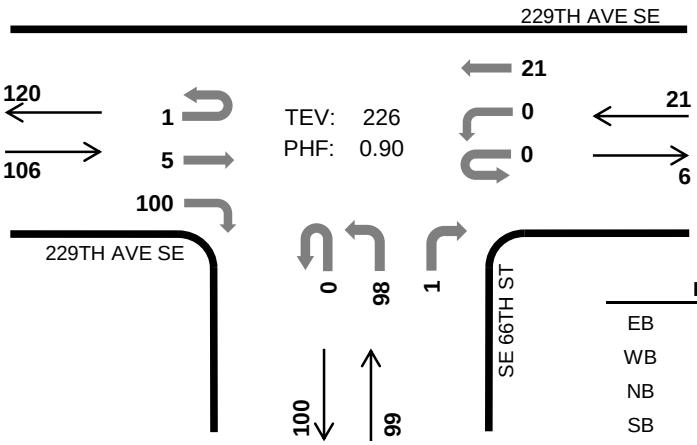
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

SE 66TH ST
229TH AVE SE

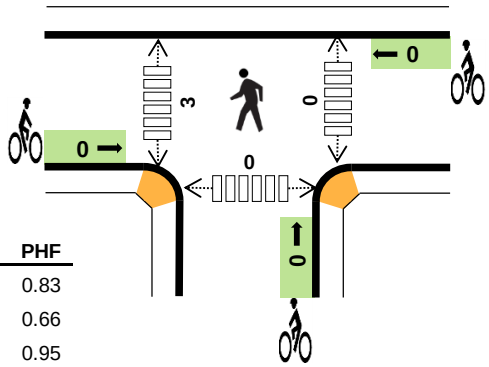
N

Peak Hour

Date: Wed, Nov 28, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	9.4%	0.83
WB	0.0%	0.66
NB	0.0%	0.95
SB	-	-
TOTAL	4.4%	0.90



Two-Hour Count Summaries

Interval Start	229TH AVE SE				229TH AVE SE				SE 66TH ST				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	0	2	23	0	0	6	0	0	23	0	0	0	0	0	0	55	0
4:15 PM	**0**	**0**	**2**	**30**	**0**	**0**	**7**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	0
4:30 PM	**0**	**0**	**1**	**23**	**0**	**0**	**5**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**55**	0
4:45 PM	**1**	**0**	**1**	**24**	**0**	**0**	**1**	**0**	**0**	**24**	**0**	**1**	**0**	**0**	**0**	**0**	**52**	225
5:00 PM	**0**	**0**	**1**	**23**	**0**	**0**	**8**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**226**
5:15 PM	1	0	1	12	0	0	5	0	0	21	0	0	0	0	0	0	40	203
5:30 PM	1	0	1	19	0	1	8	0	0	20	0	1	0	0	0	0	51	199
5:45 PM	1	0	2	18	0	0	2	0	0	17	0	0	0	0	0	0	40	187
Count Total	5	0	11	172	0	1	42	0	0	179	0	2	0	0	0	0	412	0
Peak Hour	**1**	**0**	**5**	**100**	**0**	**0**	**21**	**0**	**0**	**98**	**0**	**1**	**0**	**0**	**0**	**0**	**226**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	2	0	*5*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	*3*
4:30 PM	**4**	**0**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	13	1	2	0	*16*	0	0	0	0	*0*	0	4	0	0	*4*
Peak Hr	**10**	**0**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	***3***

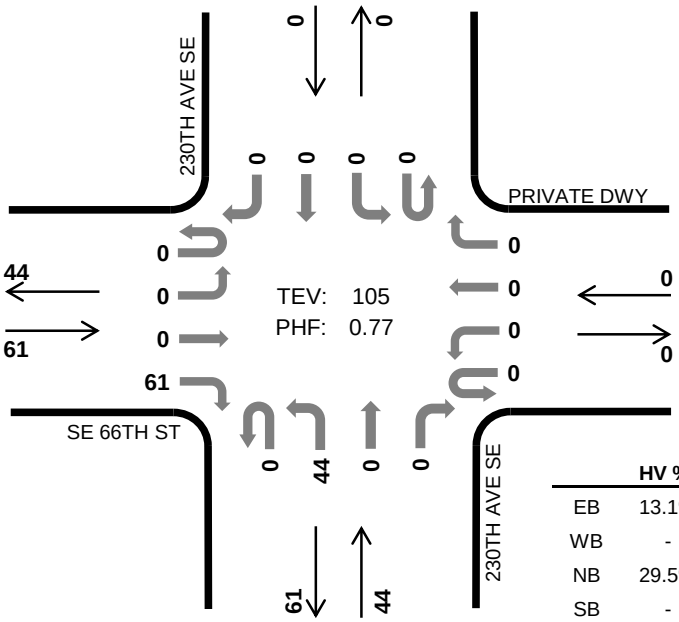
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

230TH AVE SE
SE 66TH ST

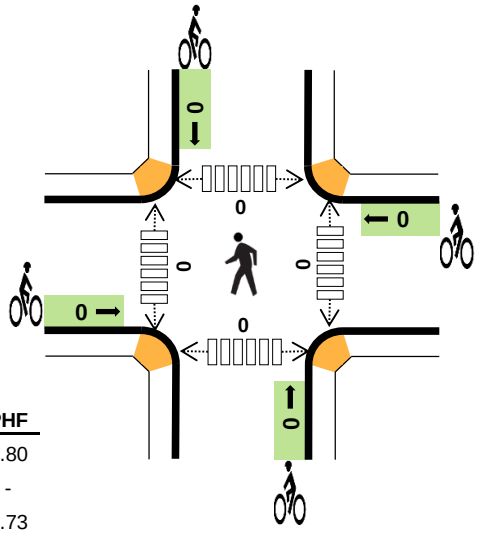
Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

N

Peak Hour



	HV %:	PHF
EB	13.1%	0.80
WB	-	-
NB	29.5%	0.73
SB	-	-
TOTAL	20.0%	0.77



Two-Hour Count Summaries

Interval Start	SE 66TH ST Eastbound				PRIVATE DWY Westbound				230TH AVE SE Northbound				230TH AVE SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	25	0	0	0	0	0	11	0	0	0	0	0	0	36	0
7:15 AM	0	0	0	11	0	0	0	0	0	8	0	0	0	0	0	0	19	0
7:30 AM	0	0	0	12	0	0	0	0	0	12	0	0	0	0	0	0	24	0
7:45 AM	0	0	0	10	0	0	0	0	0	9	0	0	0	0	0	0	19	98
8:00 AM	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	84
8:15 AM	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	91
8:30 AM	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	90
8:45 AM	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**105**
Count Total	0	0	0	119	0	0	0	0	0	84	0	0	0	0	0	0	203	0
Peak Hour	**0**	**0**	**0**	**61**	**0**	**0**	**0**	**0**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**0**	**105**	**0**

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

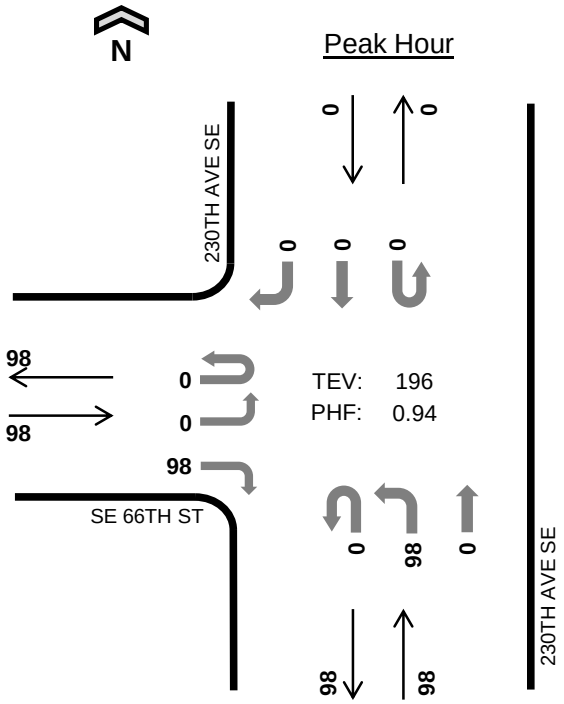
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	1	0	*1*	1	0	0	0	*1*	0	0	0	0	*0*
7:30 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**3**	**0**	**3**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**1**	**0**	**6**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**2**	**0**	**4**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	10	0	15	0	*25*	1	0	0	0	*1*	0	0	0	0	*0*
Peak Hour	**8**	**0**	**13**	**0**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

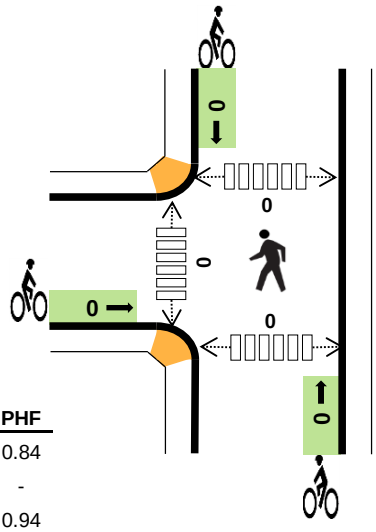
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

230TH AVE SE
SE 66TH ST

Date: Wed, Nov 28, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour





	HV %:	PHF
EB	10.2%	0.84
WB	-	-
NB	0.0%	0.94
SB	-	-
TOTAL	5.1%	0.94

Two-Hour Count Summaries

Interval Start	SE 66TH ST Eastbound				0 Westbound				230TH AVE SE Northbound				230TH AVE SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	0	0	22	0	0	0	0	0	24	0	0	0	0	0	0	47	0
4:15 PM	**0**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	0
4:30 PM	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	0
4:45 PM	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**47**	195
5:00 PM	**0**	**0**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**48**	**196**
5:15 PM	0	0	0	13	0	0	0	0	0	21	0	0	0	0	0	0	34	178
5:30 PM	0	0	0	18	0	0	0	0	0	19	0	0	0	0	0	0	37	166
5:45 PM	0	0	0	20	0	0	0	0	0	18	0	0	0	0	0	0	38	157
Count Total	1	0	0	171	0	0	0	0	0	180	0	0	0	0	0	0	352	0
Peak Hour	**0**	**0**	**0**	**98**	**0**	**0**	**0**	**0**	**0**	**98**	**0**	**0**	**0**	**0**	**0**	**0**	**196**	**0**

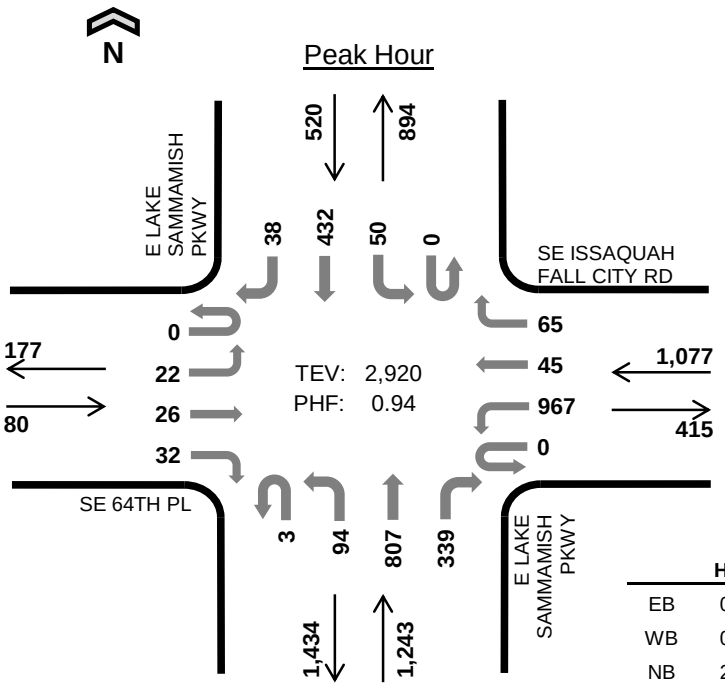
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

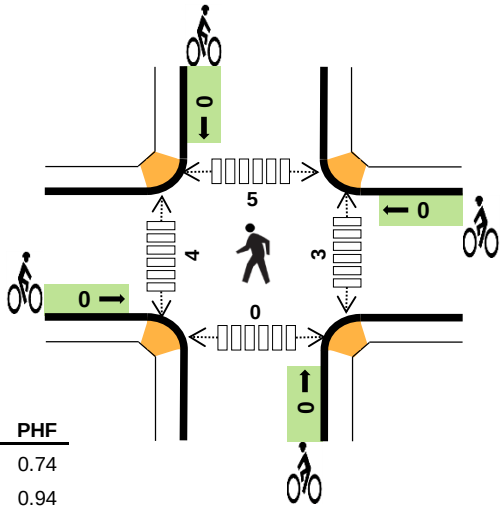
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**4**	**0**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	13	0	1	0	*14*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**10**	**0**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E LAKE SAMMAMISH PKWY
SE 64TH PL

Date: Wed, Dec 05, 2018
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	0.0%	0.74
WB	0.7%	0.94
NB	2.4%	0.92
SB	2.9%	0.86
TOTAL	1.8%	0.94

Two-Hour Count Summaries

Interval Start	SE 64TH PL				SE ISSAQUAH FALL CITY RD				E LAKE SAMMAMISH PKWY				E LAKE SAMMAMISH PKWY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	0	4	0	240	9	5	0	18	208	58	0	6	67	5	621	0
7:15 AM	0	3	2	3	0	229	6	15	0	17	233	68	0	5	79	11	671	0
7:30 AM	0	0	1	4	0	204	7	16	1	25	262	71	0	7	97	4	699	0
7:45 AM	**0**	**5**	**7**	**8**	**0**	**237**	**18**	**18**	**2**	**36**	**219**	**79**	**0**	**14**	**123**	**14**	**780**	2,771
8:00 AM	**0**	**7**	**2**	**7**	**0**	**255**	**3**	**17**	**0**	**21**	**198**	**90**	**0**	**10**	**101**	**9**	**720**	2,870
8:15 AM	**0**	**5**	**4**	**8**	**0**	**219**	**10**	**13**	**0**	**17**	**216**	**90**	**0**	**9**	**107**	**6**	**704**	2,903
8:30 AM	**0**	**5**	**13**	**9**	**0**	**256**	**14**	**17**	**1**	**20**	**174**	**80**	**0**	**17**	**101**	**9**	**716**	**2,920**
8:45 AM	0	4	4	10	0	246	11	8	1	26	201	113	0	13	129	7	773	2,913
Count Total	0	30	33	53	0	1,886	78	109	5	180	1,711	649	0	81	804	65	5,684	0
Peak Hour	**0**	**22**	**26**	**32**	**0**	**967**	**45**	**65**	**3**	**94**	**807**	**339**	**0**	**50**	**432**	**38**	**2,920**	**0**

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

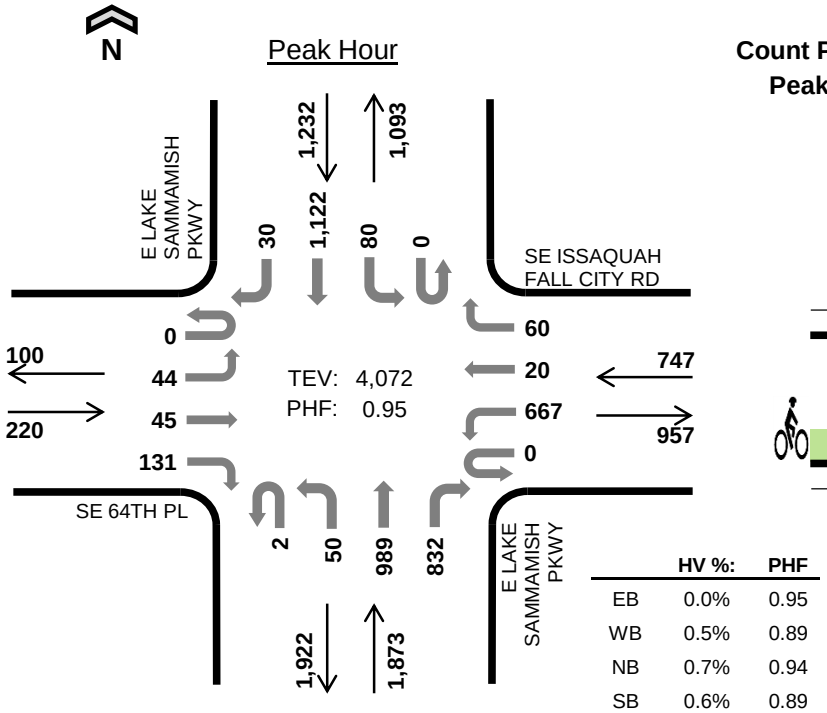
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	2	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	3	8	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	1	5	2	*8*	0	0	0	0	*0*	3	0	1	0	*4*
7:45 AM	**0**	**3**	**5**	**2**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
8:00 AM	**0**	**1**	**12**	**3**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:15 AM	**0**	**1**	**8**	**4**	***13***	**0**	**0**	**0**	**0**	***0***	**2**	**3**	**0**	**0**	*5*
8:30 AM	**0**	**3**	**5**	**6**	***14***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**0**	***3***
8:45 AM	1	1	5	5	*12*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	2	14	50	24	*90*	0	0	0	0	*0*	7	4	6	0	*17*
Peak Hour	**0**	**8**	**30**	**15**	***53***	**0**	**0**	**0**	**0**	***0***	**3**	**4**	**5**	**0**	***12***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

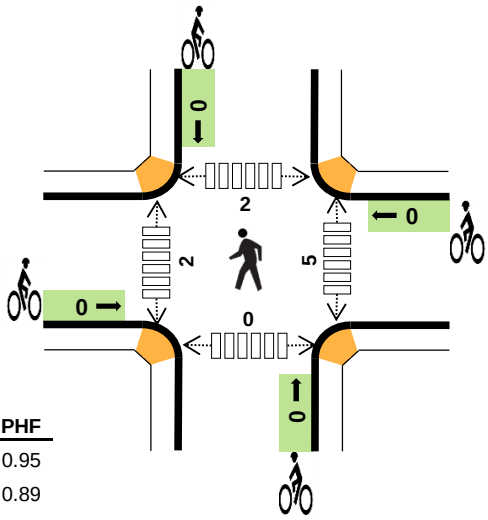
E LAKE SAMMAMISH PKWY
SE 64TH PL

Date: Wed, Dec 05, 2018
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour



	HV %:	PHF
EB	0.0%	0.95
WB	0.5%	0.89
NB	0.7%	0.94
SB	0.6%	0.89
TOTAL	0.6%	0.95



Two-Hour Count Summaries

Interval Start	SE 64TH PL Eastbound UT	LT	TH	RT	SE ISSAQUAH FALL CITY RD Westbound UT	LT	TH	RT	E LAKE SAMMAMISH PKWY Northbound UT	LT	TH	RT	E LAKE SAMMAMISH PKWY Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	**0**	**15**	**15**	**27**	**0**	**168**	**7**	**10**	**0**	**21**	**247**	**197**	**0**	**23**	**314**	**10**	**1,054**	0
4:15 PM	**0**	**14**	**10**	**34**	**0**	**133**	**7**	**18**	**2**	**13**	**227**	**209**	**0**	**23**	**298**	**7**	**995**	0
4:30 PM	**0**	**9**	**9**	**30**	**0**	**175**	**1**	**18**	**0**	**7**	**248**	**205**	**0**	**12**	**230**	**3**	**947**	0
4:45 PM	**0**	**6**	**11**	**40**	**0**	**191**	**5**	**14**	**0**	**9**	**267**	**221**	**0**	**22**	**280**	**10**	**1,076**	**4,072**
5:00 PM	0	16	11	49	0	175	5	14	1	4	237	199	0	25	258	8	1,002	4,020
5:15 PM	0	5	9	32	0	142	3	17	0	7	278	244	0	19	273	5	1,034	4,059
5:30 PM	0	12	17	23	0	159	7	14	1	9	201	199	0	21	268	4	935	4,047
5:45 PM	0	5	7	14	0	145	0	8	2	5	199	183	0	39	221	2	830	3,801
Count Total	0	82	89	249	0	1,288	35	113	6	75	1,904	1,657	0	184	2,142	49	7,873	0
Peak Hour	**0**	**44**	**45**	**131**	**0**	**667**	**20**	**60**	**2**	**50**	**989**	**832**	**0**	**80**	**1,122**	**30**	**4,072**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	**0**	**3**	**5**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:15 PM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:30 PM	**0**	**1**	**1**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**1**	**0**	*4*
4:45 PM	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:00 PM	0	2	6	2	*10*	0	0	1	0	*1*	2	0	0	0	*2*
5:15 PM	0	7	2	2	*11*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	1	2	2	*5*	0	0	0	0	*0*	2	1	1	0	*4*
5:45 PM	0	3	1	0	*4*	0	0	0	0	*0*	1	3	1	0	*5*
Count Total	0	17	25	14	*56*	0	0	1	0	*1*	10	6	4	0	*20*
Peak Hour	**0**	**4**	**14**	**8**	***26***	**0**	**0**	**0**	**0**	***0***	**5**	**2**	**2**	**0**	***9***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

AM Turning Movement Calculations

Synchro ID: 1

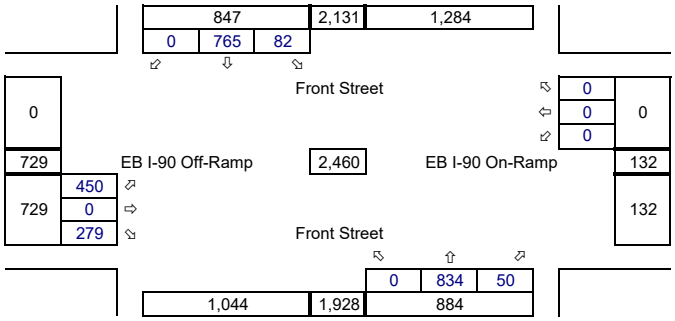
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

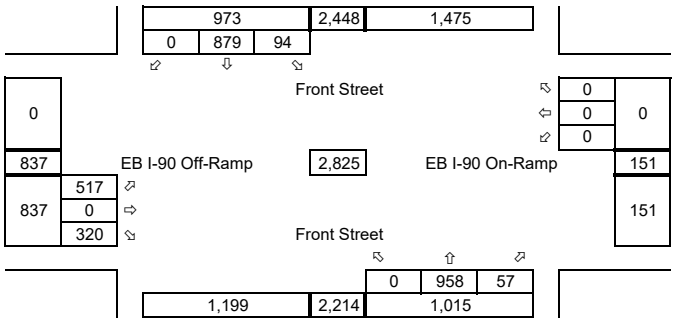
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

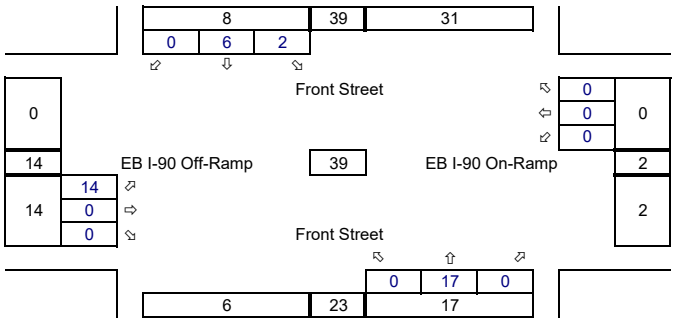
Total Growth = 1.1487



Total Project Trips

Average Weekday

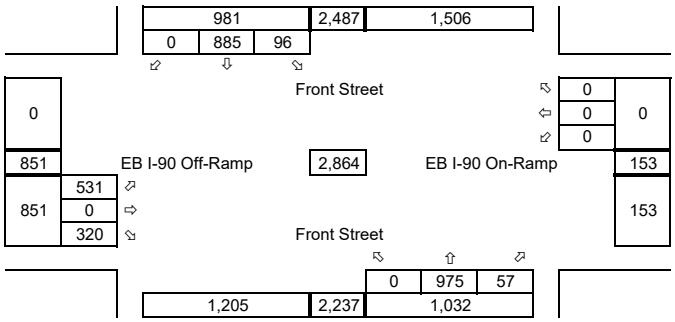
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 2

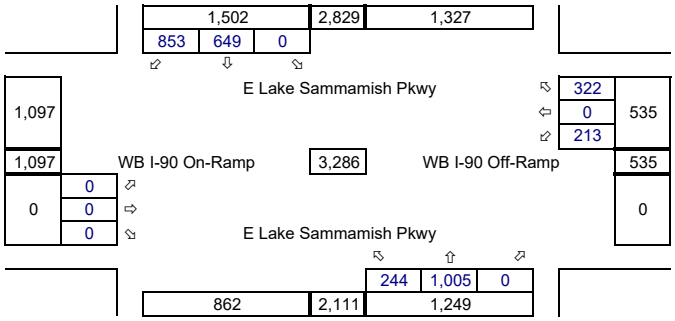
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

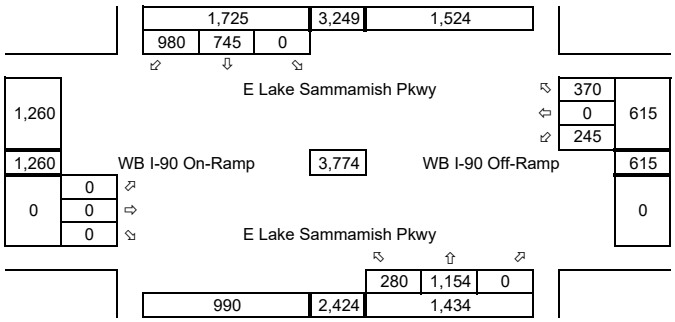
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

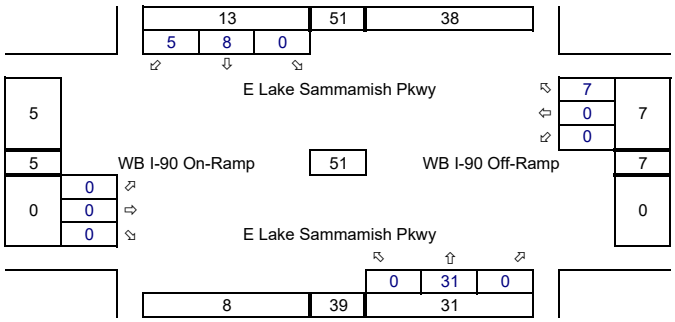
Total Growth = 1.1487



Total Project Trips

Average Weekday

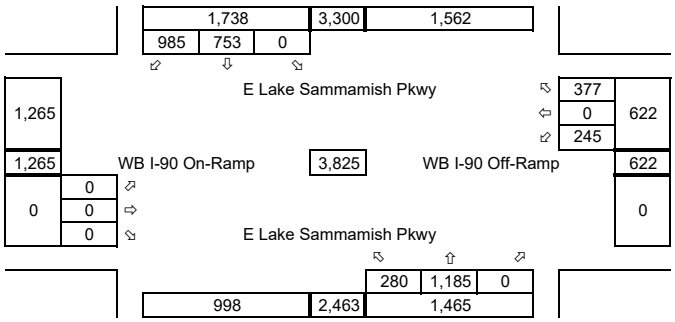
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 3

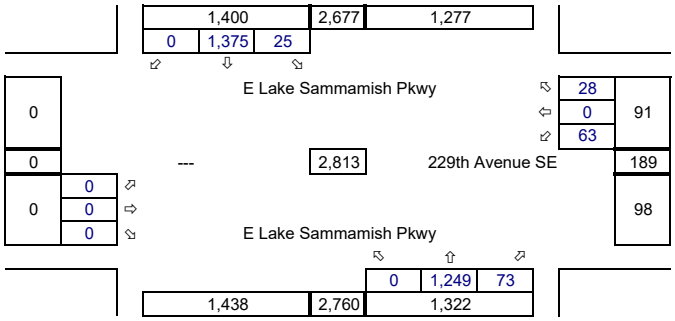
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

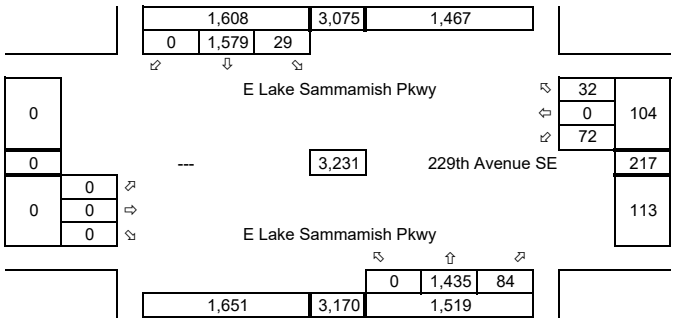
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

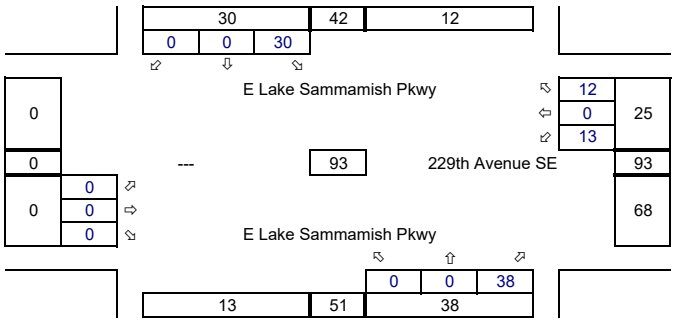
Total Growth = 1.1487



Total Project Trips

Average Weekday

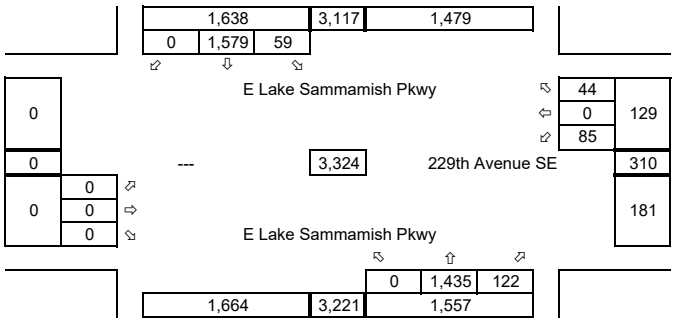
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 4

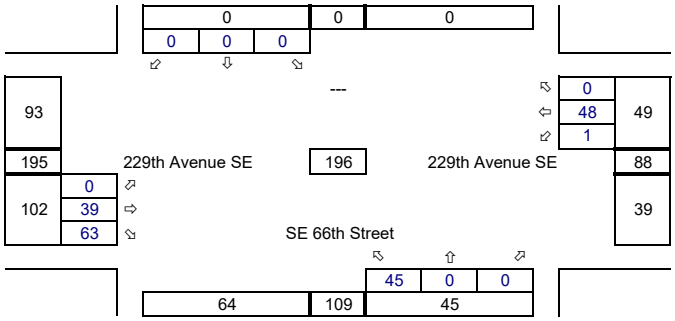
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

PM Peak Hour

Year: 2025

Growth Rate = 2.0%

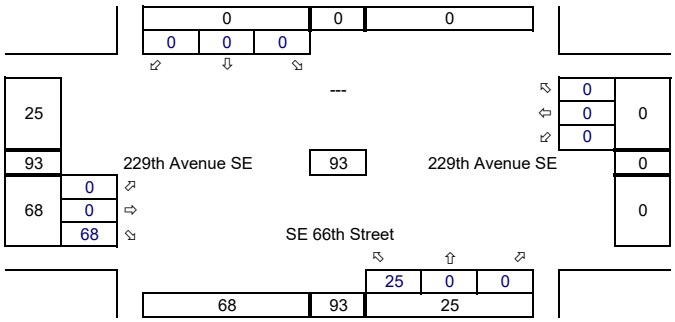
Years of Growth = 7

Total Growth = 1.1487

Total Project Trips

Average Weekday

PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour

Synchro ID: 5

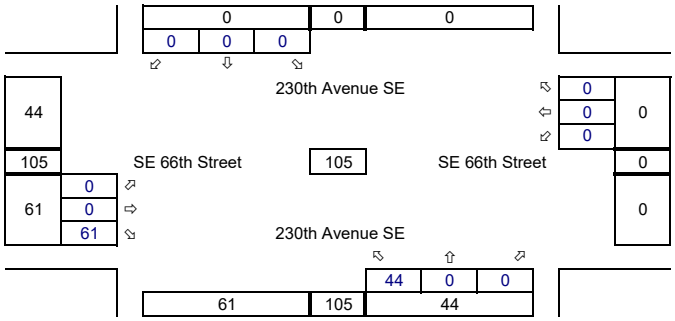
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

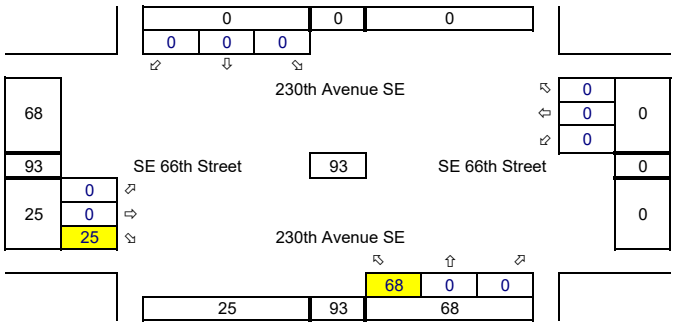
Total Growth = 1.1487

Total Project Trips

Average Weekday

PM Peak Hour

Estimated number of development trips exceeds the likely volume added to the intersection. Estimated volume represents a conservatively high impact from the development



Future with Project

Average Weekday

PM Peak Hour

Synchro ID: 6

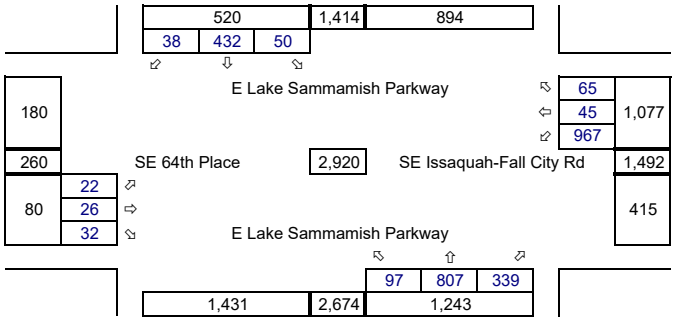
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

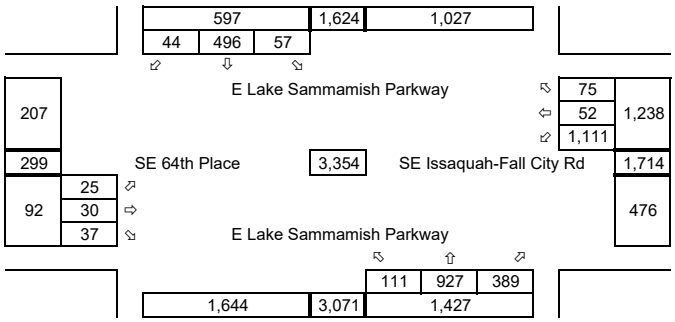
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

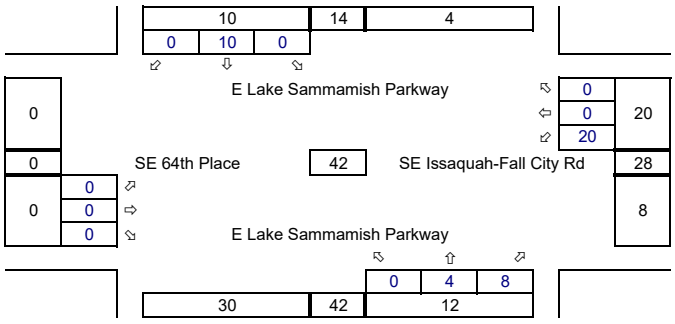
Total Growth = 1.1487



Total Project Trips

Average Weekday

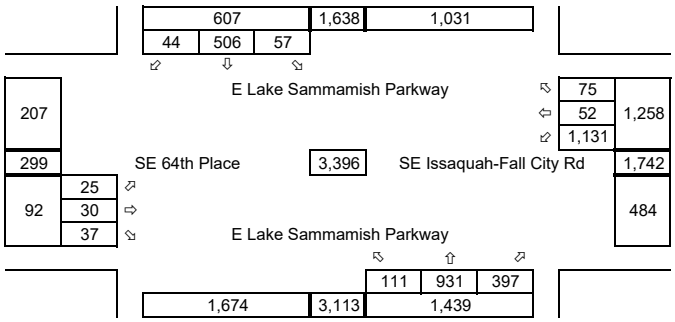
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 7

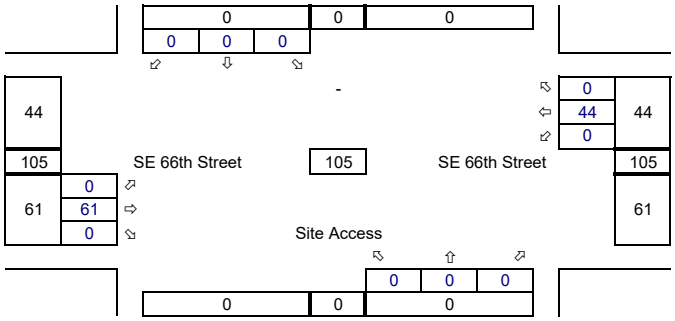
Existing

Average Weekday

AM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

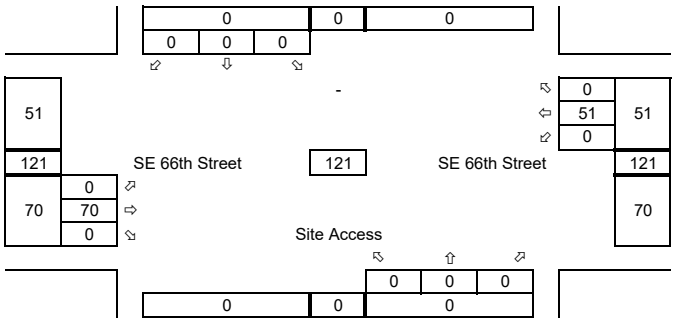
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

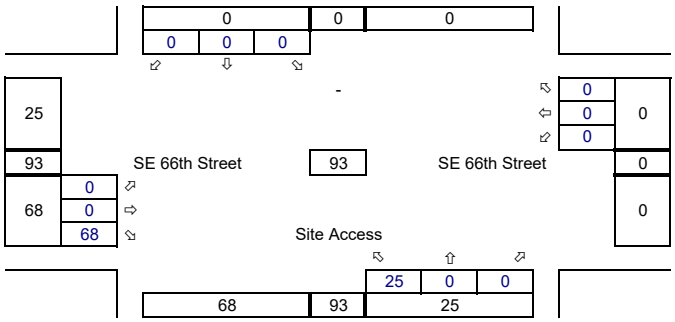
Total Growth = 1.1487



Total Project Trips

Average Weekday

PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour

PM Turning Movement Calculations

Synchro ID: 1

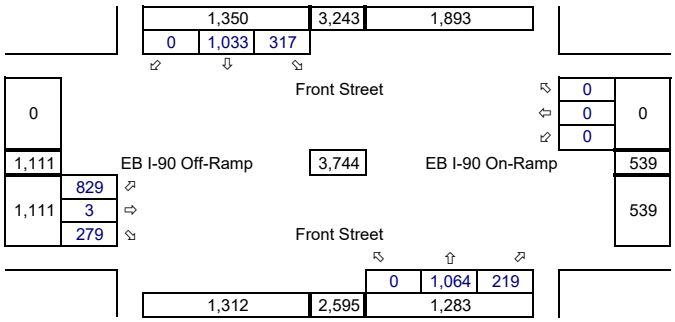
Existing

Average Weekday

PM Peak Hour

Year: **11/28/18**

Data Source: Idax



Future without Project

Average Weekday

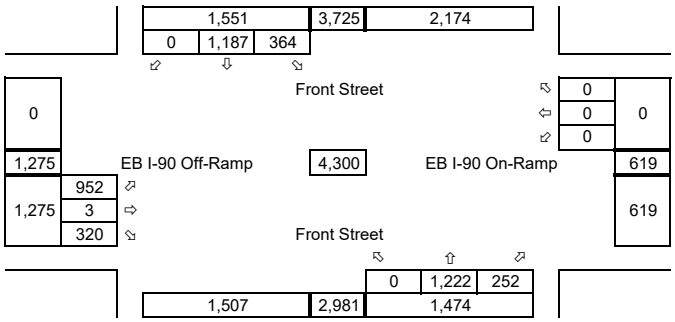
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

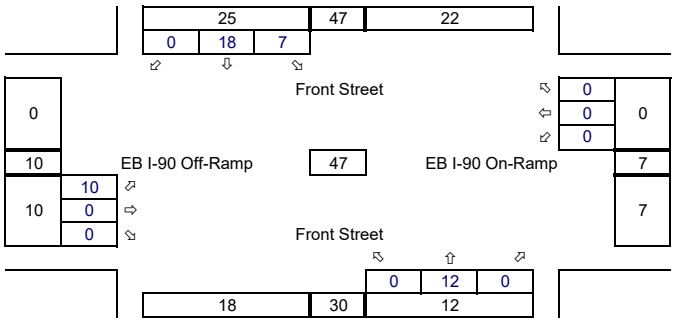
Total Growth = 1.1487



Total Project Trips

Average Weekday

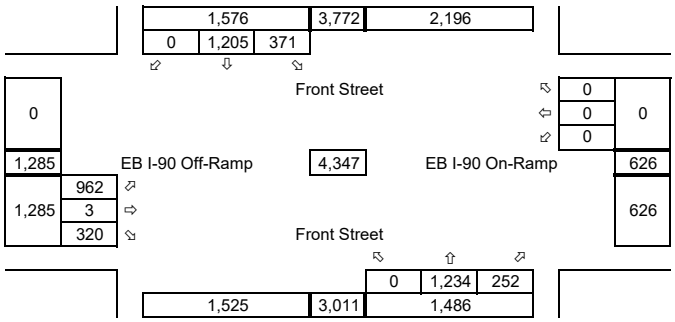
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 2

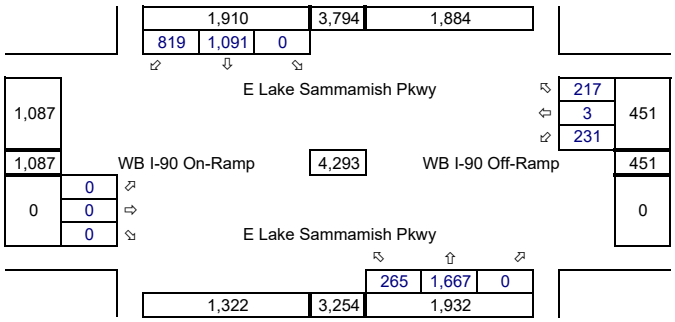
Existing

Average Weekday

PM Peak Hour

Year: **11/28/18**

Data Source: Idax



Future without Project

Average Weekday

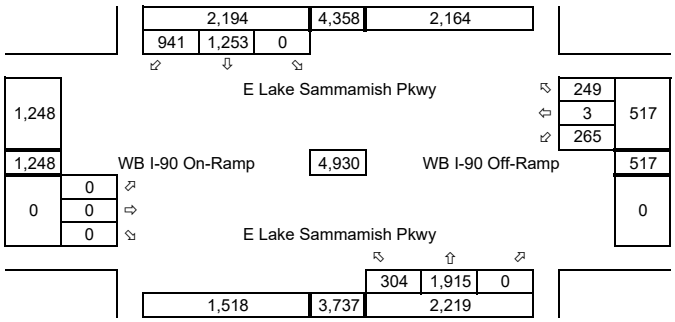
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

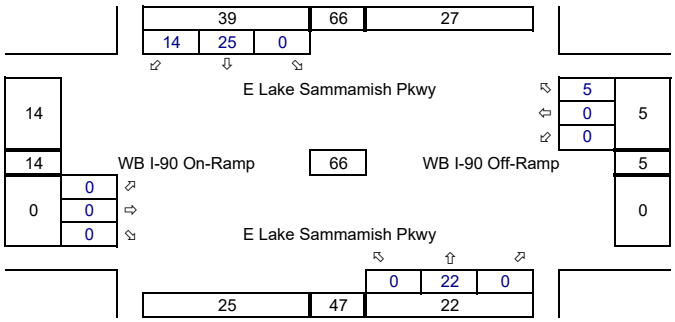
Total Growth = 1.1487



Total Project Trips

Average Weekday

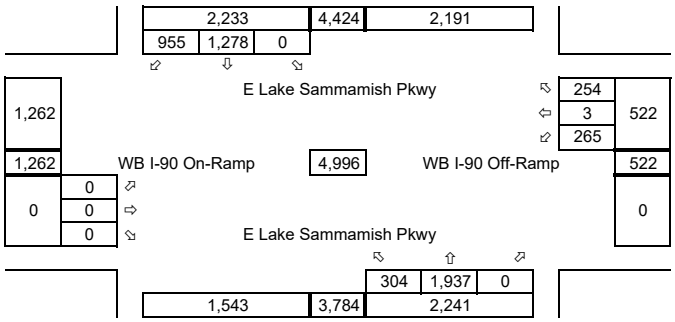
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 3

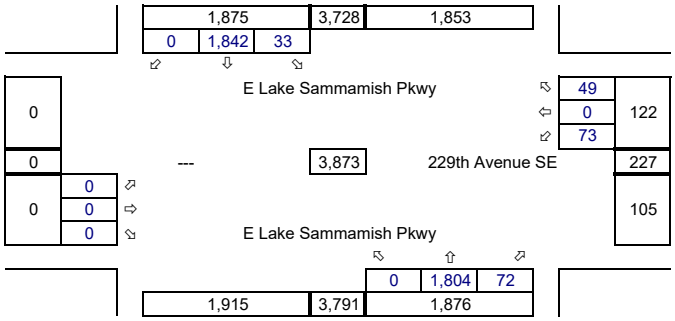
Existing

Average Weekday

PM Peak Hour

Year: **11/28/18**

Data Source: Idax



Future without Project

Average Weekday

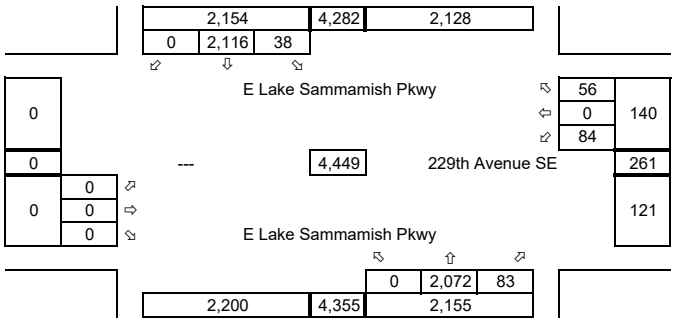
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

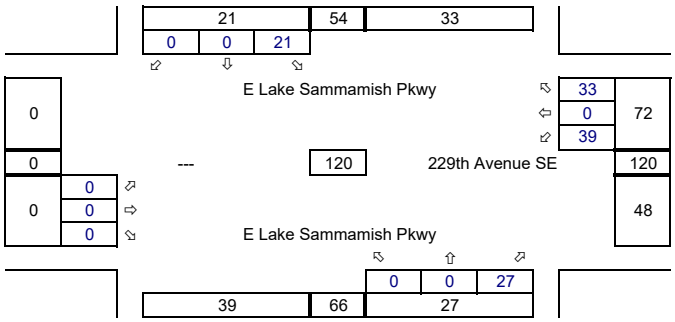
Total Growth = 1.1487



Total Project Trips

Average Weekday

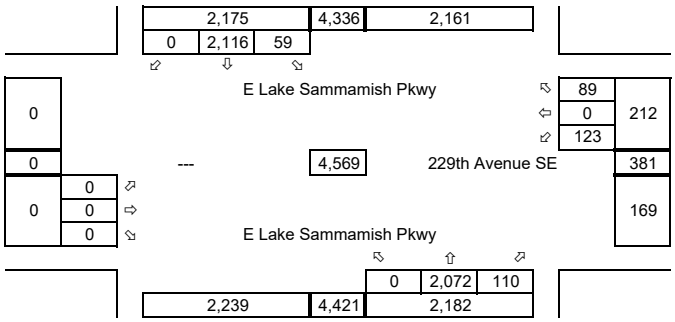
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 4

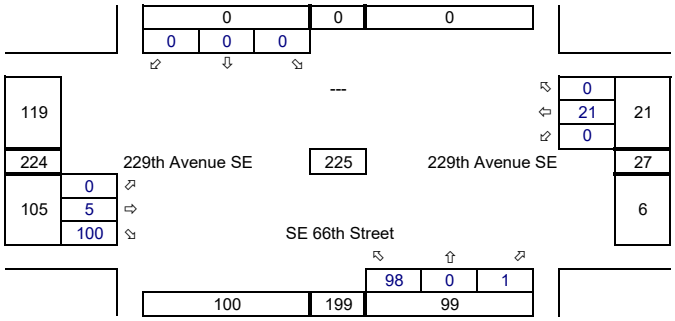
Existing

Average Weekday

PM Peak Hour

Year: **11/28/18**

Data Source: Idax



Future without Project

Average Weekday

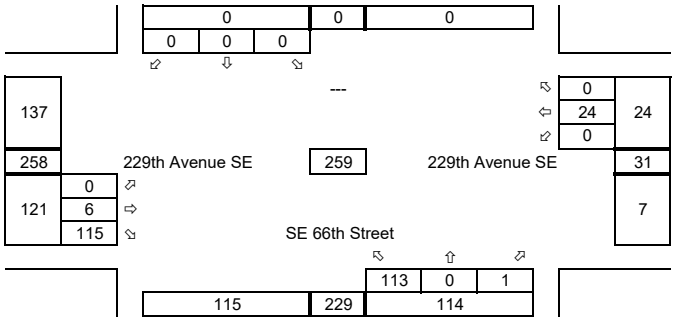
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

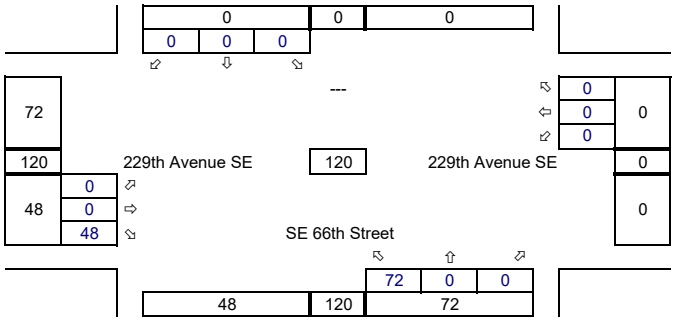
Total Growth = 1.1487



Total Project Trips

Average Weekday

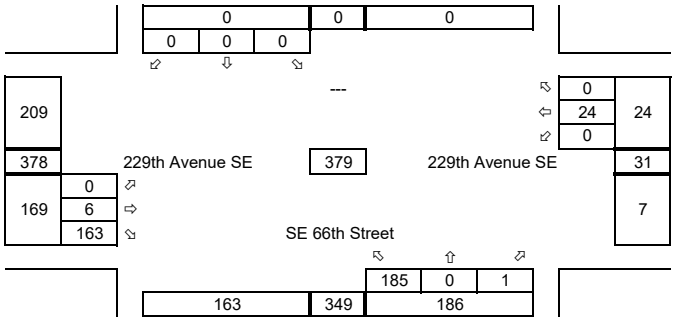
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 5

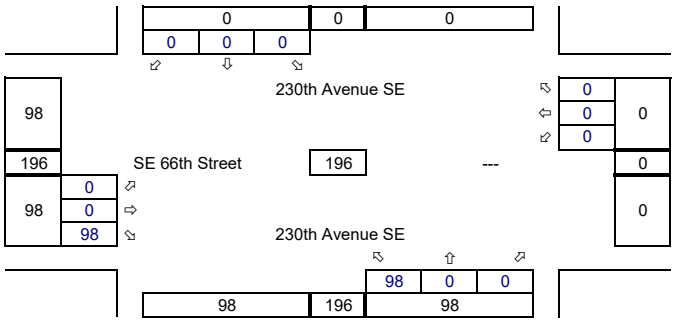
Existing

Average Weekday

PM Peak Hour

Year: **11/28/18**

Data Source: Idax



Future without Project

Average Weekday

PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

Total Growth = 1.1487

Total Project Trips

Average Weekday

PM Peak Hour

Estimated number of development trips exceeds the likely volume added to the intersection. Estimated volume represents a conservatively high impact from the development

Future with Project

Average Weekday

PM Peak Hour

Synchro ID: 6

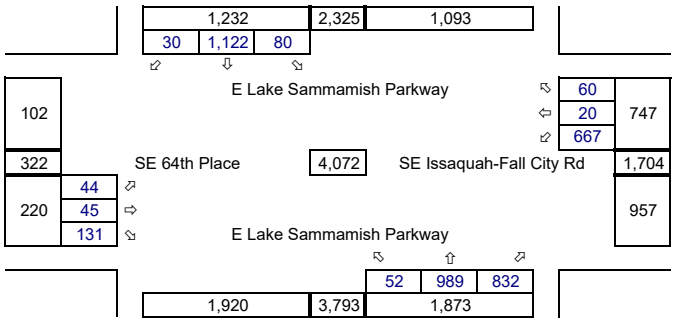
Existing

Average Weekday

PM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

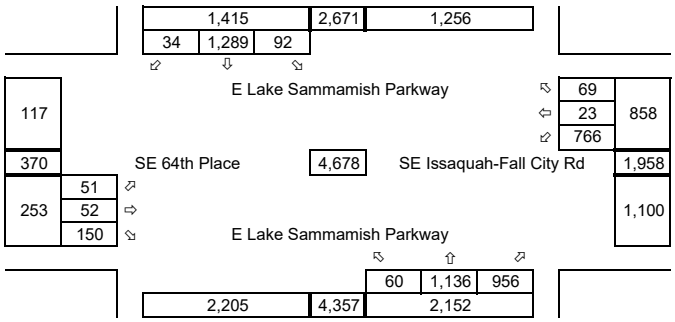
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

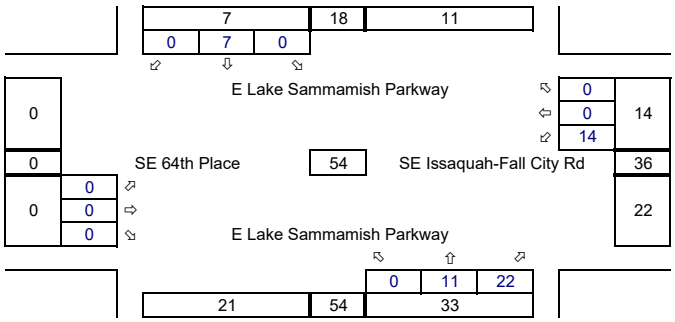
Total Growth = 1.1487



Total Project Trips

Average Weekday

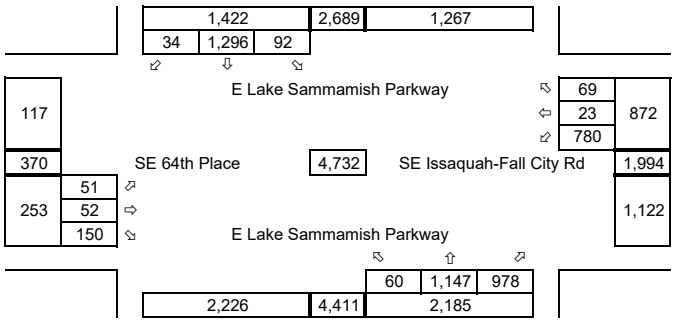
PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour



Synchro ID: 7

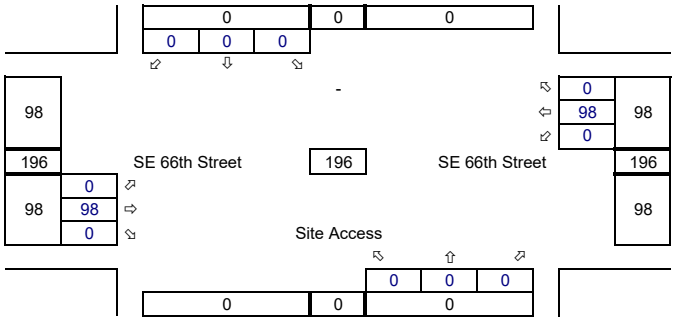
Existing

Average Weekday

PM Peak Hour

Year: **12/5/18**

Data Source: Idax



Future without Project

Average Weekday

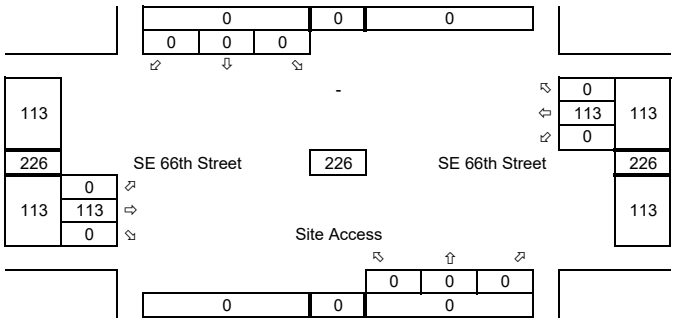
PM Peak Hour

Year: 2025

Growth Rate = 2.0%

Years of Growth = 7

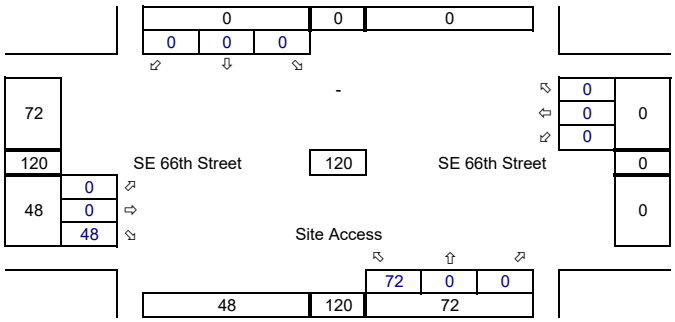
Total Growth = 1.1487



Total Project Trips

Average Weekday

PM Peak Hour



Future with Project

Average Weekday

PM Peak Hour

AM Peak-Hour Level of Service Analysis

Lanes, Volumes, Timings
1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp

Evergreen Ford/Lincoln

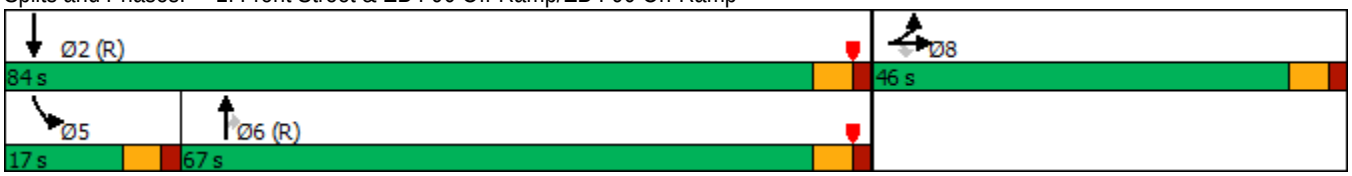
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	0	279	0	0	0	0	834	50	82	765	0
Future Volume (vph)	450	0	279	0	0	0	0	834	50	82	765	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850						0.850			
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Flt Permitted	0.950	0.950								0.950		
Satd. Flow (perm)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176						70			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	244	245	303	0	0	0	0	907	54	89	832	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					7.0	7.0	3.0	7.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	9.5	26.9	
Total Split (s)	46.0	46.0	46.0					67.0	67.0	17.0	84.0	
Total Split (%)	35.4%	35.4%	35.4%					51.5%	51.5%	13.1%	64.6%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes			
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	27.1	27.1	27.1					74.3	74.3	11.3	91.1	
Actuated g/C Ratio	0.21	0.21	0.21					0.57	0.57	0.09	0.70	
v/c Ratio	0.71	0.71	0.65					0.45	0.06	0.57	0.33	
Control Delay	58.3	58.5	25.0					18.8	2.8	59.4	6.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	58.3	58.5	25.0					18.8	2.8	59.4	6.5	
LOS	E	E	C					B	A	E	A	
Approach Delay		45.6						17.9			11.6	
Approach LOS		D						B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	202	203	97					223	0	70	185	
Queue Length 95th (ft)	272	273	180					354	17	113	262	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	508	508	600					2012	930	174	2504	
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	0.48	0.51					0.45	0.06	0.51	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 112 (86%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 70.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



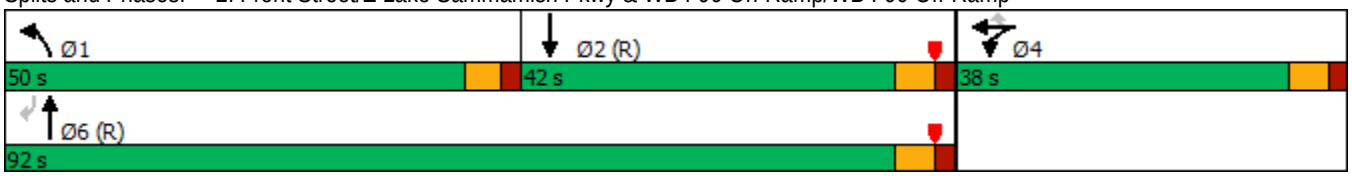
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	213	0	322	244	1005	0	0	649	853
Future Volume (vph)	0	0	0	213	0	322	244	1005	0	0	649	853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		190
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	*0.65
Ped Bike Factor						0.99	1.00					0.97
Frt						0.850						0.850
Flt Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1752	1568	1752	3505	0	0	3505	2038
Flt Permitted					0.950		0.950					
Satd. Flow (perm)	0	0	0	0	1752	1547	1749	3505	0	0	3505	1977
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						125						917
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	1					1	3		3	3		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%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	229	346	262	1081	0	0	698	917
Turn Type				Split	NA	Perm	Prot	NA			NA	custom
Protected Phases				4	4		1	6			2	
Permitted Phases						4						6
Detector Phase				4	4	4	1	6			2	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	3.0	7.0			7.0	7.0
Minimum Split (s)				37.9	37.9	37.9	9.5	24.9			31.9	24.9
Total Split (s)				38.0	38.0	38.0	50.0	92.0			42.0	92.0
Total Split (%)				29.2%	29.2%	29.2%	38.5%	70.8%			32.3%	70.8%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					25.2	25.2	24.6	93.0			62.8	93.0
Actuated g/C Ratio					0.19	0.19	0.19	0.72			0.48	0.72
v/c Ratio					0.67	0.86	0.79	0.43			0.41	0.55
Control Delay					57.7	52.5	65.7	11.9			25.7	4.1
Queue Delay					0.0	0.3	0.0	0.1			0.3	0.1
Total Delay					57.7	52.8	65.7	12.0			26.0	4.1
LOS					E	D	E	B			C	A
Approach Delay					54.8			22.5			13.6	
Approach LOS					D			C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					179	187	222	278			197	90
Queue Length 95th (ft)					254	292	304	327			232	80
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					190
Base Capacity (vph)					432	476	599	2506			1693	1675
Starvation Cap Reductn					0	0	0	0			405	64
Spillback Cap Reductn					0	9	0	272			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.53	0.74	0.44	0.48			0.54	0.57

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 34 (26%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 70.4% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 2: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



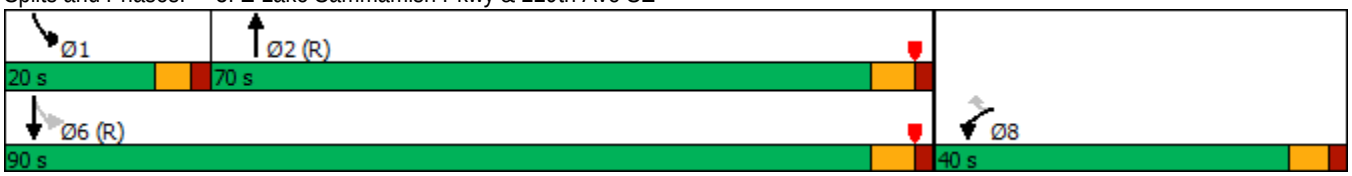
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	28	1249	73	25	1375
Future Volume (vph)	63	28	1249	73	25	1375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1367	1223	3471	0	1770	5085
Flt Permitted	0.950				0.149	
Satd. Flow (perm)	1367	1223	3471	0	278	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		30	6			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	32%	32%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	30	1421	0	27	1478
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		9.5	22.5
Total Split (s)	40.0	40.0	70.0		20.0	90.0
Total Split (%)	30.8%	30.8%	53.8%		15.4%	69.2%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	11.8	11.8	103.0		109.3	109.7
Actuated g/C Ratio	0.09	0.09	0.79		0.84	0.84
v/c Ratio	0.55	0.22	0.52		0.09	0.34
Control Delay	71.8	20.5	8.2		0.8	0.9
Queue Delay	0.0	0.0	0.1		0.0	0.1
Total Delay	71.8	20.5	8.3		0.8	1.0
LOS	E	C	A		A	A
Approach Delay	56.1		8.3			1.0
Approach LOS	E		A			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	56	0	436		1	17
Queue Length 95th (ft)	102	30	527		m0	2
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	358	342	2752		400	4291
Starvation Cap Reductn	0	0	187		0	1083
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.19	0.09	0.55		0.07	0.46

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 49 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Red
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 6.2 Intersection LOS: A
Intersection Capacity Utilization 51.2% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	39	63	1	48	45	0
Future Vol, veh/h	39	63	1	48	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	13	13	37	37	29	29
Mvmt Flow	43	69	1	53	49	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	112	0	133	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.47	-	6.69	6.49
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.533	-	3.761	3.561
Pot Cap-1 Maneuver	-	-	1286	-	801	913
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1286	-	800	913
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	903	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	800	-	-	1286	-
HCM Lane V/C Ratio	0.062	-	-	0.001	-
HCM Control Delay (s)	9.8	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	61	44	0	0	0
Future Vol, veh/h	0	61	44	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	13	13	30	30	0	0
Mvmt Flow	0	79	57	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	114	0
Stage 1	-	-	0	-
Stage 2	-	-	114	-
Critical Hdwy	4.4	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.47	-	4	3.3
Pot Cap-1 Maneuver	-	-	780	-
Stage 1	-	-	-	-
Stage 2	-	-	805	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

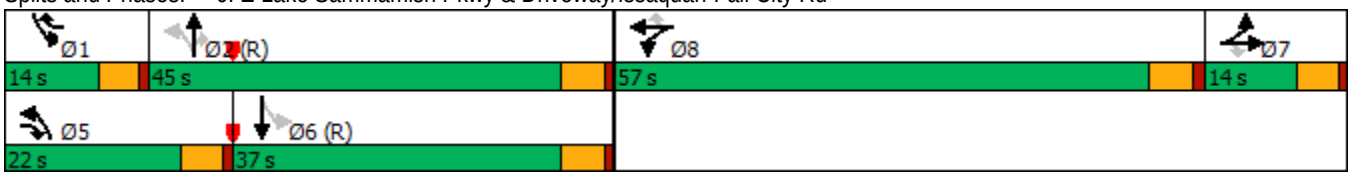
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	26	32	967	45	65	97	807	339	50	432	38
Future Volume (vph)	22	26	32	967	45	65	97	807	339	50	432	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98	1.00	1.00	
Frt			0.850			0.850			0.850		0.988	
Flt Protected		0.978		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1858	1615	1698	1708	1599	1770	3539	1583	1752	3452	0
Flt Permitted		0.978		0.950	0.956		0.359			0.205		
Satd. Flow (perm)	0	1855	1615	1698	1708	1565	669	3539	1554	378	3452	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			103			361		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	5					5	4		3	3		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	51	34	535	542	69	103	859	361	53	500	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0	45.0	14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%	34.6%	10.8%	28.5%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		7.5	19.5	46.2	46.2	53.4	61.0	52.8	52.8	55.8	48.7	
Actuated g/C Ratio		0.06	0.15	0.36	0.36	0.41	0.47	0.41	0.41	0.43	0.37	
v/c Ratio		0.48	0.11	0.89	0.89	0.10	0.26	0.60	0.43	0.23	0.39	
Control Delay		73.5	2.9	56.4	57.2	1.0	38.2	49.0	20.9	24.3	33.2	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		73.5	2.9	56.4	57.2	1.0	38.2	49.0	20.9	24.3	33.2	
LOS		E	A	E	E	A	D	D	C	C	C	
Approach Delay		45.3			53.5			40.5			32.3	
Approach LOS		D			D			D			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		42	0	431	438	0	58	262	84	25	168	
Queue Length 95th (ft)		86	8	573	583	8	152	476	253	54	242	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		128	392	675	679	730	467	1437	845	263	1297	
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		0.40	0.09	0.79	0.80	0.09	0.22	0.60	0.43	0.20	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 44.0 Intersection LOS: D
Intersection Capacity Utilization 74.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



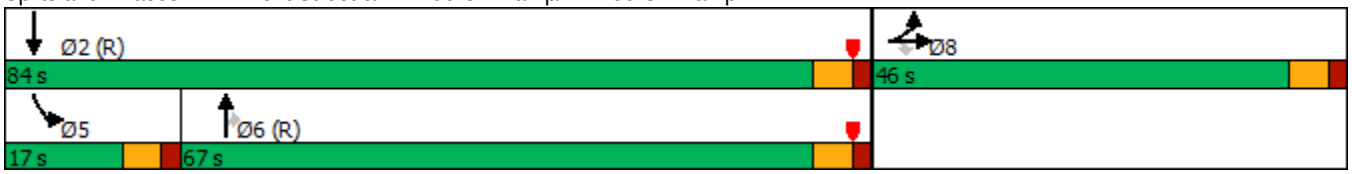
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	517	0	320	0	0	0	0	958	57	94	879	0
Future Volume (vph)	517	0	320	0	0	0	0	958	57	94	879	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850						0.850			
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Flt Permitted	0.950	0.950								0.950		
Satd. Flow (perm)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133						70			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	281	281	348	0	0	0	0	1041	62	102	955	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					7.0	7.0	3.0	7.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	9.5	26.9	
Total Split (s)	46.0	46.0	46.0					67.0	67.0	17.0	84.0	
Total Split (%)	35.4%	35.4%	35.4%					51.5%	51.5%	13.1%	64.6%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes			
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	30.6	30.6	30.6					70.8	70.8	11.3	87.6	
Actuated g/C Ratio	0.24	0.24	0.24					0.54	0.54	0.09	0.67	
v/c Ratio	0.73	0.73	0.75					0.55	0.07	0.66	0.40	
Control Delay	55.9	55.9	37.1					22.2	3.8	63.6	7.4	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	55.9	55.9	37.1					22.2	3.8	63.6	7.4	
LOS	E	E	D					C	A	E	A	
Approach Delay		48.7						21.2			12.8	
Approach LOS		D						C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	230	230	172					295	0	61	0	
Queue Length 95th (ft)	300	300	255					426	22	#155	399	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	512	512	575					1919	890	169	2418	
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	0.55	0.55	0.61					0.54	0.07	0.60	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 112 (86%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 78.5% 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: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



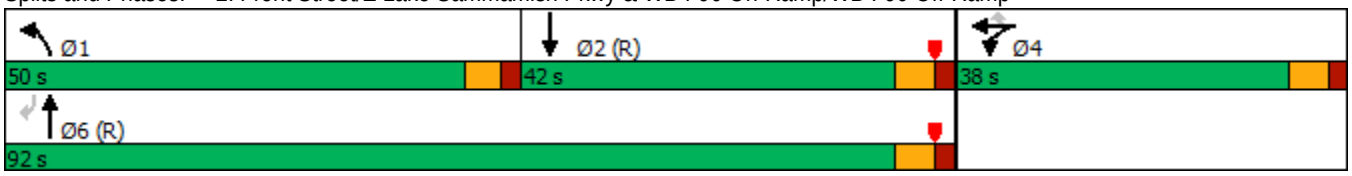
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	245	0	370	280	1154	0	0	745	980
Future Volume (vph)	0	0	0	245	0	370	280	1154	0	0	745	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		190
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	*0.65
Ped Bike Factor						0.99	1.00					0.97
Frt						0.850						0.850
Flt Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1752	1568	1752	3505	0	0	3505	2038
Flt Permitted					0.950		0.950					
Satd. Flow (perm)	0	0	0	0	1752	1547	1750	3505	0	0	3505	1977
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						89						1054
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	1					1	3		3	3		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%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	263	398	301	1241	0	0	801	1054
Turn Type				Split	NA	Perm	Prot	NA			NA	custom
Protected Phases				4	4		1	6			2	
Permitted Phases						4						6
Detector Phase				4	4	4	1	6			2	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	3.0	7.0			7.0	7.0
Minimum Split (s)				37.9	37.9	37.9	9.5	24.9			31.9	24.9
Total Split (s)				38.0	38.0	38.0	50.0	92.0			42.0	92.0
Total Split (%)				29.2%	29.2%	29.2%	38.5%	70.8%			32.3%	70.8%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					31.0	31.0	27.6	87.2			54.1	87.2
Actuated g/C Ratio					0.24	0.24	0.21	0.67			0.42	0.67
v/c Ratio					0.63	0.91	0.81	0.53			0.55	0.63
Control Delay					51.4	63.0	62.2	12.8			29.9	4.1
Queue Delay					0.0	0.8	0.0	0.3			0.4	0.1
Total Delay					51.4	63.8	62.2	13.1			30.2	4.2
LOS					D	E	E	B			C	A
Approach Delay					58.9			22.7			15.5	
Approach LOS					E			C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					188	248	255	366			227	72
Queue Length 95th (ft)					292	#448	297	196			296	90
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					190
Base Capacity (vph)					443	458	599	2373			1459	1679
Starvation Cap Reductn					0	0	0	483			226	85
Spillback Cap Reductn					0	7	0	313			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.59	0.88	0.50	0.66			0.65	0.66

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 34 (26%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 78.5% 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: 2: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



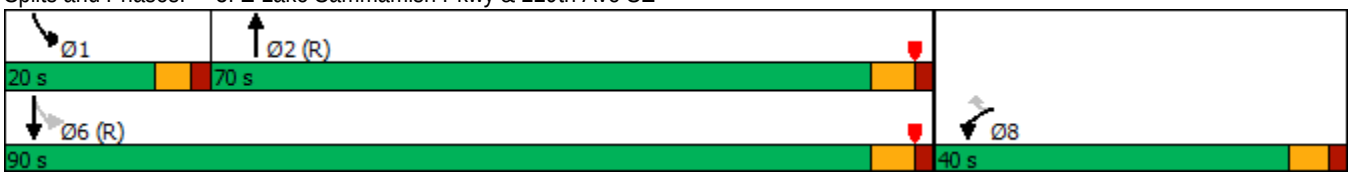
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	72	32	1435	84	29	1579
Future Volume (vph)	72	32	1435	84	29	1579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1367	1223	3471	0	1770	5085
Flt Permitted	0.950				0.109	
Satd. Flow (perm)	1367	1223	3471	0	203	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		34	6			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	32%	32%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	34	1633	0	31	1698
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		9.5	22.5
Total Split (s)	40.0	40.0	70.0		20.0	90.0
Total Split (%)	30.8%	30.8%	53.8%		15.4%	69.2%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	12.7	12.7	102.2		108.5	109.0
Actuated g/C Ratio	0.10	0.10	0.79		0.83	0.84
v/c Ratio	0.58	0.23	0.60		0.13	0.40
Control Delay	72.1	19.2	9.8		0.8	0.4
Queue Delay	0.0	0.0	0.1		0.0	0.1
Total Delay	72.1	19.2	9.9		0.8	0.5
LOS	E	B	A		A	A
Approach Delay	55.9		9.9			0.5
Approach LOS	E		A			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	63	0	533		0	2
Queue Length 95th (ft)	113	32	614		m0	4
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	358	345	2730		344	4262
Starvation Cap Reductn	0	0	175		0	1081
Spillback Cap Reductn	0	0	0		0	17
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.22	0.10	0.64		0.09	0.53

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 49 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Red
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 6.7 Intersection LOS: A
Intersection Capacity Utilization 56.7% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	72	1	55	52	0
Future Vol, veh/h	45	72	1	55	52	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	13	13	37	37	29	29
Mvmt Flow	49	79	1	60	57	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	128	0	151	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	62	-
Critical Hdwy	-	-	4.47	-	6.69	6.49
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.533	-	3.761	3.561
Pot Cap-1 Maneuver	-	-	1268	-	782	900
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1268	-	781	900
Mov Cap-2 Maneuver	-	-	-	-	781	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	781	-	-	1268	-
HCM Lane V/C Ratio	0.073	-	-	0.001	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	70	51	0	0	0
Future Vol, veh/h	0	70	51	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	13	13	30	30	0	0
Mvmt Flow	0	91	66	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	132	0
Stage 1	-	-	0	-
Stage 2	-	-	132	-
Critical Hdwy	4.4	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.47	-	4	3.3
Pot Cap-1 Maneuver	-	-	762	-
Stage 1	-	-	-	-
Stage 2	-	-	791	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

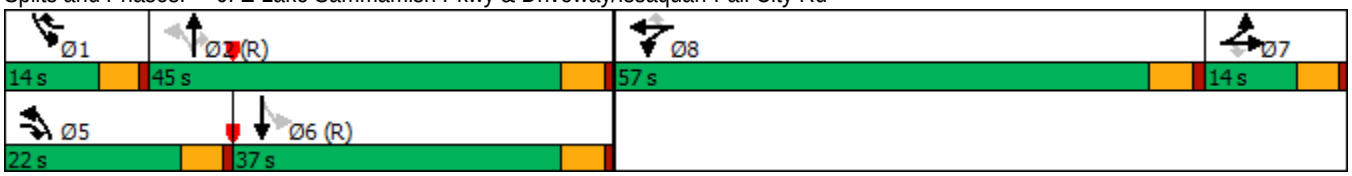
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	30	37	1111	52	75	111	927	389	57	496	44
Future Volume (vph)	25	30	37	1111	52	75	111	927	389	57	496	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98		1.00	
Frt			0.850			0.850			0.850		0.988	
Flt Protected		0.978		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1858	1615	1698	1708	1599	1770	3539	1583	1752	3452	0
Flt Permitted		0.978		0.950	0.956		0.292			0.113		
Satd. Flow (perm)	0	1855	1615	1698	1708	1565	544	3539	1554	208	3452	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			103			414		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	5					5	4		3	3		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	59	39	615	622	80	118	986	414	61	575	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0	45.0	14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%	34.6%	10.8%	28.5%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		7.7	20.5	50.1	50.1	57.5	56.6	46.5	46.5	51.2	43.8	
Actuated g/C Ratio		0.06	0.16	0.39	0.39	0.44	0.44	0.36	0.36	0.39	0.34	
v/c Ratio		0.54	0.13	0.94	0.95	0.11	0.36	0.78	0.50	0.37	0.49	
Control Delay		76.8	4.4	61.9	62.8	1.4	42.9	61.8	24.0	29.5	37.7	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		76.8	4.4	61.9	62.8	1.4	42.9	61.8	24.0	29.5	37.7	
LOS		E	A	E	E	A	D	E	C	C	D	
Approach Delay		48.0			58.7			50.1			36.9	
Approach LOS		D			E			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		49	0	509	516	0	97	445	183	31	210	
Queue Length 95th (ft)		96	14	#754	#763	12	168	#562	247	60	285	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		128	394	675	679	773	406	1265	821	191	1167	
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		0.46	0.10	0.91	0.92	0.10	0.29	0.78	0.50	0.32	0.49	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 50.8 Intersection LOS: D
Intersection Capacity Utilization 81.6% 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: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



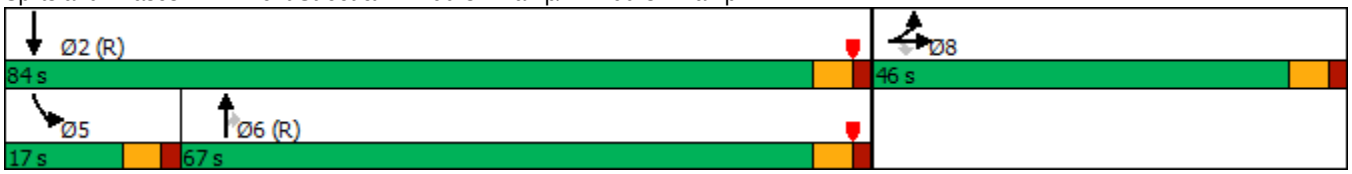
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	531	0	320	0	0	0	0	975	57	96	885	0
Future Volume (vph)	531	0	320	0	0	0	0	975	57	96	885	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor												
Frt			0.850						0.850			
Flt Protected	0.950	0.950								0.950		
Satd. Flow (prot)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Flt Permitted	0.950	0.950								0.950		
Satd. Flow (perm)	1649	1649	1553	0	0	0	0	3505	1568	1787	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131						70			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	288	289	348	0	0	0	0	1060	62	104	962	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					7.0	7.0	3.0	7.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	9.5	26.9	
Total Split (s)	46.0	46.0	46.0					67.0	67.0	17.0	84.0	
Total Split (%)	35.4%	35.4%	35.4%					51.5%	51.5%	13.1%	64.6%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes			
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	31.1	31.1	31.1					70.2	70.2	11.4	87.1	
Actuated g/C Ratio	0.24	0.24	0.24					0.54	0.54	0.09	0.67	
v/c Ratio	0.73	0.73	0.74					0.56	0.07	0.67	0.40	
Control Delay	55.7	55.9	36.8					22.8	3.8	62.8	7.9	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	55.7	55.9	36.8					22.8	3.8	62.8	7.9	
LOS	E	E	D					C	A	E	A	
Approach Delay		48.6						21.8			13.2	
Approach LOS		D						C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	236	236	173					306	0	62	0	
Queue Length 95th (ft)	309	309	258					434	22	#164	406	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	512	512	572					1899	882	169	2401	
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	0.56	0.56	0.61					0.56	0.07	0.62	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 112 (86%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 78.7% 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: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



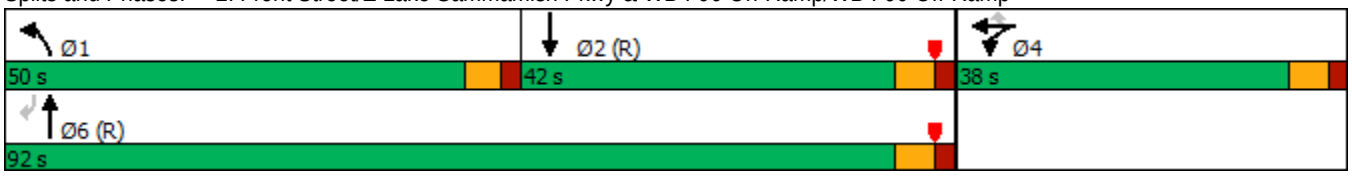
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	245	0	377	280	1185	0	0	753	985
Future Volume (vph)	0	0	0	245	0	377	280	1185	0	0	753	985
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		190
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	*0.65
Ped Bike Factor						0.99	1.00					0.97
Frt						0.850						0.850
Flt Protected					0.950		0.950					
Satd. Flow (prot)	0	0	0	0	1752	1568	1752	3505	0	0	3505	2038
Flt Permitted					0.950		0.950					
Satd. Flow (perm)	0	0	0	0	1752	1547	1750	3505	0	0	3505	1977
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						83						1059
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	1					1	3		3	3		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%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	263	405	301	1274	0	0	810	1059
Turn Type				Split	NA	Perm	Prot	NA			NA	custom
Protected Phases				4	4		1	6			2	
Permitted Phases						4						6
Detector Phase				4	4	4	1	6			2	6
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	3.0	7.0			7.0	7.0
Minimum Split (s)				37.9	37.9	37.9	9.5	24.9			31.9	24.9
Total Split (s)				38.0	38.0	38.0	50.0	92.0			42.0	92.0
Total Split (%)				29.2%	29.2%	29.2%	38.5%	70.8%			32.3%	70.8%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					31.6	31.6	27.6	86.6			53.6	86.6
Actuated g/C Ratio					0.24	0.24	0.21	0.67			0.41	0.67
v/c Ratio					0.62	0.92	0.81	0.55			0.56	0.63
Control Delay					50.7	65.8	61.6	13.3			30.2	3.9
Queue Delay					0.0	1.3	0.0	0.3			0.4	0.1
Total Delay					50.7	67.1	61.6	13.6			30.6	4.0
LOS					D	E	E	B			C	A
Approach Delay					60.6			22.8			15.5	
Approach LOS					E			C			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					190	263	255	373			231	71
Queue Length 95th (ft)					292	#469	295	204			303	89
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					190
Base Capacity (vph)					444	454	599	2359			1444	1676
Starvation Cap Reductn					0	0	0	470			225	83
Spillback Cap Reductn					0	8	0	397			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.59	0.91	0.50	0.67			0.66	0.66

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 34 (26%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 78.7% 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: 2: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



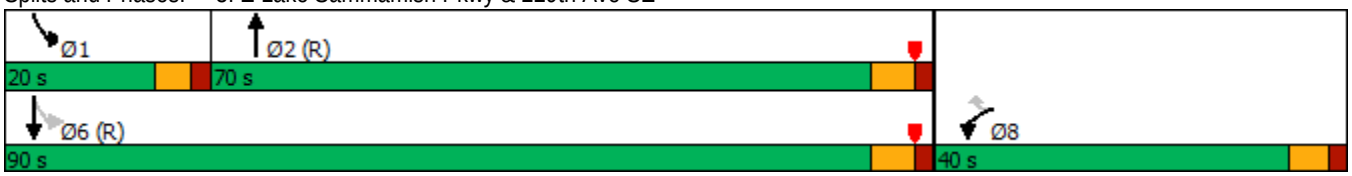
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	85	44	1435	122	59	1579
Future Volume (vph)	85	44	1435	122	59	1579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.988			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1367	1223	3455	0	1770	5085
Flt Permitted	0.950				0.094	
Satd. Flow (perm)	1367	1223	3455	0	175	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		47	9			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				4	4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	32%	32%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	47	1674	0	63	1698
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		9.5	22.5
Total Split (s)	40.0	40.0	70.0		20.0	90.0
Total Split (%)	30.8%	30.8%	53.8%		15.4%	69.2%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	14.0	14.0	94.2		104.6	103.8
Actuated g/C Ratio	0.11	0.11	0.72		0.80	0.80
v/c Ratio	0.62	0.27	0.67		0.29	0.42
Control Delay	72.4	17.3	14.0		3.4	0.3
Queue Delay	0.0	0.0	0.1		0.0	0.1
Total Delay	72.4	17.3	14.1		3.4	0.5
LOS	E	B	B		A	A
Approach Delay	53.7		14.1			0.6
Approach LOS	D		B			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	75	0	592		0	2
Queue Length 95th (ft)	128	36	641		m0	m4
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	358	355	2504		318	4059
Starvation Cap Reductn	0	0	169		0	1057
Spillback Cap Reductn	0	0	0		0	23
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.25	0.13	0.72		0.20	0.57

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 49 (38%), Referenced to phase 2:NBT and 6:SBTL, Start of Red
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 9.0 Intersection LOS: A
Intersection Capacity Utilization 63.9% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	140	1	55	77	0
Future Vol, veh/h	45	140	1	55	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	13	13	37	37	29	29
Mvmt Flow	49	154	1	60	85	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	203	0	188	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	62	-
Critical Hdwy	-	-	4.47	-	6.69	6.49
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.533	-	3.761	3.561
Pot Cap-1 Maneuver	-	-	1185	-	743	857
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1185	-	742	857
Mov Cap-2 Maneuver	-	-	-	-	742	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1185	-
HCM Lane V/C Ratio	0.114	-	-	0.001	-
HCM Control Delay (s)	10.5	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	95	119	0	0	0
Future Vol, veh/h	0	95	119	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	13	13	30	30	0	0
Mvmt Flow	0	123	155	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	310	0
Stage 1	-	-	0	-
Stage 2	-	-	310	-
Critical Hdwy	4.4	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.47	-	4	3.3
Pot Cap-1 Maneuver	-	-	608	-
Stage 1	-	-	-	-
Stage 2	-	-	663	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

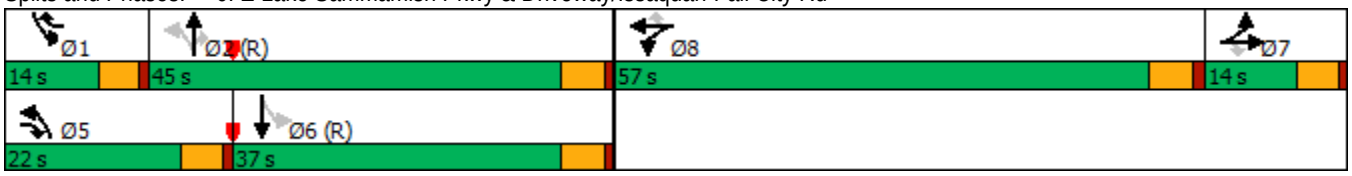
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	30	37	1131	52	75	111	931	397	57	506	44
Future Volume (vph)	25	30	37	1131	52	75	111	931	397	57	506	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98		1.00	
Frt			0.850			0.850			0.850		0.988	
Flt Protected		0.978		0.950	0.956		0.950			0.950		
Satd. Flow (prot)	0	1858	1615	1698	1708	1599	1770	3539	1583	1752	3452	0
Flt Permitted		0.978		0.950	0.956		0.284			0.109		
Satd. Flow (perm)	0	1855	1615	1698	1708	1565	529	3539	1554	201	3452	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			103			422		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	5					5	4		3	3		4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)				48%								
Lane Group Flow (vph)	0	59	39	626	632	80	118	990	422	61	585	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	14.0	14.0	22.0	57.0	57.0	14.0	22.0	45.0	45.0	14.0	37.0	
Total Split (%)	10.8%	10.8%	16.9%	43.8%	43.8%	10.8%	16.9%	34.6%	34.6%	10.8%	28.5%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		7.7	20.5	50.4	50.4	57.8	56.3	46.2	46.2	50.9	43.5	
Actuated g/C Ratio		0.06	0.16	0.39	0.39	0.44	0.43	0.36	0.36	0.39	0.33	
v/c Ratio		0.54	0.13	0.95	0.95	0.11	0.37	0.79	0.51	0.37	0.51	
Control Delay		76.8	4.4	63.7	64.3	1.4	42.8	64.5	25.5	29.8	38.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		76.8	4.4	63.7	64.3	1.4	42.8	64.5	25.5	29.8	38.0	
LOS		E	A	E	E	A	D	E	C	C	D	
Approach Delay		48.0			60.2			52.0			37.3	
Approach LOS		D			E			D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		49	0	524	530	0	100	461	187	31	215	
Queue Length 95th (ft)		96	14	#776	#784	12	m153	#566	259	60	290	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		128	394	675	679	777	400	1256	823	189	1158	
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		0.46	0.10	0.93	0.93	0.10	0.29	0.79	0.51	0.32	0.51	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 52.3 Intersection LOS: D
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	68	0	51	25	0
Future Vol, veh/h	70	68	0	51	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	74	0	55	27	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	150	0	168	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1431	-	822	940
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1431	-	822	940
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	822	-	-	1431	-
HCM Lane V/C Ratio	0.033	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	95	119	0	5	0
Future Vol, veh/h	0	95	119	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	13	13	30	30	15	2
Mvmt Flow	0	123	155	0	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	278	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	123	-
Critical Hdwy	4.23	-	-	-	6.55	6.22
Critical Hdwy Stg 1	-	-	-	-	5.55	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	2.317	-	-	-	3.635	3.318
Pot Cap-1 Maneuver	1361	-	-	-	685	891
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1361	-	-	-	685	891
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1361	-	-	-	685
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	10.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

PM Peak-Hour Level of Service Analysis

Lanes, Volumes, Timings
1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp

Evergreen Ford/Lincoln

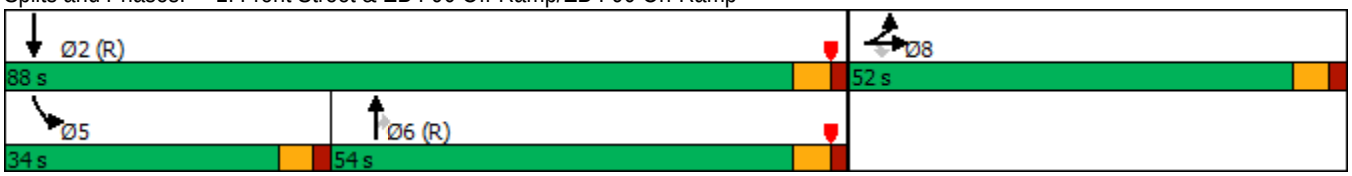
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	829	3	279	0	0	0	0	1064	219	317	1033	0
Future Volume (vph)	829	3	279	0	0	0	0	1064	219	317	1033	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.99						0.96	1.00		
Frt			0.850						0.850			
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1698	1703	1599	0	0	0	0	3574	1599	1787	3574	0
Flt Permitted	0.950	0.953								0.950		
Satd. Flow (perm)	1698	1703	1577	0	0	0	0	3574	1538	1780	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100						76			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)			1	1			1		6	6		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 (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	423	426	285	0	0	0	0	1086	223	323	1054	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	10.5	26.9	
Total Split (s)	52.0	52.0	52.0					54.0	54.0	34.0	88.0	
Total Split (%)	37.1%	37.1%	37.1%					38.6%	38.6%	24.3%	62.9%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	41.4	41.4	41.4					53.6	53.6	27.7	86.8	
Actuated g/C Ratio	0.30	0.30	0.30					0.38	0.38	0.20	0.62	
v/c Ratio	0.84	0.85	0.53					0.79	0.35	0.92	0.48	
Control Delay	61.7	62.1	29.0					44.8	23.2	72.0	28.5	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	61.7	62.1	29.0					44.8	23.2	72.0	28.5	
LOS	E	E	C					D	C	E	C	
Approach Delay		53.7						41.1			38.7	
Approach LOS		D						D			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	369	371	135					490	99	284	458	
Queue Length 95th (ft)	504	505	223					585	174	#464	581	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	559	560	586					1368	635	367	2216	
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	0.76	0.76	0.49					0.79	0.35	0.88	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 89 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 44.0 Intersection LOS: D
Intersection Capacity Utilization 94.2% 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: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



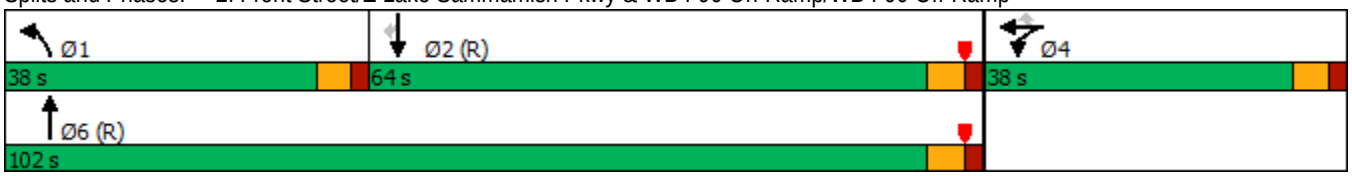
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	231	3	217	265	1667	0	0	1091	819
Future Volume (vph)	0	0	0	231	3	217	265	1667	0	0	1091	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		0
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	1.00
Ped Bike Factor						0.98	1.00					0.99
Frt						0.850						0.850
Flt Protected					0.953		0.950					
Satd. Flow (prot)	0	0	0	0	1775	1583	1787	3574	0	0	3574	1599
Flt Permitted					0.953		0.950					
Satd. Flow (perm)	0	0	0	0	1775	1558	1787	3574	0	0	3574	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						65						637
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	3					3	1		11	11		1
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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	236	219	268	1684	0	0	1102	827
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1	6			2	
Permitted Phases						4						2
Detector Phase				4	4	4	1	6			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Minimum Split (s)				37.9	37.9	37.9	10.5	24.9			31.9	31.9
Total Split (s)				38.0	38.0	38.0	38.0	102.0			64.0	64.0
Total Split (%)				27.1%	27.1%	27.1%	27.1%	72.9%			45.7%	45.7%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?											Yes	Yes
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					24.1	24.1	25.5	104.1			73.1	73.1
Actuated g/C Ratio					0.17	0.17	0.18	0.74			0.52	0.52
v/c Ratio					0.77	0.68	0.82	0.63			0.59	0.73
Control Delay					71.6	47.9	85.0	4.4			26.1	11.3
Queue Delay					0.0	0.0	0.0	0.3			0.3	0.4
Total Delay					71.6	48.0	85.0	4.7			26.4	11.8
LOS					E	D	F	A			C	B
Approach Delay					60.2			15.7			20.1	
Approach LOS					E			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					208	134	242	54			361	78
Queue Length 95th (ft)					285	211	m273	144			505	378
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					
Base Capacity (vph)					406	407	414	2657			1866	1127
Starvation Cap Reductn					0	0	0	356			276	64
Spillback Cap Reductn					0	2	0	129			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.58	0.54	0.65	0.73			0.69	0.78

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.4 Intersection LOS: C
Intersection Capacity Utilization 94.2% ICU Level of Service F
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



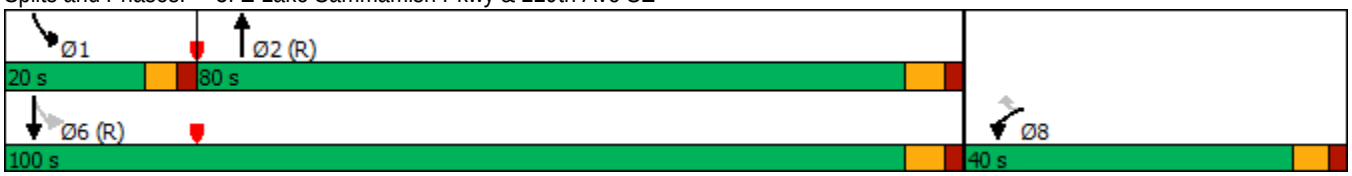
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	73	49	1804	72	33	1842
Future Volume (vph)	73	49	1804	72	33	1842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	3548	0	1787	5136
Flt Permitted	0.950				0.068	
Satd. Flow (perm)	1805	1615	3548	0	128	5136
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		51	4			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	51	1954	0	34	1919
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		10.5	24.3
Total Split (s)	40.0	40.0	80.0		20.0	100.0
Total Split (%)	28.6%	28.6%	57.1%		14.3%	71.4%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	11.3	11.3	109.8		117.3	116.5
Actuated g/C Ratio	0.08	0.08	0.78		0.84	0.83
v/c Ratio	0.52	0.29	0.70		0.20	0.45
Control Delay	73.9	18.7	6.8		2.6	1.2
Queue Delay	0.0	0.0	0.3		0.0	0.2
Total Delay	73.9	18.7	7.1		2.6	1.3
LOS	E	B	A		A	A
Approach Delay	51.7		7.1			1.4
Approach LOS	D		A			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	68	0	100		2	33
Queue Length 95th (ft)	119	42	752		m3	42
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	439	431	2783		279	4274
Starvation Cap Reductn	0	0	274		0	1166
Spillback Cap Reductn	0	0	50		0	365
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.17	0.12	0.78		0.12	0.62

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 87 (62%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	100	0	21	98	1
Future Vol, veh/h	5	100	0	21	98	1
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	0	0
Mvmt Flow	6	111	0	23	109	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	117	0	88	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	26	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1484	-	918	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1484	-	915	1009
Mov Cap-2 Maneuver	-	-	-	-	915	-
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	916	-	-	1484	-
HCM Lane V/C Ratio	0.12	-	-	-	-
HCM Control Delay (s)	9.5	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	98	98	0	0	0
Future Vol, veh/h	0	98	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	0	0	0	0
Mvmt Flow	0	104	104	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	208	0
Stage 1	-	-	0	-
Stage 2	-	-	208	-
Critical Hdwy	4.1	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.2	-	4	3.3
Pot Cap-1 Maneuver	-	-	692	-
Stage 1	-	-	-	-
Stage 2	-	-	734	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

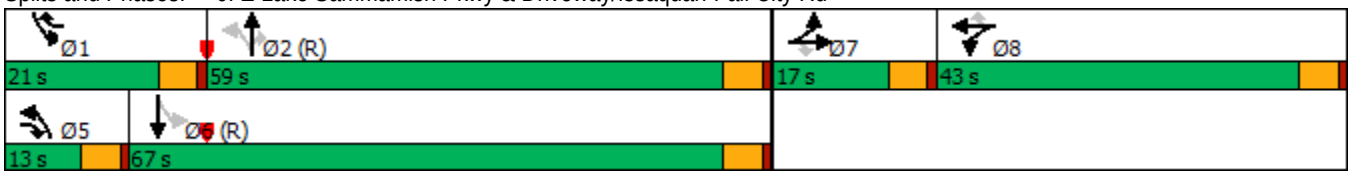
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	45	131	667	20	60	52	989	832	80	1122	30
Future Volume (vph)	44	45	131	667	20	60	52	989	832	80	1122	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98		1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.976		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1854	1615	1698	1707	1599	1787	3574	1599	1787	3557	0
Flt Permitted		0.976		0.950	0.955		0.121			0.167		
Satd. Flow (perm)	0	1852	1615	1698	1707	1574	228	3574	1560	314	3557	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			63			876		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	2					2	2		5	5		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%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	93	138	358	365	63	55	1041	876	84	1213	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0	59.0	21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%	42.1%	15.0%	47.9%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.3	16.8	33.5	33.5	41.3	74.8	68.1	68.1	77.0	69.1	
Actuated g/C Ratio		0.07	0.12	0.24	0.24	0.30	0.53	0.49	0.49	0.55	0.49	
v/c Ratio		0.68	0.49	0.88	0.89	0.12	0.28	0.60	0.73	0.33	0.69	
Control Delay		87.8	16.0	74.0	75.8	7.0	10.0	16.4	9.0	18.4	31.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.9	0.0	0.0	
Total Delay		87.8	16.0	74.0	75.8	7.0	10.0	16.8	10.9	18.4	31.1	
LOS		F	B	E	E	A	A	B	B	B	C	
Approach Delay		44.9			69.5			14.0			30.3	
Approach LOS		D			E			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		83	20	326	333	0	8	319	360	34	456	
Queue Length 95th (ft)		144	56	#458	#482	31	m10	341	803	64	576	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		158	296	457	459	603	213	1737	1208	349	1757	
Starvation Cap Reductn		0	0	0	0	0	0	254	189	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	0.47	0.78	0.80	0.10	0.26	0.70	0.86	0.24	0.69	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 30.8 Intersection LOS: C
Intersection Capacity Utilization 74.8% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	952	3	320	0	0	0	0	1222	252	364	1187	0
Future Volume (vph)	952	3	320	0	0	0	0	1222	252	364	1187	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.99						0.96	1.00		
Frt			0.850						0.850			
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1698	1703	1599	0	0	0	0	3574	1599	1787	3574	0
Flt Permitted	0.950	0.953								0.950		
Satd. Flow (perm)	1698	1703	1577	0	0	0	0	3574	1538	1781	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			69						77			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)			1	1			1		6	6		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 (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	485	489	327	0	0	0	0	1247	257	371	1211	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	10.5	26.9	
Total Split (s)	52.0	52.0	52.0					54.0	54.0	34.0	88.0	
Total Split (%)	37.1%	37.1%	37.1%					38.6%	38.6%	24.3%	62.9%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	44.6	44.6	44.6					48.1	48.1	30.0	83.6	
Actuated g/C Ratio	0.32	0.32	0.32					0.34	0.34	0.21	0.60	
v/c Ratio	0.90	0.90	0.60					1.02	0.44	0.97	0.57	
Control Delay	65.8	66.5	35.9					75.0	27.2	75.9	33.7	
Queue Delay	0.0	0.0	0.0					3.9	0.0	0.0	2.3	
Total Delay	65.8	66.5	35.9					78.9	27.2	75.9	36.0	
LOS	E	E	D					E	C	E	D	
Approach Delay		58.5						70.1			45.3	
Approach LOS		E						E			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	435	441	195					~629	125	~356	611	
Queue Length 95th (ft)	#641	#647	299					#770	209	#568	678	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	559	560	565					1227	578	382	2133	
Starvation Cap Reductn	0	0	0					0	0	0	750	
Spillback Cap Reductn	0	0	0					15	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.87	0.87	0.58					1.03	0.44	0.97	0.88	

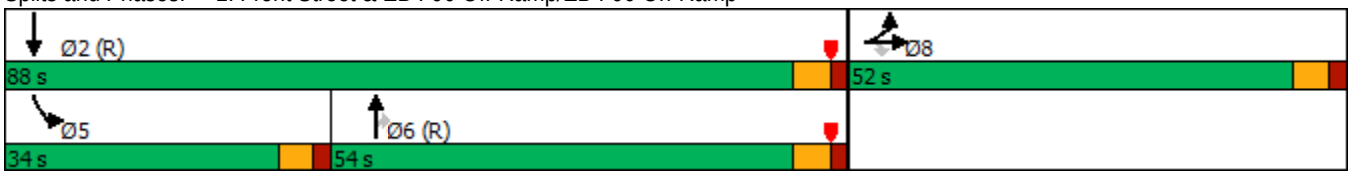
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 89 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 57.7 Intersection LOS: E
Intersection Capacity Utilization 105.6% 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.

Splits and Phases: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



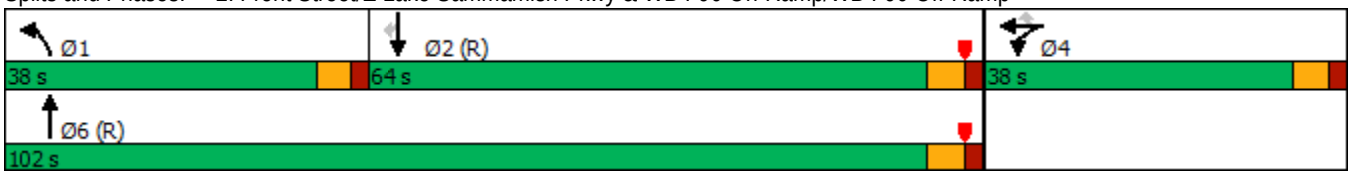
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	3	249	304	1915	0	0	1253	941
Future Volume (vph)	0	0	0	265	3	249	304	1915	0	0	1253	941
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		0
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	1.00
Ped Bike Factor						0.98	1.00					0.99
Frt						0.850						0.850
Flt Protected					0.953		0.950					
Satd. Flow (prot)	0	0	0	0	1775	1583	1787	3574	0	0	3574	1599
Flt Permitted					0.953		0.950					
Satd. Flow (perm)	0	0	0	0	1775	1558	1787	3574	0	0	3574	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						65						613
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	3					3	1		11	11		1
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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	271	252	307	1934	0	0	1266	951
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1	6			2	
Permitted Phases						4						2
Detector Phase				4	4	4	1	6			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Minimum Split (s)				37.9	37.9	37.9	10.5	24.9			31.9	31.9
Total Split (s)				38.0	38.0	38.0	38.0	102.0			64.0	64.0
Total Split (%)				27.1%	27.1%	27.1%	27.1%	72.9%			45.7%	45.7%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?											Yes	Yes
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					26.3	26.3	27.8	101.9			68.5	68.5
Actuated g/C Ratio					0.19	0.19	0.20	0.73			0.49	0.49
v/c Ratio					0.81	0.73	0.87	0.74			0.72	0.88
Control Delay					72.9	51.4	77.5	5.4			33.6	22.5
Queue Delay					2.3	0.1	0.0	0.8			0.6	2.4
Total Delay					75.2	51.5	77.5	6.3			34.2	24.9
LOS					E	D	E	A			C	C
Approach Delay					63.8			16.0			30.2	
Approach LOS					E			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					237	162	257	111			494	320
Queue Length 95th (ft)					328	252	m248	m156			597	#742
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					
Base Capacity (vph)					406	407	414	2600			1750	1085
Starvation Cap Reductn					0	0	0	346			178	60
Spillback Cap Reductn					54	5	0	278			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.77	0.63	0.74	0.86			0.81	0.93

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 27.4 Intersection LOS: C
Intersection Capacity Utilization 105.6% ICU Level of Service G
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: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



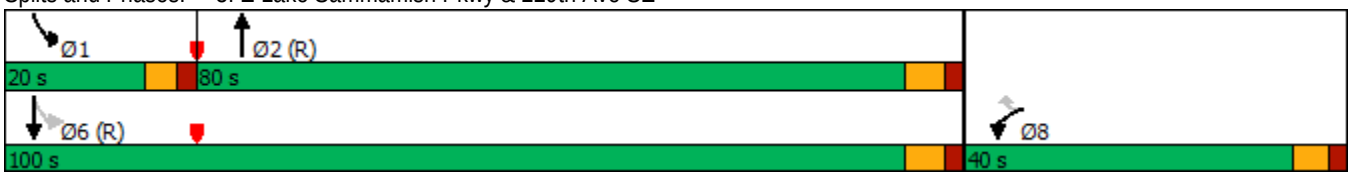
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	84	56	2072	83	38	2116
Future Volume (vph)	84	56	2072	83	38	2116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	3548	0	1787	5136
Flt Permitted	0.950				0.036	
Satd. Flow (perm)	1805	1615	3548	0	68	5136
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		58	4			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	58	2244	0	40	2204
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		10.5	24.3
Total Split (s)	40.0	40.0	80.0		20.0	100.0
Total Split (%)	28.6%	28.6%	57.1%		14.3%	71.4%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	12.2	12.2	106.6		116.4	115.6
Actuated g/C Ratio	0.09	0.09	0.76		0.83	0.83
v/c Ratio	0.56	0.30	0.83		0.32	0.52
Control Delay	74.3	17.6	11.0		12.9	1.7
Queue Delay	0.0	0.0	1.5		0.0	0.3
Total Delay	74.3	17.6	12.6		12.9	2.0
LOS	E	B	B		B	A
Approach Delay	51.8		12.6			2.2
Approach LOS	D		B			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	78	0	474		2	41
Queue Length 95th (ft)	132	44	1172		m4	82
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	439	437	2703		234	4240
Starvation Cap Reductn	0	0	274		0	1169
Spillback Cap Reductn	7	1	125		0	684
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.20	0.13	0.92		0.17	0.72

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 87 (62%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 8.8 Intersection LOS: A
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	115	0	24	113	1
Future Vol, veh/h	6	115	0	24	113	1
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	0	0
Mvmt Flow	7	128	0	27	126	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	101	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1462	-	902	997
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1462	-	899	997
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	995	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	900	-	-	1462	-
HCM Lane V/C Ratio	0.141	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	113	113	0	0	0
Future Vol, veh/h	0	113	113	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	0	0	0	0
Mvmt Flow	0	120	120	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	240	0
Stage 1	-	-	0	-
Stage 2	-	-	240	-
Critical Hdwy	4.1	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.2	-	4	3.3
Pot Cap-1 Maneuver	-	-	665	-
Stage 1	-	-	-	-
Stage 2	-	-	711	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

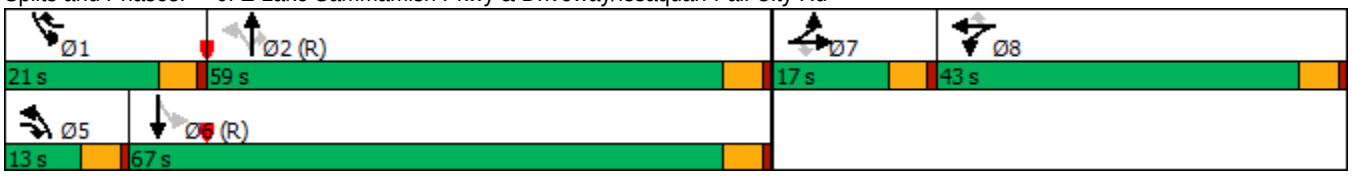
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	52	150	766	23	69	60	1136	956	92	1289	34
Future Volume (vph)	51	52	150	766	23	69	60	1136	956	92	1289	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98		1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.976		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1854	1615	1698	1707	1599	1787	3574	1599	1787	3557	0
Flt Permitted		0.976		0.950	0.955		0.063			0.100		
Satd. Flow (perm)	0	1852	1615	1698	1707	1574	119	3574	1560	188	3557	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			73			862		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	2					2	2		5	5		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%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	109	158	411	419	73	63	1196	1006	97	1393	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0	59.0	21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%	42.1%	15.0%	47.9%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.9	17.6	36.3	36.3	45.2	70.6	63.6	63.6	74.3	65.4	
Actuated g/C Ratio		0.08	0.13	0.26	0.26	0.32	0.50	0.45	0.45	0.53	0.47	
v/c Ratio		0.76	0.55	0.93	0.95	0.13	0.45	0.74	0.85	0.49	0.84	
Control Delay		93.3	19.1	79.6	82.1	6.3	28.7	21.5	14.0	24.3	39.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	1.2	16.7	0.0	0.0	
Total Delay		93.3	19.1	79.6	82.1	6.3	28.7	22.7	30.7	24.3	39.0	
LOS		F	B	E	F	A	C	C	C	C	D	
Approach Delay		49.4			74.8			26.4			38.1	
Approach LOS		D			E			C			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		98	29	382	390	0	10	385	687	42	594	
Queue Length 95th (ft)		#182	70	#583	#598	32	m20	532	965	73	711	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		158	303	457	459	639	156	1623	1179	286	1663	
Starvation Cap Reductn		0	0	0	0	0	0	216	187	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	0.52	0.90	0.91	0.11	0.40	0.85	1.01	0.34	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 40.1 Intersection LOS: D
Intersection Capacity Utilization 83.1% 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: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	962	3	320	0	0	0	0	1234	252	371	1205	0
Future Volume (vph)	962	3	320	0	0	0	0	1234	252	371	1205	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	120		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.99						0.96	1.00		
Frt			0.850						0.850			
Flt Protected	0.950	0.953								0.950		
Satd. Flow (prot)	1698	1703	1599	0	0	0	0	3574	1599	1787	3574	0
Flt Permitted	0.950	0.953								0.950		
Satd. Flow (perm)	1698	1703	1577	0	0	0	0	3574	1538	1781	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			66						76			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1120			404			981			752	
Travel Time (s)		25.5			9.2			22.3			17.1	
Confl. Peds. (#/hr)			1	1			1		6	6		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 (%)	1%	1%	1%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	491	494	327	0	0	0	0	1259	257	379	1230	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8	8						6		5	2	
Permitted Phases			8						6			
Detector Phase	8	8	8					6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
Minimum Split (s)	33.9	33.9	33.9					28.9	28.9	10.5	26.9	
Total Split (s)	52.0	52.0	52.0					54.0	54.0	34.0	88.0	
Total Split (%)	37.1%	37.1%	37.1%					38.6%	38.6%	24.3%	62.9%	
Yellow Time (s)	3.9	3.9	3.9					3.9	3.9	3.5	3.9	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9					5.9	5.9	5.5	5.9	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Min	C-Min	None	C-Min	
Act Effct Green (s)	44.7	44.7	44.7					48.1	48.1	29.9	83.5	
Actuated g/C Ratio	0.32	0.32	0.32					0.34	0.34	0.21	0.60	
v/c Ratio	0.91	0.91	0.60					1.03	0.44	0.99	0.58	
Control Delay	66.9	67.5	36.3					77.4	27.3	81.4	34.0	
Queue Delay	0.0	0.0	0.0					5.8	0.0	0.0	2.7	
Total Delay	66.9	67.5	36.3					83.3	27.3	81.4	36.7	
LOS	E	E	D					F	C	F	D	
Approach Delay		59.5						73.8			47.2	
Approach LOS		E						E			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	444	447	198					~641	126	~372	621	
Queue Length 95th (ft)	#653	#657	302					#781	209	#583	693	
Internal Link Dist (ft)		1040			324			901			672	
Turn Bay Length (ft)									100	120		
Base Capacity (vph)	559	560	563					1227	578	381	2130	
Starvation Cap Reductn	0	0	0					0	0	0	749	
Spillback Cap Reductn	0	0	0					20	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.88	0.88	0.58					1.04	0.44	0.99	0.89	

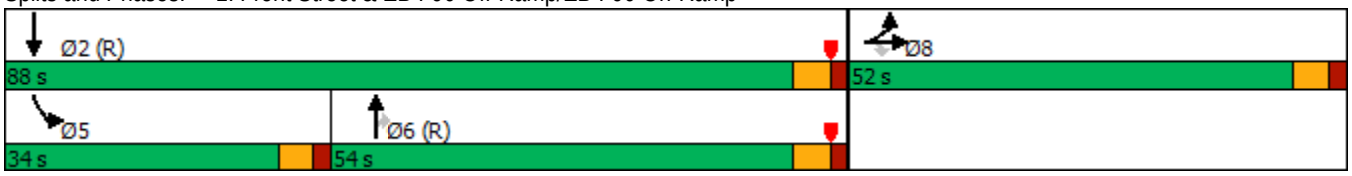
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 89 (64%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 59.9 Intersection LOS: E
Intersection Capacity Utilization 106.5% 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.

Splits and Phases: 1: Front Street & EB I-90 Off-Ramp/EB I-90 On-Ramp



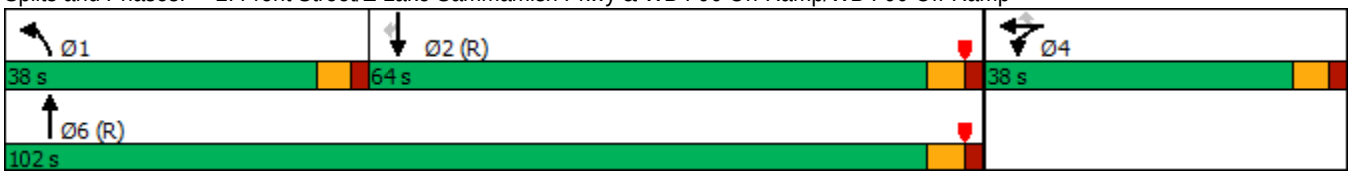
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	3	254	304	1937	0	0	1278	955
Future Volume (vph)	0	0	0	265	3	254	304	1937	0	0	1278	955
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	400		0	0		0
Storage Lanes	0		0	0		1	1		0	0		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	1.00	0.95	1.00
Ped Bike Factor						0.98	1.00					0.99
Frt						0.850						0.850
Flt Protected					0.953		0.950					
Satd. Flow (prot)	0	0	0	0	1775	1583	1787	3574	0	0	3574	1599
Flt Permitted					0.953		0.950					
Satd. Flow (perm)	0	0	0	0	1775	1558	1787	3574	0	0	3574	1577
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						65						613
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		452			362			752			431	
Travel Time (s)		10.3			8.2			17.1			9.8	
Confl. Peds. (#/hr)	3					3	1		11	11		1
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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	271	257	307	1957	0	0	1291	965
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4	4		1	6			2	
Permitted Phases						4						2
Detector Phase				4	4	4	1	6			2	2
Switch Phase												
Minimum Initial (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Minimum Split (s)				37.9	37.9	37.9	10.5	24.9			31.9	31.9
Total Split (s)				38.0	38.0	38.0	38.0	102.0			64.0	64.0
Total Split (%)				27.1%	27.1%	27.1%	27.1%	72.9%			45.7%	45.7%
Yellow Time (s)				3.9	3.9	3.9	3.5	3.9			3.9	3.9
All-Red Time (s)				2.0	2.0	2.0	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					0.0	0.0	0.0	0.0			0.0	0.0
Total Lost Time (s)					5.9	5.9	5.5	5.9			5.9	5.9
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?											Yes	Yes
Recall Mode				None	None	None	None	C-Min			C-Min	C-Min
Act Effct Green (s)					26.3	26.3	27.8	101.9			68.5	68.5
Actuated g/C Ratio					0.19	0.19	0.20	0.73			0.49	0.49
v/c Ratio					0.81	0.74	0.87	0.75			0.74	0.89
Control Delay					72.9	52.6	77.1	5.4			34.0	23.7
Queue Delay					3.1	0.1	0.0	1.3			0.7	2.7
Total Delay					76.0	52.8	77.1	6.8			34.7	26.4
LOS					E	D	E	A			C	C
Approach Delay					64.7			16.3			31.2	
Approach LOS					E			B			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)					237	167	257	115			508	177
Queue Length 95th (ft)					328	259	m245	m157			624	#772
Internal Link Dist (ft)		372			282			672			351	
Turn Bay Length (ft)							400					
Base Capacity (vph)					406	407	414	2600			1750	1085
Starvation Cap Reductn					0	0	0	344			177	56
Spillback Cap Reductn					64	7	0	407			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.79	0.64	0.74	0.89			0.82	0.94

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 2 (1%), Referenced to phase 2:SBT and 6:NBT, Start of Red
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 106.5% ICU Level of Service G
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: Front Street/E Lake Sammamish Pkwy & WB I-90 On-Ramp/WB I-90 Off-Ramp



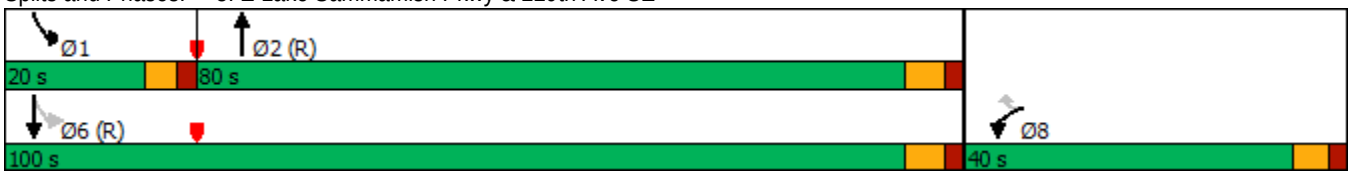
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	123	89	2072	110	59	2116
Future Volume (vph)	123	89	2072	110	59	2116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	270	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91
Ped Bike Factor			1.00			
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	3539	0	1787	5136
Flt Permitted	0.950				0.037	
Satd. Flow (perm)	1805	1615	3539	0	70	5136
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		93	6			
Link Speed (mph)	30		30			30
Link Distance (ft)	202		431			627
Travel Time (s)	4.6		9.8			14.3
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	93	2273	0	61	2204
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0		3.0	7.0
Minimum Split (s)	38.9	38.9	33.3		10.5	24.3
Total Split (s)	40.0	40.0	80.0		20.0	100.0
Total Split (%)	28.6%	28.6%	57.1%		14.3%	71.4%
Yellow Time (s)	3.9	3.9	4.3		3.5	4.3
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	6.3		5.5	6.3
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	15.3	15.3	102.9		113.3	112.5
Actuated g/C Ratio	0.11	0.11	0.74		0.81	0.80
v/c Ratio	0.65	0.36	0.87		0.46	0.53
Control Delay	74.5	14.0	15.2		23.6	2.2
Queue Delay	0.0	0.0	4.6		0.0	0.3
Total Delay	74.5	14.0	19.8		23.6	2.5
LOS	E	B	B		C	A
Approach Delay	49.1		19.8			3.0
Approach LOS	D		B			A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	114	0	767		10	42
Queue Length 95th (ft)	177	51	#1242		m17	161
Internal Link Dist (ft)	122		351			547
Turn Bay Length (ft)					270	
Base Capacity (vph)	439	463	2601		234	4127
Starvation Cap Reductn	0	0	272		0	1068
Spillback Cap Reductn	0	2	131		0	682
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.29	0.20	0.98		0.26	0.72

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 87 (62%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 13.2 Intersection LOS: B
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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: E Lake Sammamish Pkwy & 229th Ave SE



Intersection	
Int Delay, s/veh	5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	163	0	24	185	1
Future Vol, veh/h	6	163	0	24	185	1
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	9	9	0	0	0	0
Mvmt Flow	7	181	0	27	206	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	128	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1398	-	871	963
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	998	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1398	-	868	963
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	995	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	868	-	-	1398	-
HCM Lane V/C Ratio	0.238	-	-	-	-
HCM Control Delay (s)	10.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	161	185	0	0	0
Future Vol, veh/h	0	161	185	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	0	0	0	0
Mvmt Flow	0	171	197	0	0	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	394	0
Stage 1	-	-	0	-
Stage 2	-	-	394	-
Critical Hdwy	4.1	-	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.5	-
Follow-up Hdwy	2.2	-	4	3.3
Pot Cap-1 Maneuver	-	-	546	-
Stage 1	-	-	-	-
Stage 2	-	-	609	-
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	0	-
Mov Cap-2 Maneuver	-	-	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-

Approach	NB	SB
HCM Control Delay, s		0
HCM LOS		A

Minor Lane/Major Mvmt	NBL	NBT	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

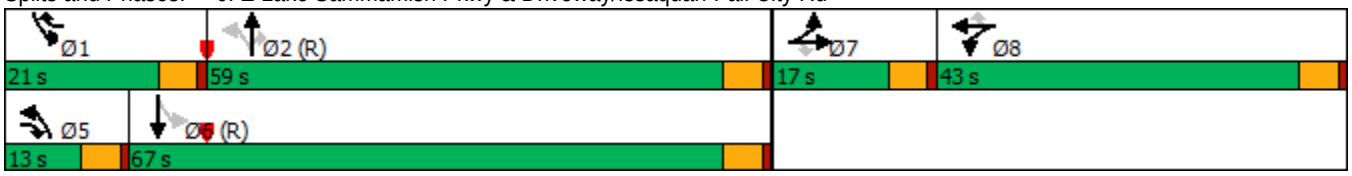
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	52	150	780	23	69	60	1147	978	92	1296	34
Future Volume (vph)	51	52	150	780	23	69	60	1147	978	92	1296	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		290	200		400	310		0
Storage Lanes	0		1	1		1	1		1	1		0
Taper Length (ft)	25			25			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			0.98		1.00	
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.976		0.950	0.955		0.950			0.950		
Satd. Flow (prot)	0	1854	1615	1698	1707	1599	1787	3574	1599	1787	3557	0
Flt Permitted		0.976		0.950	0.955		0.064			0.094		
Satd. Flow (perm)	0	1852	1615	1698	1707	1574	120	3574	1560	177	3557	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			73			860		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		233			460			627			569	
Travel Time (s)		5.3			10.5			14.3			12.9	
Confl. Peds. (#/hr)	2					2	2		5	5		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%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	109	158	419	426	73	63	1207	1029	97	1400	0
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	7	5	8	8	1	5	2		1	6	
Permitted Phases			7			8	2		2	6		
Detector Phase	7	7	5	8	8	1	5	2	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	5.0	
Minimum Split (s)	26.0	26.0	10.0	26.3	26.3	10.0	10.0	23.3	23.3	10.0	23.3	
Total Split (s)	17.0	17.0	13.0	43.0	43.0	21.0	13.0	59.0	59.0	21.0	67.0	
Total Split (%)	12.1%	12.1%	9.3%	30.7%	30.7%	15.0%	9.3%	42.1%	42.1%	15.0%	47.9%	
Yellow Time (s)	4.0	4.0	4.0	4.3	4.3	4.0	4.0	4.3	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	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	5.3	5.3	5.0	5.0	5.3	5.3	5.0	5.3	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		10.9	17.6	37.0	37.0	45.8	69.9	62.9	62.9	73.7	64.8	
Actuated g/C Ratio		0.08	0.13	0.26	0.26	0.33	0.50	0.45	0.45	0.53	0.46	
v/c Ratio		0.76	0.55	0.94	0.95	0.13	0.45	0.75	0.88	0.51	0.85	
Control Delay		93.3	19.1	79.4	81.3	6.3	29.7	21.9	14.9	25.3	40.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	1.5	26.3	0.0	0.0	
Total Delay		93.3	19.1	79.4	81.3	6.3	29.7	23.4	41.2	25.3	40.0	
LOS		F	B	E	F	A	C	C	D	C	D	
Approach Delay		49.4			74.5			31.5			39.1	
Approach LOS		D			E			C			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		98	29	391	400	0	8	338	825	42	599	
Queue Length 95th (ft)		#182	70	#601	#612	32	m22	522	#1052	73	717	
Internal Link Dist (ft)		153			380			547			489	
Turn Bay Length (ft)						290	200		400	310		
Base Capacity (vph)		158	303	460	462	646	156	1606	1175	280	1647	
Starvation Cap Reductn		0	0	0	0	0	0	219	191	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	0.52	0.91	0.92	0.11	0.40	0.87	1.05	0.35	0.85	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 100 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 42.7 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: E Lake Sammamish Pkwy & Driveway/Issaquah-Fall City Rd



Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	48	0	113	72	0
Future Vol, veh/h	113	48	0	113	72	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	52	0	123	78	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	175	0	272	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	123	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1401	-	717	898
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1401	-	717	898
Mov Cap-2 Maneuver	-	-	-	-	717	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	902	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	717	-	-	1401	-
HCM Lane V/C Ratio	0.109	-	-	-	-
HCM Control Delay (s)	10.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	185	161	0	5	0
Future Vol, veh/h	0	185	161	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	10	10	0	0	10	10
Mvmt Flow	0	197	171	0	5	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	171	0	-	0	368	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	197	-
Critical Hdwy	4.2	-	-	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	2.29	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	1359	-	-	-	616	852
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1359	-	-	-	616	852
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	817	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1359	-	-	-	616
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Collision Data

PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	REPORT NUMBER	# INJ	# FAT	# VEH	# PEDS	# BIKES	FIRST COLLISION TYPE / OBJECT STRUCK	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)
090LX01713	0		0				0.24	E369588	0	0	2	0	0	Entering at angle	Inattention
090LX01713	0		0				0.24	E464956	0	0	2	0	0	Entering at angle	None
090LX01713	0		0				0.24	E573721	0	0	2	0	0	Entering at angle	Under Influence of Alcohol
090LX01713	0		0				0.24	E263506	1	0	2	0	0	From opposite direction - all others	Operating Defective Equipment
090LX01713	0		0				0.24	E561276	0	0	2	0	0	From same direction - all others	Inattention
090LX01713	0		0				0.24	E321736	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Follow Too Closely
090P101685	0		0				0.32	E327157	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
090LX01713	0		0				0.24	E409759	2	0	3	0	0	From same direction - both going straight - both moving - rear-end	Follow Too Closely
090P101685	0		0				0.32	E434988	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
090LX01713	0		0				0.24	E565987	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
090P101685			0				0.32	E722142	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Follow Too Closely
090LX01713	0		0				0.24	E235018	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	None
090LX01713	0		0				0.26	E354972	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090LX01713	0		0				0.24	E484784	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
090LX01713	0		0				0.24	E472556	1	0	3	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090P101685	0		0				0.31	E393271	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090LX01713	0		0				0.24	E533463	0	0	3	0	0	From same direction - both going straight - one stopped - rear-end	Under Influence of Alcohol
090LX01713	0		0				0.26	E573680	0	0	3	0	0	From same direction - both going straight - one stopped - rear-end	None
090P101685	0		0				0.32	E514024	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090P101685	0		0				0.32	E503812	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090P101685	0		0				0.32	E549413	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
090P101685	0		0				0.32	E331289	0	0	2	0	0	Same direction -- both turning right -- both moving -- rear end	Inattention
090P101685	0		0				0.32	E568021	0	0	2	0	0	Same direction -- both turning right -- both moving -- rear end	Inattention
090P101685	0		0				0.32	E582581	1	0	2	0	0	Same direction -- both turning right -- both moving -- rear end	Inattention
090P101685	0		0				0.32	E272943	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685	0		0				0.32	E276710	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090LX01713	0		0				0.24	E364430	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Driver Distractions Outside Vehicle
090P101685	0		0				0.32	E304715	1	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685	0		0				0.32	E433178	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685	0		0				0.32	E464768	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685	0		0				0.32	E526153	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685	0		0				0.32	E562635	1	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685			0				0.31	E745330	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685			0				0.32	E700930	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090P101685			0				0.32	E735257	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Follow Too Closely
090P101685			0				0.32	E725025	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Follow Too Closely
090LX01713	0		0				0.24	E318902	0	0	1	0	0	Wood Sign Post	Other
090LX01713	0		0				0.11	E622072	0	0	2	0	0	Entering at angle	Inattention
090LX01713	0		0				0.11	E508849	0	0	2	0	0	Entering at angle	Inattention
090LX01713	0		0				0.11	E226432	0	0	2	0	0	From opposite direction - one left turn - one straight	Other
090LX01713	0		0				0.11	E490398	1	0	2	0	0	From opposite direction - one left turn - one straight	Disregard Stop and Go Light
090LX01713	0		0				0.11	E451142	0	0	2	0	0	From opposite direction - one left turn - one straight	Disregard Stop and Go Light
090LX01713	0		0				0.11	E547911	0	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
090LX01713	0		0				0.11	E244368	1	0	2	0	0	From same direction - all others	None
090LX01713	0		0				0.11	E441147	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
090LX01713	0		0				0.11	E403934	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Other
090LX01713	0		0				0.10	E627427	0	0	3	0	0	From same direction - both going straight - both moving - rear-end	Operating Defective Equipment
090LX01713	0		0				0.11	E603990	0	0	3	0	0	From same direction - both going straight - both moving - rear-end	Other
090R101742			0				0.35	E640550	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
090LX01713	0		0				0.11	E338249	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
090LX01713	0		0				0.11	E603991	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
090LX01713			0				0.01	E716442	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	5500		195	F	S	228TH AVE SE		E259898	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Exceeding Reas. Safe Speed
090LX01713	0		0				0.11	E217965	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
090LX01713	0		0				0.11	E248972	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090LX01713	0		0				0.11	E264621	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
090LX01713	0		0				0.16	E218541	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Driver Distractions Outside Vehicle
090R101742	0		0				0.34	E222065	0	0	3	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090LX01713	0		0				0.11	E344398	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
090LX01713	0		0				0.11	E423956	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
090LX01713	0		0				0.11	E613859	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Under Influence of Alcohol
090LX01713	0		0				0.11	E541758	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Exceeding Reas. Safe Speed
090LX01713	0		0				0.11	E552289	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Driver Distractions Outside Vehicle
090R101742	0		0				0.35	E604177	0	0	2	0	0	Same direction -- both turning right -- both moving -- rear end	Inattention
090R101742	0		0				0.35	E300175	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090R101742	0		0				0.35	E322347	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Follow Too Closely
090R101742	0		0				0.35	E473667	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Inattention
090LX01713			0				0.01	E708868	0	0	2	0	0	Same direction -- both turning right -- one stopped -- sideswipe	Improper Turn
090R101742			0				0.34	E694024	0	0	1	0	0	Temporary Traffic Sign, Barricade or Construction Materials	Inattention
E LAKE SAMMAMISH PKWY SE	0	228TH AVE SE	0					E627280	0	0	2	0	0	Entering at angle	Inattention
E LAKE SAMMAMISH PKWY SE	0	228TH AVE SE	0					E329076	0	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle

PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	REPORT NUMBER	# INJ	# FAT	# VEH	# PEDS	# BIKES	FIRST COLLISION TYPE / OBJECT STRUCK	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)
E LAKE SAMMAMISH PKWY SE		228TH AVE SE	0					E736250	0	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6700	228TH AVE SE	0					E339481	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Inattention
E LAKE SAMMAMISH PKWY SE	6700	228TH AVE SE	0					E315540	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
E LAKE SAMMAMISH PKWY SE	6600		100	F	S	228TH AVE SE		E460566	0	0	3	0	0	From same direction - both going straight - both moving - sideswipe	Improper Passing
E LAKE SAMMAMISH PKWY SE	6500		52	F	S	228TH AVE SE		E691034	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	None
E LAKE SAMMAMISH PKWY SE	6600	228TH AVE SE	0					E395350	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
E LAKE SAMMAMISH PKWY SE	0	228TH AVE SE	0					E618461	1	0	3	0	0	From same direction - both going straight - one stopped - rear-end	None
E LAKE SAMMAMISH PKWY SE	0	229TH AVE SE	0					E747336	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
E LAKE SAMMAMISH PKWY SE	0	229TH AVE SE	0					E633091	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E344779	1	0	2	0	0	Entering at angle	Other
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E335094	0	0	2	0	0	Entering at angle	Disregard Stop and Go Light
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E464954	0	0	2	0	0	Entering at angle	Other
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E604779	0	0	2	0	0	Entering at angle	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E642694	0	0	2	0	0	Entering at angle	Disregard Stop and Go Light
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E369646	1	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E490402	1	0	3	0	0	From opposite direction - one left turn - one straight	Other
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E432267	0	0	2	0	0	From opposite direction - one left turn - one straight	None
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E485531	1	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E494534	0	0	2	0	0	From opposite direction - one left turn - one straight	Driver Not Distracted
E LAKE SAMMAMISH PKWY SE	6400	SE 64TH PL	0					E520921	0	0	2	0	0	From opposite direction - one left turn - one straight	Improper Turn
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E618716	1	0	2	0	0	From opposite direction - one left turn - one straight	None
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E616616	0	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E595448	1	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E506372	1	0	2	0	0	From opposite direction - one left turn - one straight	None
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E613853	1	0	2	0	0	From opposite direction - one left turn - one straight	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH FALL CITY RD	0					E729347	1	0	2	0	0	From opposite direction - one left turn - one straight	Inattention
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH FALL CITY RD	0					E749823	2	0	2	0	0	From opposite direction - one left turn - one straight	Other
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E526780	0	0	2	0	0	From same direction - all others	Other
SE ISSAQUAH-FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE	0					E652252	0	0	3	0	0	From same direction - all others	Under Influence of Alcohol
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E251085	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	None
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E379773	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	None
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH FALL CITY RD	0					E749371	0	0	2	0	0	From same direction - both going straight - both moving - rear-end	Other
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E279095	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E309306	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E302166	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6400	SE 64TH PL	0					E489453	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Over Center Line
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E478601	0	0	3	0	0	From same direction - both going straight - both moving - sideswipe	Other
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E410615	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E485532	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E519161	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Inattention
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E528184	0	0	2	0	0	From same direction - both going straight - both moving - sideswipe	Did Not Grant RW to Vehicle
E LAKE SAMMAMISH PKWY SE	6400		50	F	NW	SE ISSAQUAH-FALL CITY RD		E241369	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E244231	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Exceeding Reas. Safe Speed
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E342685	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Had Taken Medication
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E379469	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Operating Defective Equipment
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E473444	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E535489	1	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Follow Too Closely
SE ISSAQUAH-FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE	0					E609455	0	0	2	0	0	From same direction - both going straight - one stopped - rear-end	Inattention
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E324583	0	0	2	0	0	From same direction - one right turn - one straight	Did Not Grant RW to Vehicle
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E332711	0	0	2	0	0	From same direction - one right turn - one straight	Other
SE ISSAQUAH-FALL CITY RD	22800	E LAKE SAMMAMISH PKWY SE	0					E573980	0	0	2	0	0	Same direction -- both turning left -- both moving -- rear end	Other
E LAKE SAMMAMISH PKWY SE	6400	SE ISSAQUAH-FALL CITY RD	0					E581138	0	0	2	0	0	Same direction -- both turning left -- both moving -- sideswipe	None
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E684708	0	0	2	0	0	Same direction -- both turning left -- both moving -- sideswipe	None
SE ISSAQUAH FALL CITY RD	0	E LAKE SAMMAMISH PKWY SE	0					E742452	0	0	2	0	0	Same direction -- both turning left -- both moving -- sideswipe	Improper Turn
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E311985	0	0	2	0	0	Same direction -- both turning right -- one stopped -- rear end	Follow Too Closely
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E640549	0	0	1	0	0	Signal Pole	Inattention
E LAKE SAMMAMISH PKWY SE	0	SE ISSAQUAH-FALL CITY RD	0					E639097	1	0	1	0	0	Signal Pole	Exceeding Reas. Safe Speed

Collision Data Date Range

Start	1/1/2013
End	12/31/2017
Total Years	5.00

Intersection	No. Collisions	No. Inury Collisions	Estimated ADT	Collisions per Year	Collisions per MEV
#1: Front St @ I-90 EB Ramps	37	7	37,440	7.4	0.54
#2: Front St @ I-90 WB Ramps	32	5	42,930	6.4	0.41
#3: ELSP @ 229th Avenue SE	11	3	38,730	2.2	0.16
#4: 229th Ave SE @ SE 66th Street	0	0	2,250	0	0.00
#5: SE 66th Street @ 230th Avenue SE	0	0	1,960	0	0.00
#6: ELSP @ Issaquah-Fall City Rd	48	13	40,720	9.6	0.65

WSDOT Level of Service Thresholds

Appendix 29

LOS Standards Set By MPOs/ RTPOs for RegionallySignificant (non-HSS) State Highways

Level Of Service Thresholds for State Highways Set by RTPOs

February 20, 2004

	LOS for Non-HSS[1]		LOS for HSS[2]	
	Urban	Rural	Urban	Rural
(PSRC) Puget Sound Regional Council - TMA/MPO/RTPO				
King County	Tier 1 is Mitigated E_4 Tier 2 is D_4 Tier 3 is C_4		D	C
Pierce County			D	C
Snohomish County			D	C
Kitsap County[3]			D	C
(SRTC) Spokane Regional Transportation Council - TMA/MPO/RTPO				
Spokane County	D	C	D	C
(RTC) Southwest Washington Regional Transportation Council - TMA/MPO/RTPO				
Clark County	E	C	D	C
Skamania County	E	C	D	C
Klickitat County	E	C	D	C
(TRPC) Thurston Regional Planning Council - MPO/RTPO				
Thurston County	High density corridors/core areas E_5 Elsewhere in Urban Growth Area D_5 Outside Urban Growth Area C_5		D	C
(WCCOG) Whatcom Council of Governments - MPO/RTPO				
Whatcom County	D	C	D	C
(YVCOG) Yakima Valley Conference of Governments - MPO/RTPO				
Yakima County	D	C	D	C
(BFCG) Benton-Franklin Council of Governments - MPO/RTPO				
Benton County	D	C	D	C
Franklin County	D	C	D	C
Walla Walla County	D	C	D	C
(CWCOG/SWRTPO) Cowlitz-Wahkiakum Council of Governments - MPO/RTPO				
Cowlitz County	D	C	D	C
Wahkiakum County	D	C	D	C
Lewis County	D	C	D	C
Pacific County	D	C	D	C
Grays Harbor County	D	C	D	C
(NCRTPO) North Central - RTPO				
Chelan County	D	C	D	C
Douglas County	D	C	D	C
Okanogan County	D	C	D	C
(N.E.W. RTPO) North East Washington - RTPO				
Ferry County	D	C	D	C
Stevens County	D	C	D	C
Pend Oreille County	D	C	D	C
(Pal RTPO) Palouse - RTPO				
Columbia County	D	C	D	C
Garfield County	D	C	D	C
Whitman County	D	C	D	C
Asotin County	D	C	D	C
(PRTPO) Peninsula - RTPO				
Mason County	D	C	D	C
Jefferson County	D	C	D	C
Clallam County	D	C	D	C
Kitsap County[3]	See PSRC above	See PSRC above	D	C
(QUADCO) Quad County - RTPO				
Kittitas County	D	C	D	C
Grant County	D	C	D	C
Lincoln County	D	C	D	C
Adams County	D	C	D	C
(S/I RTPO) Skagit/Island - RTPO				
Skagit County	D	C	D	C
Island County	E	D	E	D

Notes:

1. RTPOs have authority to set LOS Thresholds for Non HSS. LOS is based on Peak-Hour except where noted [4, 5]

2. LOS is based on Congestion Index 6 is approximately equal to LOS "C", 10~LOS "D", 12~LOS "E"

3. Kitsap County belongs to both PSRC and PRTPO

4. LOS will be measured consistent with the latest edition (preferred) of the Highway Capacity Manual and based on a one-hour p.m. peak period.
Tier 1 : For this process, the "inner" urban area is generally defined as a 3-mile buffer around the most heavily traveled freeways (I-5, I-405, SR 167, SR 520, and I-90), plus all designated urban centers (most are located in the freeway buffer already). The proposed standard for Tier 1 routes is LOS "E/mitigated," meaning that congestion should be mitigated (such as transit) when p.m. peak hour LOS falls below LOS "E."
Tier 2 : These routes serve the "outer" urban area - those outside the 3-mile buffer - and connect the "main" urban growth area (UGA) to the first set of "satellite" UGA's (e.g., SR 410 to Enumclaw). These urban and rural areas are generally farther from transit alternatives, have fewer alternative roadway routes, and locally adopted LOS standards in these areas are generally LOS "D" or better. The proposed standard for Tier 2 routes is LOS "D."
Tier 3: Rural routes are regionally significant state routes in rural areas that are not in Tier 2. The proposed standard for rural routes is LOS "C," consistent with the rural standard in effect for those routes once they leave the four counties in the PSRC region, such as SR 530 entering Skagit County.
The LOS standards do not change within a city. For example, the change from Tier 1 to Tier 2 on SR 516 occurs at the Kent/Covington city limit boundary.
http://www.psrc.org/projects/mtp/los/los.htm

5. TRPC regional goals are based on a two-hour PM peak. Urban Growth Areas are based on the Growth Management Act.