Floyd Residential Site

Unincorporated King County, WA

Traffic Impact Analysis

September 9, 2019

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FINDINGS/CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the proposed Floyd Residential project located at 24615 & 24637 NE 18th Street in unincorporated King County.

Project Proposal. The project proposes 17 single-family detached residential dwelling units on a site that currently includes 2 single-family homes which would be removed with the proposed project. Vehicular access for 15 of the lots would be provided by NE 18th Street. Vehicle access for two lots would be provided by NE 16th Street. Full project buildout is expected by 2022.

Trip Generation. The proposed Floyd Residential development is estimated to generate 185 net new weekday daily trips with 16 net new trips occurring during the weekday AM peak hour (4 in, 12 out) and 17 net new trips during the weekday PM peak hour (11 in, 6 out).

Future Year LOS. Weekday AM and PM peak hour LOS analyses were conducted at four off-site study intersections. The signalized intersection of 242nd Ave NE/NE 8th Street and the stop controlled intersection of 244th Ave NE/NE 16th Street are anticipated to operate at LOS D in the future without or with the proposed Floyd Residential project. The project's impact at both intersections is less than 1 percent increase in total vehicle trips and the increase in delay at each intersection is less than 3 second; neither of which would not be considered significant. It should be noted that the City of Sammamish has a planned improvement at 242nd Ave NE/NE 8th Street (TIP Project TR-55) to add a westbound right-turn pocket which would improve the future traffic operations of the intersection.

Site Access Assessment. Vehicular access for 15 lots would be provided via a new road connection to the existing NE 18th Street and vehicle access for 2 lots would be provided via a new road connection to NE 16th Street. The existing available SSD at both site access locations would meet King County sight distance standards.

Safe Walk Route Assessment. As part of the proposed Floyd Residential development, sidewalks would be constructed along the project frontage on NE 18th Street and throughout the internal roads of the development. A continuous walk route primarily on sidewalks for students to/from the elementary and middle schools and the proposed Floyd Residential would be provided. An approximately 170 foot section on NE 18th Street immediately west of the project site would not have sidewalks.

Mitigation. The traffic impacts of the proposed Floyd Residential development are not expected to create a significant adverse impact to the local vehicular network. As a result, there are no project-specific traffic mitigation measures proposed for this project.

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the proposed Floyd Residential project located at 24615 & 24637 NE 18th Street in unincorporated King County as shown in the Figure 1 vicinity map.

Project Description

The project proposes 17 single-family detached residential dwelling units on a site that currently includes 2 single-family homes which would be removed with the proposed project. Vehicular access for 15 of the lots would be provided by NE 18th Street. Vehicle access for two lots would be provided by NE 16th Street. Full project buildout is expected by 2022. A preliminary site plan is included in Figure 2.

Project Approach

To analyze the traffic impacts from the proposed Floyd Residential project, the following tasks were undertaken:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents;
- Described and assessed existing transportation conditions in the area;
- Documented traffic collisions at the study intersections;
- Documented the City of Sammamish's planned transportation improvements in the site vicinity;
- Estimated future peak hour traffic volumes at four off-site study intersections;
- Estimated trip generation and documented trip distribution and assignment of project traffic;
- Documented traffic forecasts and assumptions for year 2022 conditions without and with the proposed development;
- Conducted weekday AM and PM peak hour level of service analyses at four off-site study intersections;

Primary Data and Information Sources

- ITE *Trip Generation Manual*, 10th Edition, 2017.
- AM and PM Peak Hour traffic counts by All Traffic Data, April 2019.
- *Highway Capacity Manual (HCM 6th Edition),* 2016.
- Washington State Department of Transportation (WSDOT) Collision Data, 2014-2018.
- City of Sammamish 2020–2025 Six-Year Transportation Improvement Plan.

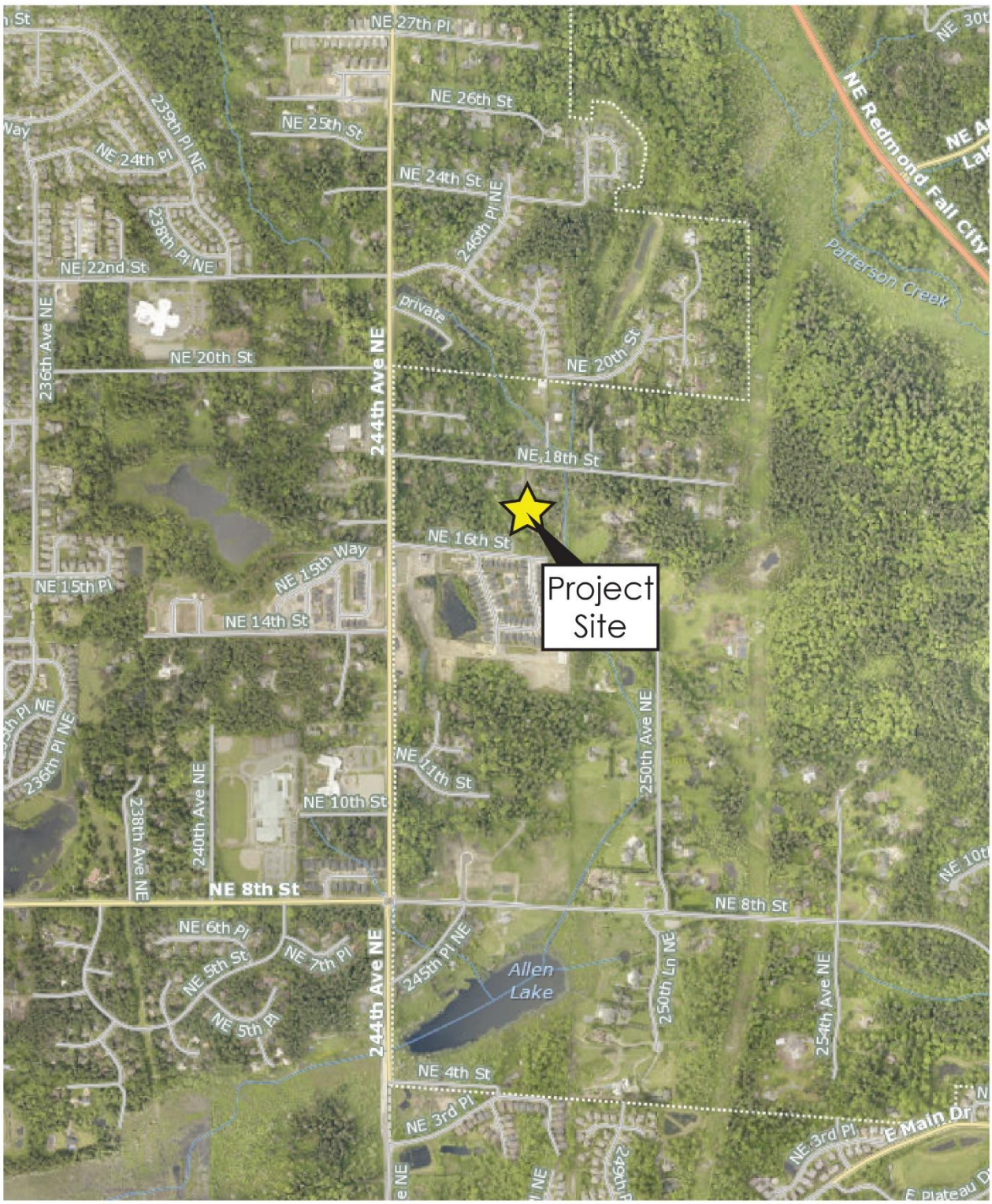


Figure 1: Project Site Vicinity

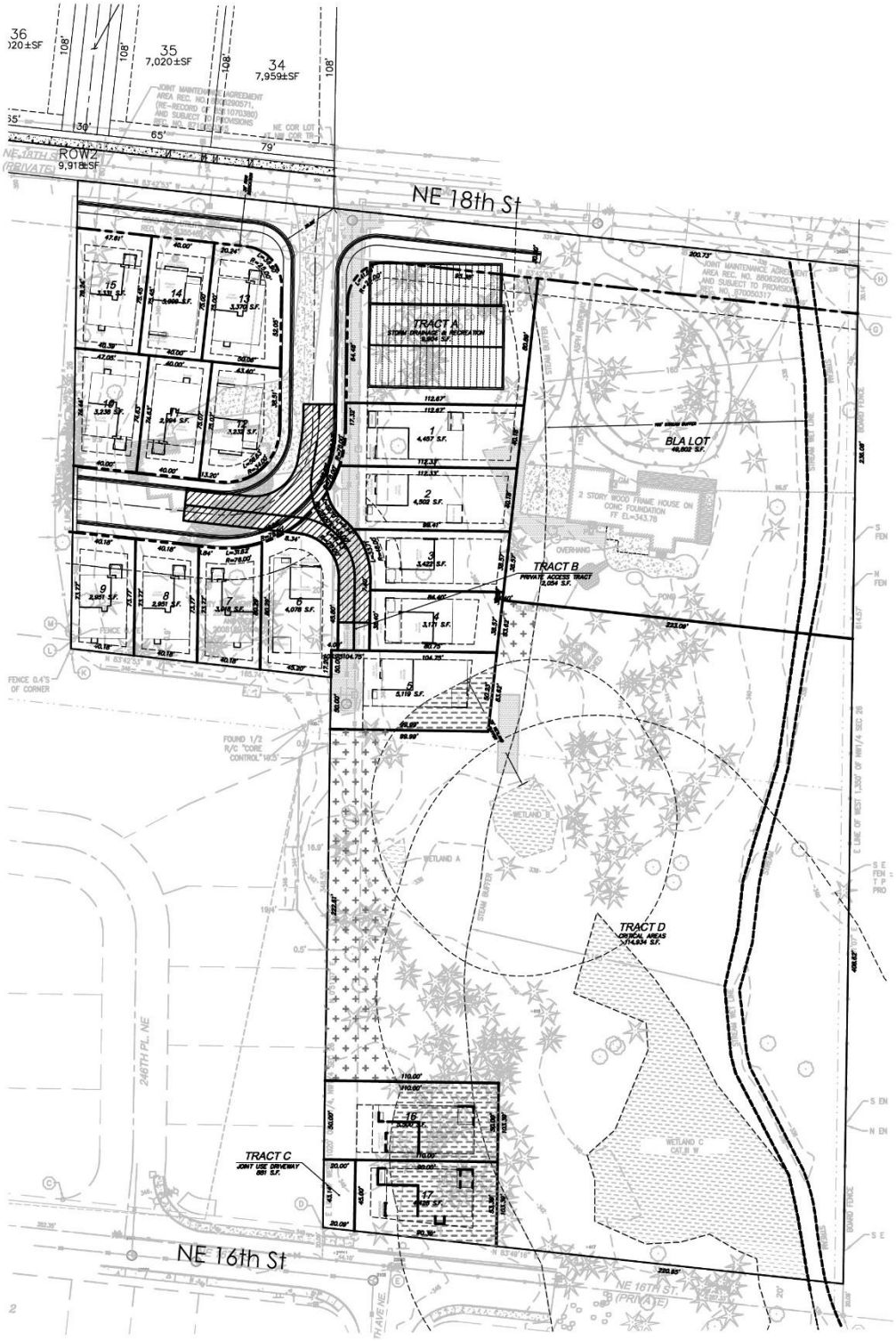


Figure 2: Preliminary Site Plan

EXISTING CONDITIONS

Roadway Network

The primary travel routes to and from the site include 244th Avenue NE and NE 18th Street. 244th is a City of Sammamish road and NE 18th Street is King County. The relationship of these roadways to the project site is shown in Figure 1. Descriptions of the streets are included in Table 1 below.

Table 1
Existing Roadway Network Summary – Project Site Vicinity

Roadway	Orientation	Classification	Speed Limit	Number of Travel Lanes	Street Parking	Sidewalks
244th Avenue NE	N-S	Minor Arterial	35	2	None	Both Sides South of 16th
NE 18th Street	E-W	Urban Subcollector	25	2	None	None

Existing Traffic Volumes

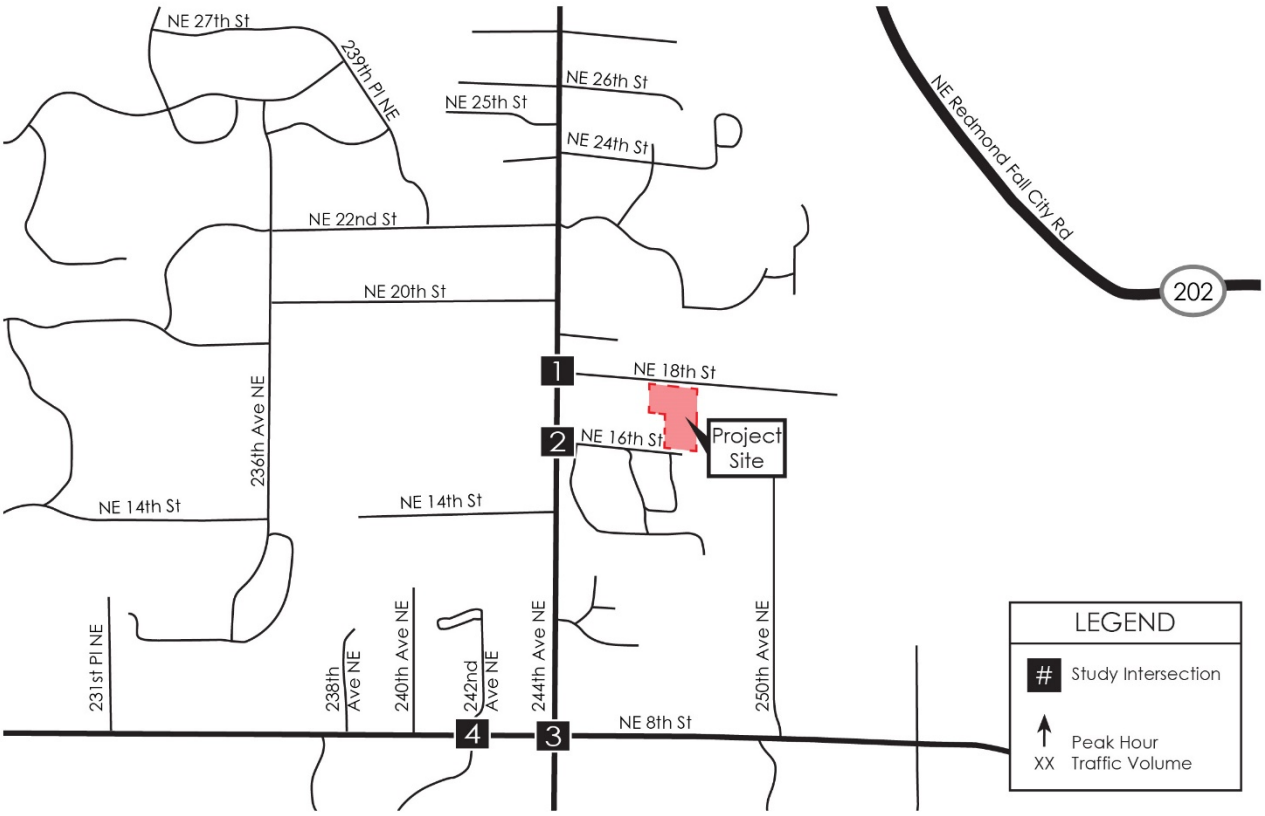
Existing weekday AM and PM peak hour traffic volumes at the four study intersections were based on counts collected by All Traffic Data in April 2019. The existing weekday AM and PM peak hour traffic volumes represent the highest hour of traffic between 6:00 and 9:00 a.m. and 4:00 and 6:00 p.m. respectively. Figure 3 illustrates the 2019 weekday AM and PM peak hour traffic volumes at the study intersections. The detailed peak hour turning movement count sheets are provided in Appendix A.

Existing Transit Service

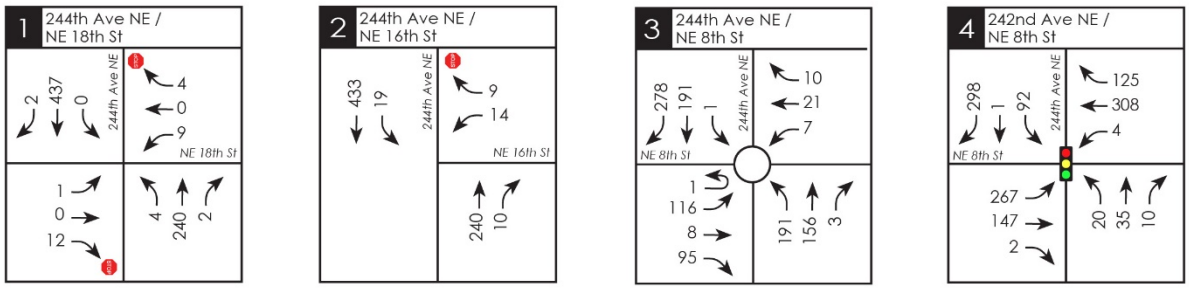
There is no existing transit service in the immediate vicinity of the proposed project. The nearest transit stop is located approximately 1.7 miles to the southwest near the 228th Avenue NE/NE 8th Street intersection.

Existing Pedestrian Facilities

Pedestrian facilities in the study area include a mix of sidewalks and paved shoulders. Sidewalks and paved shoulders exist on both sides of 244th Avenue NE south of NE 16th Street. Sidewalks exist on the south side of NE 16th Street from 244th Avenue NE to 246th Avenue NE and on both sides east of 246th Avenue NE. In addition, a rapid flash crosswalk currently exists on 244th Avenue NE adjacent to Rachel Carson Elementary.



AM Peak Hour



PM Peak Hour

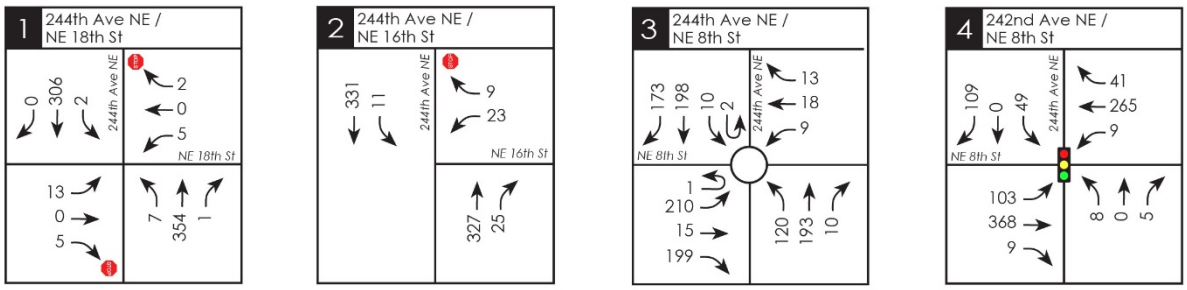


Figure 3: 2019 Existing Peak Hour Traffic Volumes

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Level of Service

Weekday AM and PM peak hour level of service (LOS) analyses were conducted at the following four study intersections:

1. 244th Avenue NE / NE 18th Street (unsignalized)
2. 244th Avenue NE / NE 16th Street (unsignalized)
3. 244th Avenue NE / NE 8th Street (roundabout)
4. 242nd Avenue NE / NE 8th Street (signalized)

LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay in excess of 80 seconds per vehicle.

The LOS reported for signalized intersections represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only).

The LOS reported at stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (and for the overall intersection at all-way stop controlled intersections. Additional v/c ratio criteria apply to lane group or movement LOS only). Table 2 outlines the current HCM 6th Edition LOS criteria for signalized and stop-controlled intersections based on these methodologies.

Table 2
LOS Criteria for Signalized and Stop-Controlled Intersections[1]

SIGNALIZED INTERSECTIONS			STOP-CONTROLLED INTERSECTIONS		
	LOS by Volume-to Capacity (V/C) Ratio[2]			LOS by Volume-to Capacity (V/C) Ratio[3]	
Control Delay (sec/veh)	≤ 1.0	> 1.0	Control Delay (sec/veh)	≤ 1.0	> 1.0
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

[1] Source: Highway Capacity Manual (6th Edition), Transportation Research Board, 2016.

[2] For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

[3] For two-way stop controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

Intersection LOS were calculated using the methodology and procedures outlined in the latest edition of the *Highway Capacity Manual* (HCM 6th Edition), Transportation Research Board (TRB), using the *Synchro 10.3* software program. Existing signal timing used in the analysis was provided by the City of Sammamish. The 2019 existing AM and PM peak hour LOS analysis results for the study intersections are summarized in Table 3. The 2019 existing LOS worksheets are included in Appendix B.

It should be noted that consistent with the City of Sammamish Comprehensive Plan, the LOS reported at the stop-controlled study intersections is based on the control delay of the worst approach, which tends to be the stop-controlled minor streets, or for left-turn movements from major streets, whichever is worse.

Table 3
2019 Existing AM and PM Peak Hour LOS Summary

	AM Peak Hour		PM Peak Hour	
Study Intersection	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
Signalized				
4. 242nd Ave NE / NE 8th St	C	25.2	B	17.2
Stop Controlled [3]				
1. 244th Ave NE / NE 18th St	B	14.7	C	15.4
2. 244th Ave NE / NE 16th St	B	13.6	B	14.8
Roundabout				
3. 244th Ave NE / NE 8th St	A	6.9	A	6.9

1. LOS = Level of Service
2. Delay refers to average control delay, expressed in seconds per vehicle.
3. LOS is calculated based on the control delay of the worst approach, which tends to be the stop-controlled minor streets, or for left turn movements from major streets, whichever is worse.

As shown in Table 3, all study intersections operate at LOS C or better during the weekday AM and PM peak hours. The City of Sammamish's Comprehensive Plan LOS standard is LOS C.

Collision History

Historic collisions at the study intersections were analyzed for the five-year period from 2014 to 2018. Collision data was provided by WSDOT. Summaries of the total and yearly average collisions during this period are provided in Table 4. Summaries of collisions by type over the five-year period are provided in Table 5.

Table 4
Collision Data Summary By Year, January 1, 2014 to December 31, 2018

Location	2014	2015	2016	2017	2018	Five-Year Total Collisions	Average Annual Collisions	Collisions per MEV[1]
1. 244th Avenue NE / NE 18th Street	0	0	0	0	0	0	0.00	0.00
2. 244th Avenue NE / NE 16th Street	0	0	0	1	0	1	0.20	0.08
3. 244th Avenue NE / NE 8th Street	0	0	0	0	1	1	0.20	0.05
4. 242nd Avenue NE / NE 8th Street	0	0	0	0	0	0	0.00	0.00

Source: WSDOT Crash Data.

1. MEV = Million Entering Vehicles

Table 5
Collision Data Summary By Type, January 1, 2014 to December 31, 2018

			Collision Type					
Location	5-Year Total Collisions	Average Annual Collision Rate	Approach Turn	Sideswipe	Right Angle	Rear-end	Parked Veh / Fixed	Other
1. 244th Avenue NE / NE 18th Street	0	0.00	0	0	0	0	0	0
2. 244th Avenue NE / NE 16th Street	1	0.20	0	0	0	1	0	0
3. 244th Avenue NE / NE 8th Street	1	0.20	0	0	0	1	0	0
4. 242nd Avenue NE / NE 8th Street	0	0.00	0	0	0	0	0	0

Source: WSDOT Crash Data.

As shown in Tables 4 and 5, there were no reported collisions at the 244th Avenue NE/NE 18th Street study intersection over the five year period.

FUTURE CONDITIONS and TRAFFIC IMPACT ANALYSIS

Planned Transportation Improvements

This section documents the known transportation improvements in the study area. Based on review of the City's adopted *2020-2025 Six-Year Capital Transportation Improvement Plan*, there is one planned improvement in the study area:

City of Sammamish 2020-2025 Six-Year CIP

- 242nd Avenue NE/NE 8th Street (TR-55) – the City will add westbound right turn pocket and widen NE 8th Street. This improvement will begin construction in 2024, after the proposed Floyd Residential has been built.

Other

- 244th Avenue NE/NE 18th Street – As part of the Kensington development, the addition of a southbound left-turn lane is proposed. It should be noted the Kensington development has currently received preliminary plat approval.

- Non-Motorized Improvements – As part of the 18th Assemblage development located on the southeast corner of 244th Ave NE/NE 18th Street, sidewalks would be included along the project frontages on 244th Avenue NE and NE 18th Street, and throughout the internal roads of the development. A pedestrian-only connection would be provided to the adjacent Woodhaven development located southeast of the 18th Assemblage project site. As a result, a continuous walk route for students to/from the elementary and middle schools and NE 18th Street would be provided.

Project Trip Generation

The trip generation estimates for the proposed Floyd Residential development (17 single-family lots) were based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual,* 10th edition for land use code (LUC) 210 (Single-Family Detached Housing). Consistent with guidelines included in the ITE *Trip Generation Handbook*, 3rd edition, fitted curve equations were used in the trip generation estimate for proposed land use. Average trip rates were used for the 2 existing single-family homes to be removed. Table 6 summarizes the trip generation estimate for 15 net new single-family homes (17 proposed single-family homes less 2 existing single-family homes).

Table 6
Floyd Residential – Trip Generation Summary

	Net New Trips Generated		
Time Period	In	Out	Total
Weekday Daily	92	93	185
Weekday AM Peak Hour	4	12	16
Weekday PM Peak Hour	11	6	17

As shown in Table 6, the proposed Floyd Residential development is estimated to generate 185 net new weekday daily trips with 16 net new trips occurring during the weekday AM peak hour (4 in,

12 out) and 17 net new trips during the weekday PM peak hour (11 in, 6 out). Detailed trip generation calculations are included in Appendix C.

Project Trip Distribution and Assignment

The distribution of project generated vehicle trips by the Floyd Residential project was based on existing travel patterns in the area and turning movement count data collected at the 244th Avenue NE/NE 18th Street intersection. The net new AM and PM peak hour project-generated trips were distributed to the vicinity street system as follows:

- 50 percent to/from north on 244th Avenue NE
- 50 percent to/from south on 244th Avenue NE

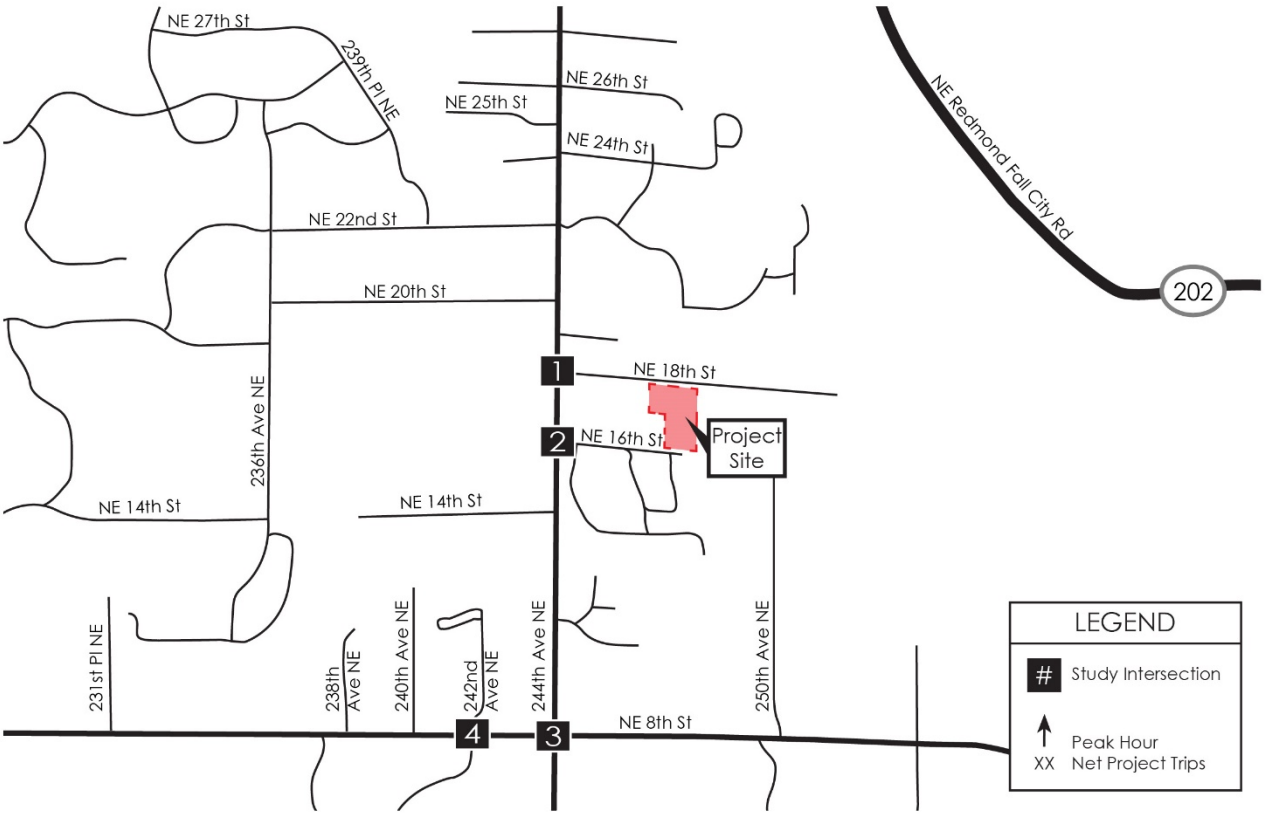
Figure 4 provide a graphical illustration of the assignment of the net new weekday AM and PM peak hour project-generated traffic to the study intersections.

Future Traffic Volumes

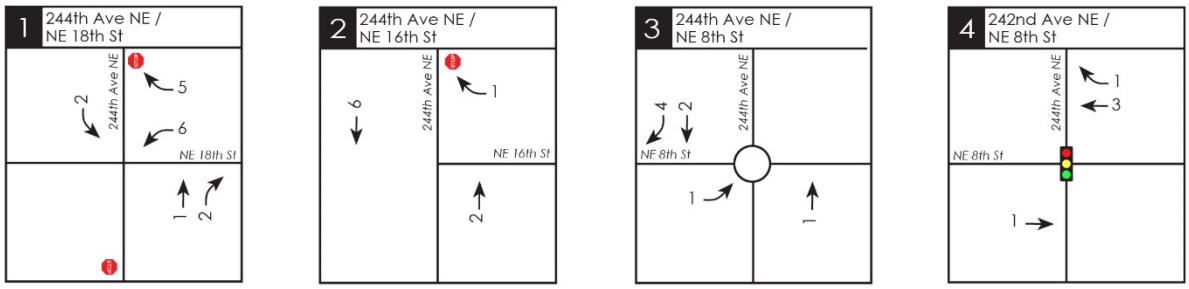
Future year 2022 Without Project AM and PM peak hour traffic volumes were estimated by applying a 4 percent annual growth rate to the existing traffic counts, which is consistent with other residential developments in the area. In addition to the background growth rate, trips from the following 10 pipeline projects (approximately 375 future single family homes) were included in the future baseline traffic volumes:

1. Canterbury Park (also called Mystic Lake)
2. Monarch Ridge (also called Twins Ridge)
3. Cedar Hill (also called Kirkwood Terrace)
4. 25th Street Assemblage
5. Kensington Enclave
6. Atherton Plat
7. Woodhaven 1 & 2
8. MacDonald Preliminary Short Subdivision
9. Terrene Homes
10. 18th Street Assemblage

The resulting future 2022 Without Project AM and PM peak hour traffic volumes at the study intersections are shown in Figure 5. The 2022 With Project traffic volumes were determined by adding the trip assignment from the proposed development (shown in Figure 4) to the future 2022 Without Project traffic volumes (shown in Figure 5). The 2022 With Project traffic volumes are shown in Figure 6.



AM Peak Hour



PM Peak Hour

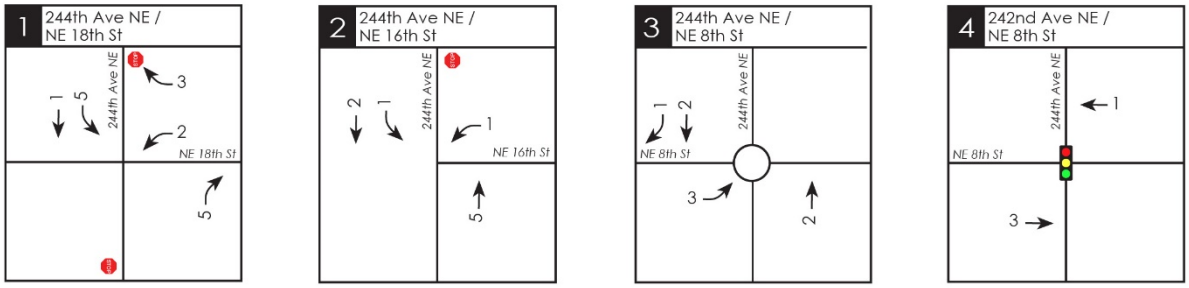


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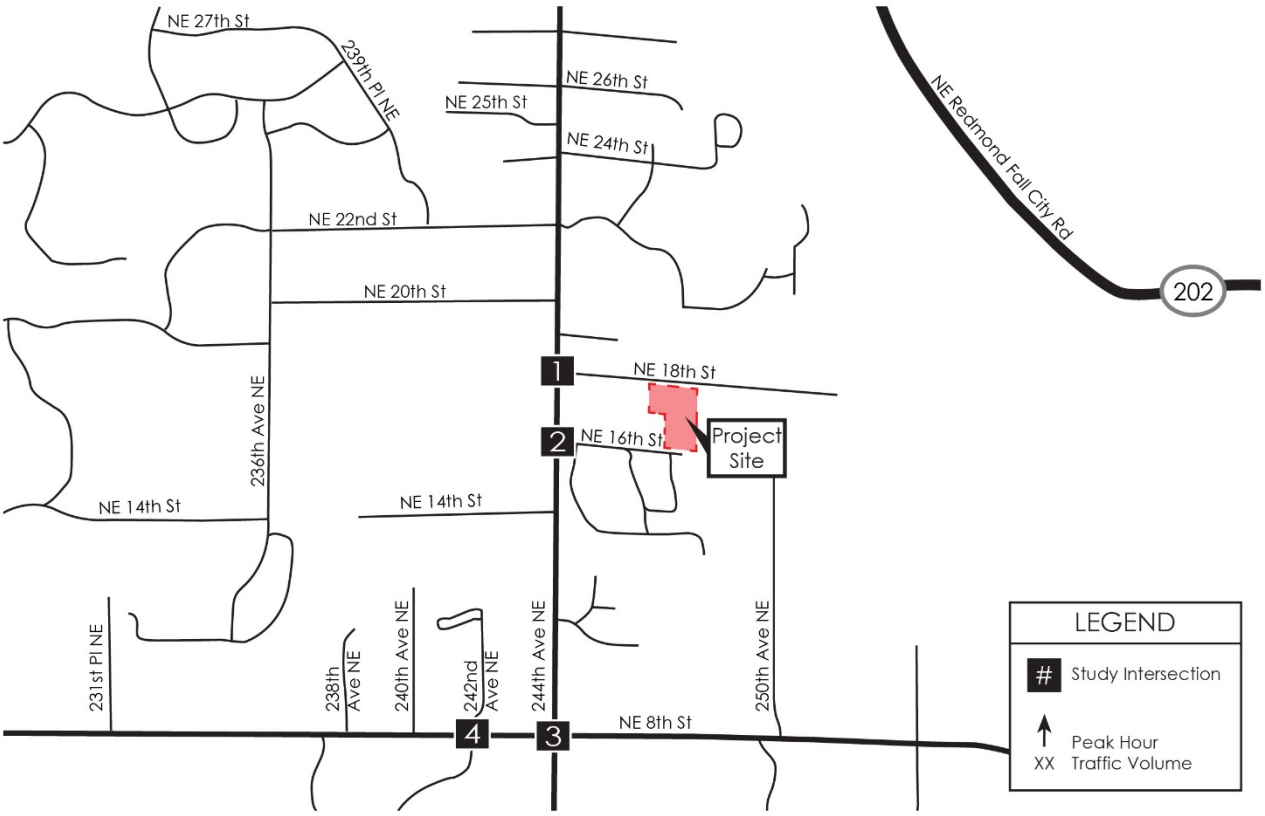
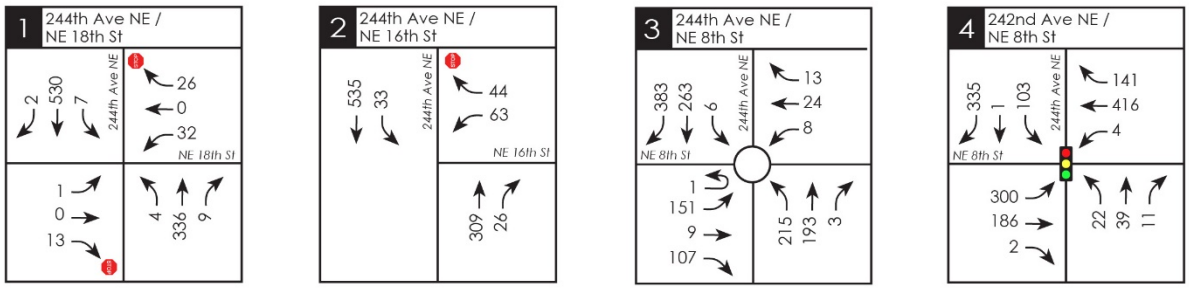
Figure 4: Peak Hour Net Project Trip Assignment



AM Peak Hour



PM Peak Hour

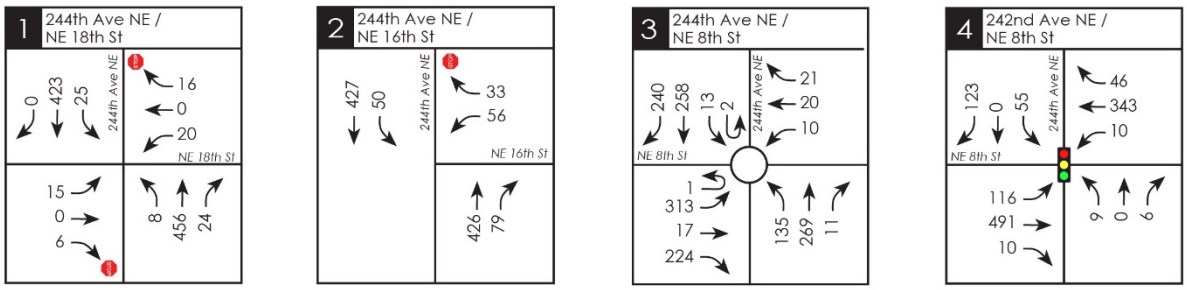


Figure 5: 2022 Without Project Peak Hour Traffic Volumes

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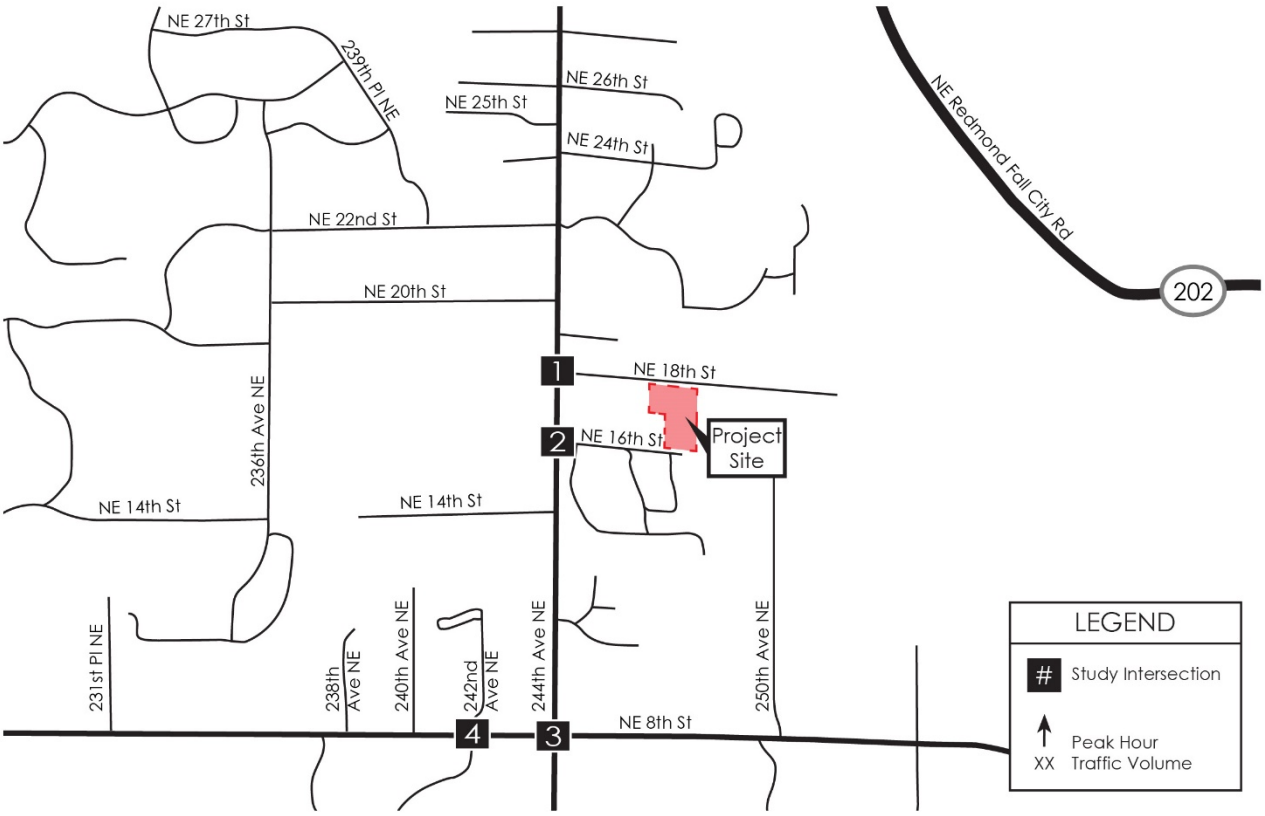
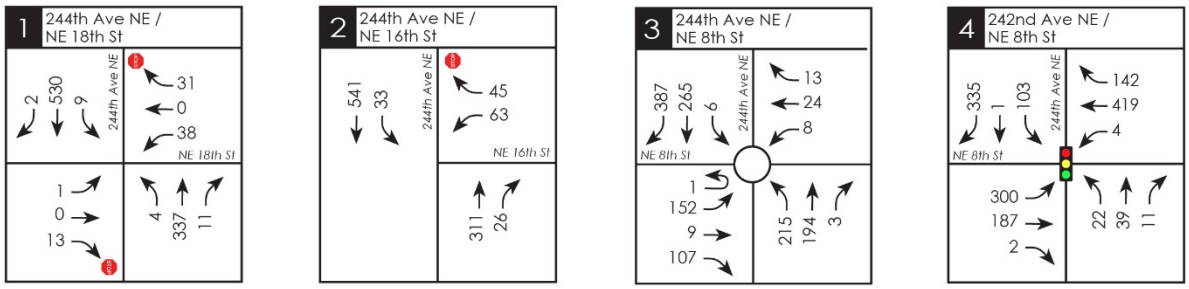


AM Peak Hour



PM Peak Hour

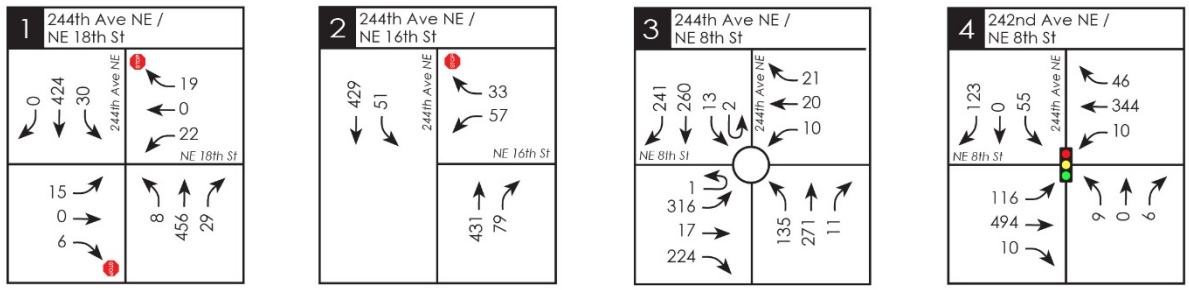


Figure 6: 2022 With Project Peak Hour Traffic Volumes

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Future Level of Service

Future year 2022 level of service (LOS) analyses were conducted at the four study intersections. The LOS analyses were conducted for 2022 weekday AM and PM peak hour No Action (without project) conditions and for 2022 With-Project conditions. Planned improvements at the 244th Avenue NE/NE 18th Street intersection (by the Kensington Enclave development) including a future southbound left-turn lane was assumed in the future analysis. Existing geometry and signal timing and geometry was used at the other study intersections.

The future weekday AM and PM peak hour LOS results at the study intersections without and with the proposed Floyd Residential development are summarized in Table 7. The LOS worksheets are included in Appendix B.

Table 7
Year 2022 Peak Hour Level of Service Summary

	2022 Without Project		2022 With Project	
Study Intersection	LOS[1]	Delay (sec)[2]	LOS[1]	Delay (sec)[2]
AM Peak Hour				
Signalized				
4. 242nd Ave NE / NE 8th St	D	37.3	D	39.6
Stop Controlled				
1. 244th Ave NE / NE 18th St [3]	C	19.3	C	20.2
2. 244th Ave NE / NE 16th St	C	21.0	C	21.2
Roundabout				
3. 244th Ave NE / NE 8th St	A	9.7	A	9.8
PM Peak Hour				
Signalized				
4. 242nd Ave NE / NE 8th St	B	15.6	B	16.0
Stop Controlled				
1. 244th Ave NE / NE 18th St [3]	C	23.1	C	23.9
2. 244th Ave NE / NE 16th St	D	26.5	D	27.1
Roundabout				
3. 244th Ave NE / NE 8th St	A	9.5	A	9.6

1. LOS = Level of Service
2. Delay refers to average control delay, expressed in seconds per vehicle.
3. Analysis includes a future southbound left-turn lane that will be installed with the Kensington Enclave development.

As shown in Table 7, the intersection of 242nd Ave NE/NE 8th Street is anticipated to operate at LOS D during the weekday AM peak hour without or with the proposed Floyd residential project which would not meet the City of Sammamish's LOS C standard. The Floyd Residential project is estimated to add 5 new AM peak hour trips to the intersection (0.3 percent of total traffic) with a minor increase in delay of approximately 2.3 seconds with the project; this is not considered significant and no mitigation is proposed. It should be noted that the City of Sammamish has a planned improvement at 242nd Ave NE/NE 8th Street (TIP Project TR-55) to add a westbound right-turn pocket which would improve the future traffic operations of the intersection.

The westbound stop controlled approach at the intersection of 244th Ave NE/NE 16th Street is also anticipated to operate at LOS D during the weekday PM peak hour without or with the proposed project. The Floyd Residential project is estimated to add a total of 9 new PM peak hour trips to the intersection (0.6 percent of total traffic) with a minor increase in delay of approximately 0.6 seconds with the project; this is not considered significant and no mitigation is proposed.

Sight Distance at Proposed Site Access

Vehicular access for 15 of the lots would be provided by NE 18th Street. Vehicle access for two lots would be provided by NE 16th Street. Stopping sight distance was assessed at both site access locations based on King County Road Standards for a 30 MPH design speed.

Proposed Site Access on NE 18th Street:

Stopping Sight Distance (SSD)

Approaching the proposed site access from the west on NE 18th Street, there is an approximate 6% downgrade. East of the proposed site access the grade on NE 18th Street is relatively level. Based on the King County Standards table 2.2 (Urban Local Access Streets Design Values), the minimum required SSD for a 30 MPH design speed with an approximate 6% downgrade (eastbound direction) is 215 feet and 200' for level roadways (westbound direction).

SSD Eastbound Based on field measurements, the existing available SSD for a vehicle traveling eastbound on NE 18th Street exceeds the required 215 feet.

View looking east on NE 18th Street approach site access

SSD Westbound: Based on field measurements, the existing available SSD for a vehicle traveling westbound on NE 18th Street exceeds the required 200 feet.

View looking west on NE 18th Street approaching site access

Proposed Site Access Intersection on NE 16th Street:

Stopping Sight Distance (SSD). NE 16th Street ends just east of the proposed site access on NE 16th Street. Approaching the site access from the west on NE 16th Street, the grade is relatively level. Based on the King County Standards Table 2.2 (Urban Local Access Streets Design Values), the minimum required SSD for a 30 MPH design speed is 200' for level roadways. SSD was measured based on an approaching vehicle driver eye height of 3.5 feet and an object height of 2.0 feet.

SSD Eastbound: Based on field measurements, the existing available SSD for a vehicle traveling eastbound on NE 16th Street exceeds the required 200 feet.

View looking east on NE 16th Street approaching site access

Safe Walk Route Assessment

The proposed Floyd Residential development is located in the Lake Washington School District and is within the Rachel Carson Elementary School, Inglewood Middle School, and Eastlake High School attendance areas. Both the elementary and middle schools are within approximately 0.5 to 1.2 miles walking distance of the proposed project. An existing bus stop serving all three schools is located on 244th Avenue NE at NE 18th Street.

As part of the proposed Floyd Residential development, sidewalks would be included along the south side of NE 18th Street project frontage and throughout the internal roads of the development. A continuous walk route (primarily on sidewalks) for students to/from the elementary and middle schools and the proposed Floyd Residential would be provided through the proposed 18th Assemblage development and the existing Woodhaven development. It should be noted that an approximately 170 foot section on NE 18th Street immediately west of the project site would not have sidewalks.

The safe walk route between the proposed Floyd Residential and Rachel Carson Elementary and Inglewood Middle School is shown in Figure 7. Appendix D includes photos that were taken along each walk route segment. Each photo includes a description of the location and a summary of the sidewalk, shoulders, planting strips, roadway, and other walking conditions along the walk route segments. This inventory of walk route conditions was conducted in April and August 2019. It should be noted that based on discussions with the Lake Washington School District, a marked crosswalk on NE 16th Street would not be required. With a safe walk route provided, students would have an option to walk to school as an alternative to using bus service.

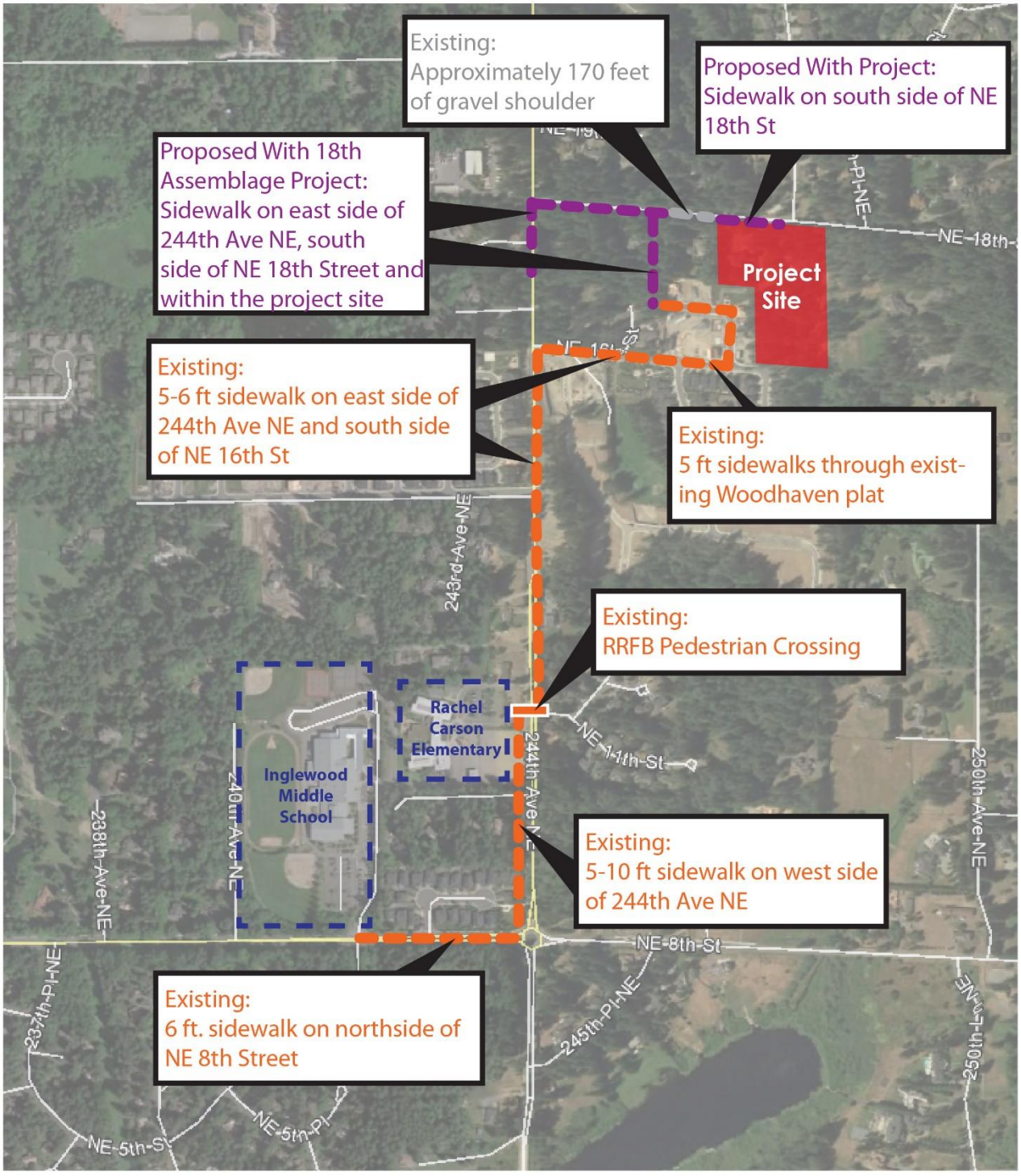

Figure 7: Safe Walk Route Map

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NOT TO SCALE

MITIGATION

The traffic impacts of the proposed Floyd Residential development are not expected to create a significant adverse impact to the local vehicular network. As a result, there are no project-specific traffic mitigation measures proposed for this project.

Appendix A

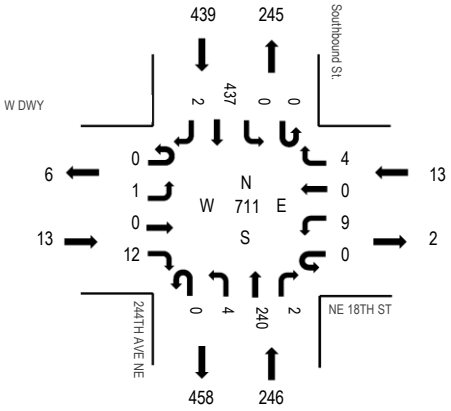
Existing Traffic Volumes

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

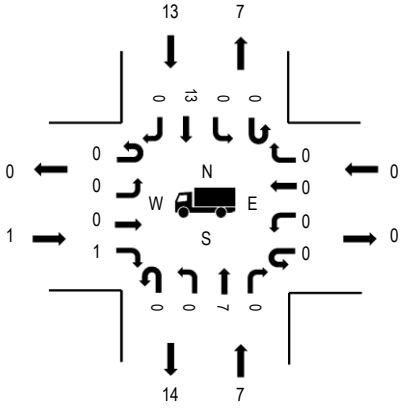
Location: 6 244TH AVE NE & NE 18TH ST AM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 06:45 AM - 07:45 AM

Peak Hour

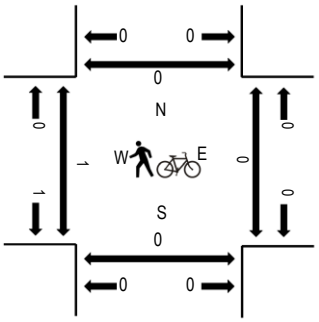
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	7.7%	0.54
WB	0.0%	0.65
NB	2.8%	0.89
SB	3.0%	0.90
All	3.0%	0.91

Traffic Counts - All Vehicles

Interval Start Time	W DWY Eastbound				NE 18TH ST Westbound				244TH AVE NE Northbound				Southbound St. Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	17	0	28	360
6:15 AM	0	0	0	0	0	1	0	1	0	1	17	0	1	0	29	0	50	527
6:30 AM	0	0	0	3	0	2	0	0	0	0	41	0	0	0	54	0	100	636
6:45 AM	0	1	0	5	0	4	0	1	0	1	60	0	0	0	109	1	182	711
7:00 AM	0	0	0	3	0	1	0	1	0	0	68	0	0	0	122	0	195	654
7:15 AM	0	0	0	1	0	2	0	1	0	3	45	0	0	0	106	1	159	606
7:30 AM	0	0	0	3	0	2	0	1	0	0	67	2	0	0	100	0	175	588
7:45 AM	0	0	0	1	0	1	0	1	0	2	60	0	0	0	60	0	125	582
8:00 AM	0	0	0	1	0	1	0	1	0	0	79	0	0	0	65	0	147	624
8:15 AM	0	0	0	0	0	2	0	1	0	1	81	1	0	1	54	0	141	
8:30 AM	0	0	0	1	0	1	0	3	0	2	81	1	0	0	79	1	169	
8:45 AM	0	0	0	2	0	1	0	0	0	0	90	1	0	0	72	1	167	
Count Total	0	1	0	20	0	18	0	11	0	10	700	5	1	1	867	4	1,638	
Peak Hour	0	1	0	12	0	9	0	4	0	4	240	2	0	0	437	2	711	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	0	0	0	1	1	6:00 AM	1	0	0	0	1
6:15 AM	0	0	0	0	0	6:15 AM	1	0	0	0	1
6:30 AM	0	0	0	4	4	6:30 AM	0	0	0	0	0
6:45 AM	0	2	0	1	3	6:45 AM	1	0	0	0	1
7:00 AM	1	3	0	3	7	7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	3	3	7:15 AM	0	0	0	0	0
7:30 AM	0	2	0	6	8	7:30 AM	0	0	0	0	0
7:45 AM	0	2	0	1	3	7:45 AM	0	0	0	0	0
8:00 AM	0	4	0	8	12	8:00 AM	0	0	0	0	0

8:15 AM	0	8	0	3	11	8:15 AM	0	0	0	0	0
8:30 AM	1	2	0	6	9	8:30 AM	0	0	0	0	0
8:45 AM	0	2	0	4	6	8:45 AM	0	0	0	0	0
Count Total	2	25	0	40	67	Count Total	3	0	0	0	3
Peak Hour	1	7	0	13	21	Peak Hour	1	0	0	0	1

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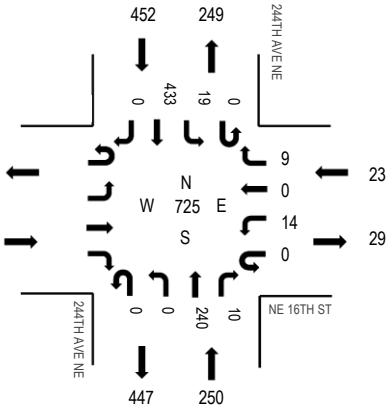
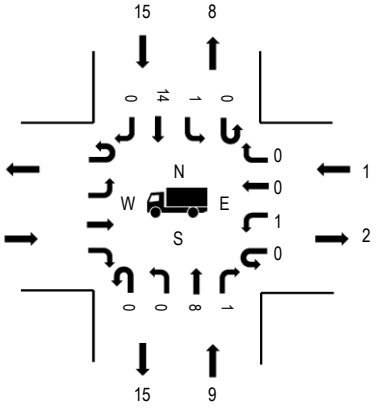
Location: 7 244TH AVE NE & NE 16TH ST AM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 06:45 AM - 07:45 AM

Peak Hour

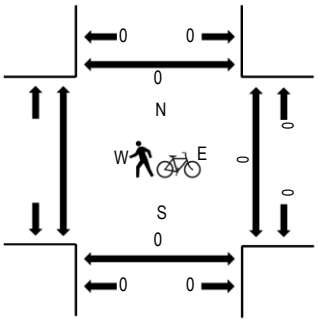
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB		
WB	4.3%	0.82
NB	3.6%	0.91
SB	3.3%	0.93
All	3.4%	0.92

Traffic Counts - All Vehicles

Interval Start Time	Eastbound				NE 16TH ST Westbound				244TH AVE NE Northbound				244TH AVE NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM					0	1	0	0	0	0	11	1	0	0	16	0	29	369
6:15 AM					0	1	0	0	0	0	18	2	0	0	29	0	50	536
6:30 AM					0	1	0	2	0	0	40	3	0	1	60	0	107	653
6:45 AM					0	3	0	2	0	0	59	2	0	3	114	0	183	725
7:00 AM					0	3	0	3	0	0	67	2	0	2	119	0	196	671
7:15 AM					0	5	0	2	0	0	49	4	0	8	99	0	167	634
7:30 AM					0	3	0	2	0	0	65	2	0	6	101	0	179	613
7:45 AM					0	4	0	2	0	0	59	4	0	3	57	0	129	621
8:00 AM					0	4	0	5	0	0	82	1	0	5	62	0	159	683
8:15 AM					0	5	0	5	0	0	75	4	0	1	56	0	146	
8:30 AM					0	19	0	6	0	0	80	5	0	4	73	0	187	
8:45 AM					0	9	0	5	0	0	100	5	0	1	71	0	191	
Count Total					0	58	0	34	0	0	705	35	0	34	857	0	1,723	
Peak Hour					0	14	0	9	0	0	240	10	0	19	433	0	725	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM		0	0	1	1	6:00 AM		0	0	0	0
6:15 AM		0	0	0	0	6:15 AM		0	0	0	0
6:30 AM		0	0	4	4	6:30 AM		0	0	0	0
6:45 AM		2	0	2	4	6:45 AM		0	0	0	0
7:00 AM		4	0	3	7	7:00 AM		0	0	0	0
7:15 AM		2	0	3	5	7:15 AM		0	0	0	0
7:30 AM		1	1	7	9	7:30 AM		0	0	0	0
7:45 AM		2	0	1	3	7:45 AM		0	0	0	0
8:00 AM		5	0	8	13	8:00 AM		0	0	0	0

8:15 AM	7	0	3	10	8:15 AM	0	0	0	0
8:30 AM	2	1	7	10	8:30 AM	0	0	0	0
8:45 AM	3	1	3	7	8:45 AM	0	0	0	0
Count Total	28	3	42	73	Count Total	0	0	0	0
Peak Hour	9	1	15	25	Peak Hour	0	0	0	0

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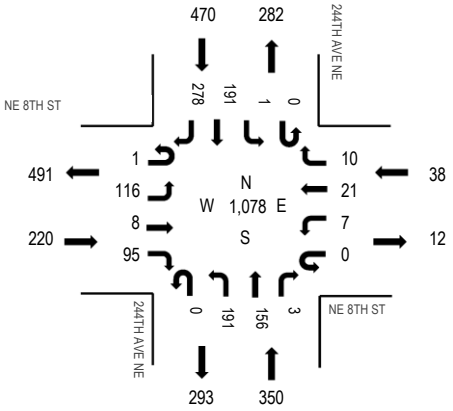
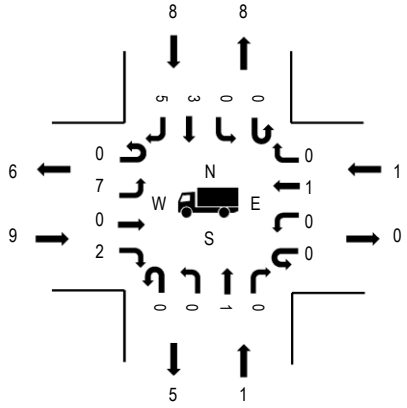
Location: 10 244TH AVE NE & NE 8TH ST AM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 06:45 AM - 07:45 AM

Peak Hour

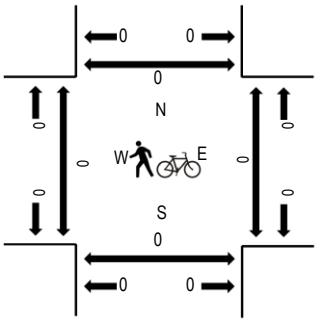
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	4.1%	0.81
WB	2.6%	0.79
NB	0.3%	0.88
SB	1.7%	0.93
All	1.8%	0.96

Traffic Counts - All Vehicles

Interval Start Time	NE 8TH ST Eastbound				NE 8TH ST Westbound				244TH AVE NE Northbound				244TH AVE NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM	0	2	0	8	0	3	1	0	0	14	8	0	0	0	6	10	52	522
6:15 AM	0	3	3	4	0	4	2	1	0	5	17	0	0	0	13	14	66	748
6:30 AM	0	17	2	11	0	3	3	3	0	30	30	1	0	1	32	30	163	963
6:45 AM	0	23	3	8	0	1	6	2	0	42	30	0	0	0	36	90	241	1,078
7:00 AM	0	25	1	25	0	0	3	2	0	46	48	2	0	1	31	94	278	1,067
7:15 AM	0	37	2	29	0	5	5	2	0	56	27	0	0	0	59	59	281	991
7:30 AM	1	31	2	33	0	1	7	4	0	47	51	1	0	0	65	35	278	906
7:45 AM	0	27	3	35	0	2	5	5	0	29	38	2	0	1	44	39	230	996
8:00 AM	0	19	3	15	0	4	4	7	0	25	53	6	0	1	34	31	202	1,061
8:15 AM	0	33	1	12	0	0	4	6	0	24	54	0	0	2	42	18	196	
8:30 AM	2	43	2	17	0	2	0	6	0	47	98	2	22	5	63	59	368	
8:45 AM	0	43	5	22	0	3	4	5	0	26	46	3	18	4	63	53	295	
Count Total	3	303	27	219	0	28	44	43	0	391	500	17	40	15	488	532	2,650	
Peak Hour	1	116	8	95	0	7	21	10	0	191	156	3	0	1	191	278	1,078	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	0	0	0	0	0	6:00 AM	1	0	0	0	1
6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:30 AM	1	0	1	3	5	6:30 AM	0	0	0	0	0
6:45 AM	2	0	0	2	4	6:45 AM	0	0	0	0	0
7:00 AM	4	1	0	1	6	7:00 AM	0	0	0	0	0
7:15 AM	1	0	1	2	4	7:15 AM	0	0	0	0	0
7:30 AM	2	0	0	3	5	7:30 AM	0	0	0	0	0
7:45 AM	2	1	0	2	5	7:45 AM	0	0	0	0	0
8:00 AM	5	1	1	4	11	8:00 AM	0	0	0	0	0

8:15 AM	3	3	0	3	9	8:15 AM	2	0	0	0	2
8:30 AM	4	3	0	5	12	8:30 AM	3	0	2	0	5
8:45 AM	2	5	0	5	12	8:45 AM	2	0	0	0	2
Count Total	26	14	3	30	73	Count Total	8	0	2	0	10
Peak Hour	9	1	1	8	19	Peak Hour	0	0	0	0	0

All Traffic Data Services Inc.
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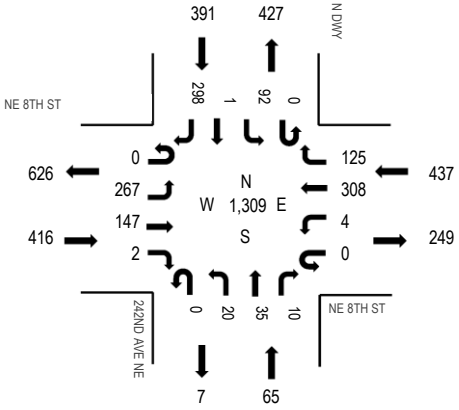
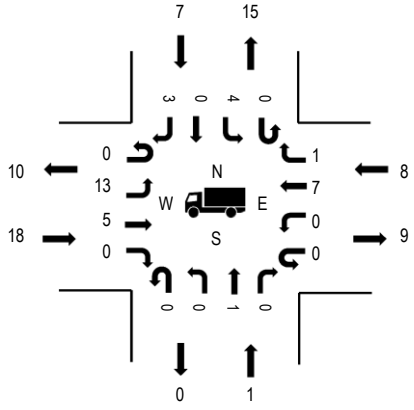
Location: 11 242ND AVE NE & NE 8TH ST AM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 07:00 AM - 08:00 AM

Peak Hour

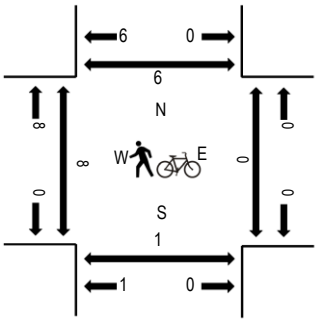
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	4.3%	0.81
WB	1.8%	0.77
NB	1.5%	0.58
SB	1.8%	0.68
All	2.6%	0.85

Traffic Counts - All Vehicles

Interval Start Time	NE 8TH ST Eastbound				NE 8TH ST Westbound				242ND AVE NE Northbound				N DWY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
6:00 AM	0	1	8	0	0	1	26	1	0	1	0	2	0	0	0	1	41	460
6:15 AM	0	4	7	0	0	1	20	1	0	1	0	5	0	0	0	0	39	716
6:30 AM	0	35	18	1	0	1	44	18	0	2	0	2	0	12	0	27	160	1,020
6:45 AM	0	28	31	0	0	0	94	34	0	7	0	1	0	4	0	21	220	1,243
7:00 AM	0	58	38	2	0	2	122	18	0	9	0	2	0	8	0	38	297	1,309
7:15 AM	0	88	41	0	0	2	64	38	0	5	3	3	0	25	0	74	343	1,125
7:30 AM	0	78	38	0	0	0	47	49	0	3	23	2	0	28	1	114	383	896
7:45 AM	0	43	30	0	0	0	75	20	0	3	9	3	0	31	0	72	286	737
8:00 AM	0	9	24	2	0	1	54	4	0	3	0	3	0	5	0	8	113	618
8:15 AM	0	9	36	0	0	1	44	4	0	2	1	5	0	5	1	6	114	
8:30 AM	0	19	50	0	0	4	77	28	0	0	3	10	0	9	1	23	224	
8:45 AM	0	6	47	0	0	1	74	8	0	4	0	2	0	13	0	12	167	
Count Total	0	378	368	5	0	14	741	223	0	40	39	40	0	140	3	396	2,387	
Peak Hour	0	267	147	2	0	4	308	125	0	20	35	10	0	92	1	298	1,309	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	0	0	0	1	1	6:00 AM	0	0	0	1	1
6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	2	2
6:30 AM	0	0	2	1	3	6:30 AM	0	0	0	0	0
6:45 AM	4	0	3	0	7	6:45 AM	0	0	0	2	2
7:00 AM	4	0	2	1	7	7:00 AM	1	0	0	1	2
7:15 AM	10	0	1	1	12	7:15 AM	1	1	0	3	5
7:30 AM	4	1	2	1	8	7:30 AM	5	0	0	2	7
7:45 AM	0	0	3	4	7	7:45 AM	1	0	0	0	1
8:00 AM	1	0	2	7	10	8:00 AM	0	0	0	0	0

8:15 AM	5	0	3	4	12	8:15 AM	0	0	0	4	4
8:30 AM	4	1	6	5	16	8:30 AM	1	0	0	4	5
8:45 AM	2	0	2	3	7	8:45 AM	0	0	0	0	0
Count Total	34	2	26	28	90	Count Total	9	1	0	19	29
Peak Hour	18	1	8	7	34	Peak Hour	8	1	0	6	15

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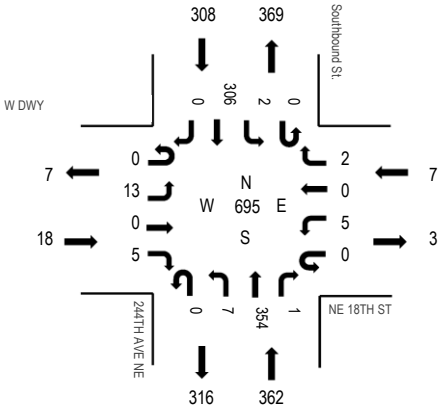
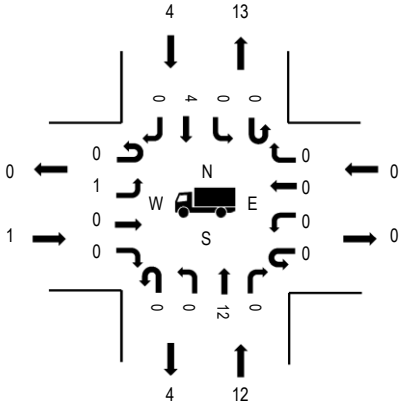
Location: 6 244TH AVE NE & NE 18TH ST PM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 04:00 PM - 05:00 PM

Peak Hour

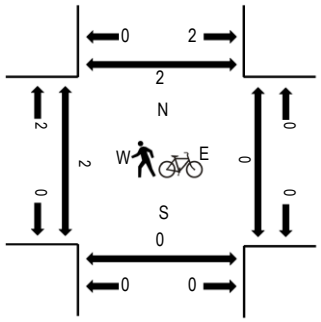
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	5.6%	0.26
WB	0.0%	0.58
NB	3.3%	0.90
SB	1.3%	0.84
All	2.4%	0.90

Traffic Counts - All Vehicles

Interval Start Time	W DWY Eastbound				NE 18TH ST Westbound				244TH AVE NE Northbound				Southbound St. Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	0	0	0	2	0	0	0	5	90	0	0	0	62	0	160	695
4:15 PM	0	0	0	0	0	1	0	1	0	2	73	0	0	1	75	0	153	681
4:30 PM	0	12	0	5	0	2	0	1	0	0	91	0	0	1	77	0	189	685
4:45 PM	0	0	0	0	0	0	0	0	0	0	100	1	0	0	92	0	193	683
5:00 PM	0	1	0	0	0	1	0	1	0	0	61	1	0	2	79	0	146	652
5:15 PM	0	0	0	1	0	2	0	0	0	1	71	1	0	3	78	0	157	
5:30 PM	0	0	0	1	0	0	0	1	0	1	95	4	0	1	84	0	187	
5:45 PM	0	0	0	0	0	1	0	0	0	0	60	2	0	0	99	0	162	
Count Total	0	14	0	7	0	9	0	4	0	9	641	9	0	8	646	0	1,347	
Peak Hour	0	13	0	5	0	5	0	2	0	7	354	1	0	2	306	0	695	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	3	0	3	6	4:00 PM	0	0	0	0	0
4:15 PM	0	3	0	0	3	4:15 PM	2	0	0	2	4
4:30 PM	1	3	0	0	4	4:30 PM	0	0	0	0	0
4:45 PM	0	3	0	1	4	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	2	0	0	2	5:15 PM	1	1	0	0	2
5:30 PM	0	5	0	0	5	5:30 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	4	0	0	0	4
Count Total	1	19	0	4	24	Count Total	7	2	0	2	11
Peak Hour	1	12	0	4	17	Peak Hour	2	0	0	2	4

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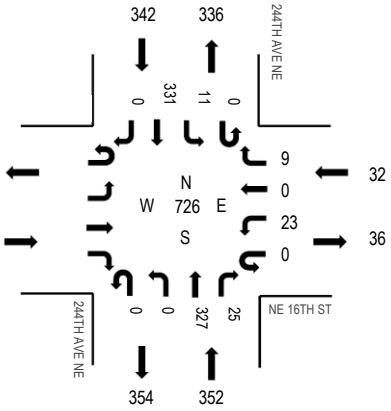
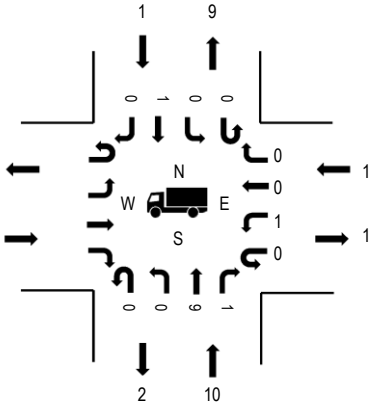
Location: 7 244TH AVE NE & NE 16TH ST PM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 04:45 PM - 05:45 PM

Peak Hour

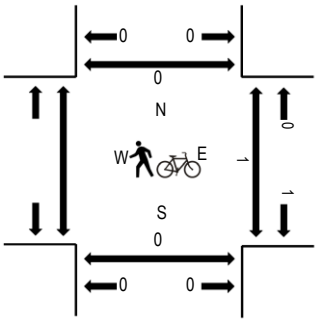
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB		
WB	3.1%	0.67
NB	2.8%	0.81
SB	0.3%	0.90
All	1.7%	0.88

Traffic Counts - All Vehicles

Interval Start Time	Eastbound				NE 16TH ST Westbound				244TH AVE NE Northbound				244TH AVE NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM					0	3	0	1	0	0	101	2	0	1	63	0	171	721
4:15 PM					0	5	0	4	0	0	72	4	0	0	75	0	160	701
4:30 PM					0	1	0	1	0	0	90	4	0	2	87	0	185	705
4:45 PM					0	6	0	3	0	0	96	5	0	2	93	0	205	726
5:00 PM					0	6	0	2	0	0	60	7	0	1	75	0	151	701
5:15 PM					0	2	0	1	0	0	73	2	0	5	81	0	164	
5:30 PM					0	9	0	3	0	0	98	11	0	3	82	0	206	
5:45 PM					0	4	0	4	0	0	65	12	0	3	92	0	180	
Count Total					0	36	0	19	0	0	655	47	0	17	648	0	1,422	
Peak Hour					0	23	0	9	0	0	327	25	0	11	331	0	726	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

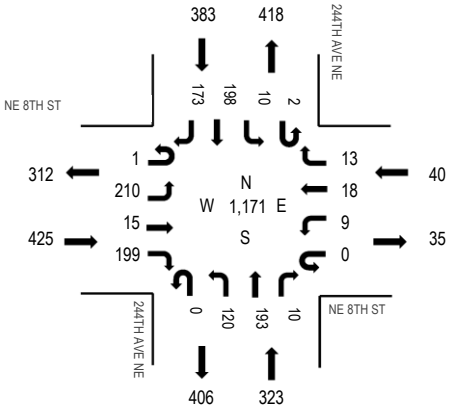
Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM		3	0	3	6	4:00 PM		0	0	0	0
4:15 PM		3	0	0	3	4:15 PM		0	1	0	1
4:30 PM		3	0	1	4	4:30 PM		0	0	0	0
4:45 PM		3	1	1	5	4:45 PM		0	1	0	1
5:00 PM		0	0	0	0	5:00 PM		0	0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

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

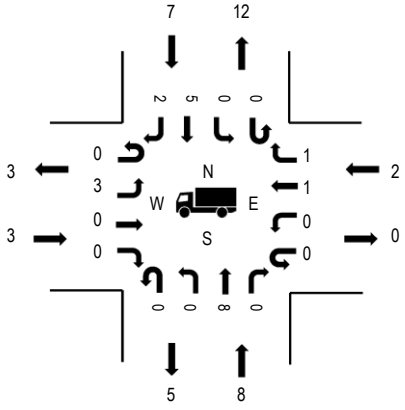
Location: 10 244TH AVE NE & NE 8TH ST PM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 04:00 PM - 05:00 PM

Peak Hour

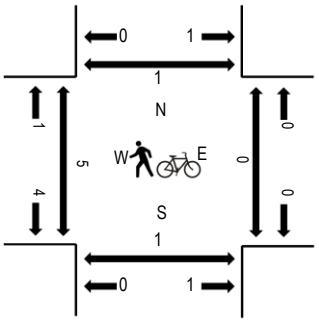
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	0.7%	0.89
WB	5.0%	0.63
NB	2.5%	0.89
SB	1.8%	0.84
All	1.7%	0.97

Traffic Counts - All Vehicles

Interval Start Time	NE 8TH ST Eastbound				NE 8TH ST Westbound				244TH AVE NE Northbound				244TH AVE NE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	1	60	2	54	0	3	5	5	0	34	52	5	2	1	35	44	303	1,171
4:15 PM	0	50	3	43	0	5	7	4	0	29	39	2	0	5	42	38	267	1,104
4:30 PM	0	56	4	59	0	0	2	2	0	26	49	1	0	3	65	34	301	1,100
4:45 PM	0	44	6	43	0	1	4	2	0	31	53	2	0	1	56	57	300	1,075
5:00 PM	0	32	8	41	0	0	3	3	0	21	38	3	0	1	44	42	236	1,072
5:15 PM	0	47	3	50	0	2	2	1	0	30	42	2	0	0	43	41	263	
5:30 PM	0	47	6	41	1	4	4	2	0	30	49	3	0	5	41	43	276	
5:45 PM	0	58	2	47	0	1	4	1	0	38	48	3	0	4	59	32	297	
Count Total	1	394	34	378	1	16	31	20	0	239	370	21	2	20	385	331	2,243	
Peak Hour	1	210	15	199	0	9	18	13	0	120	193	10	2	10	198	173	1,171	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

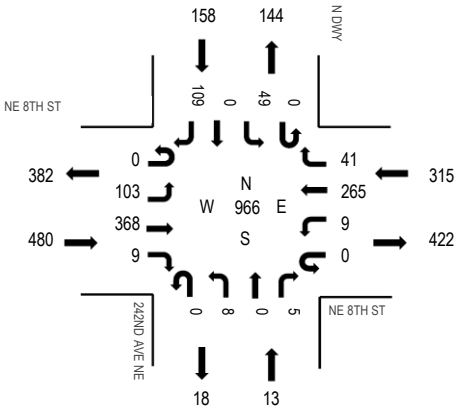
Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	2	1	4	8	4:00 PM	2	0	0	0	2
4:15 PM	2	2	0	0	4	4:15 PM	2	1	0	0	3
4:30 PM	0	2	0	1	3	4:30 PM	1	0	0	1	2
4:45 PM	0	2	1	2	5	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	1	0	0	1
5:15 PM	0	3	0	1	4	5:15 PM	0	0	0	0	0
5:30 PM	2	2	1	0	5	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	5	13	3	9	30	Count Total	5	2	0	1	8
Peak Hour	3	8	2	7	20	Peak Hour	5	1	0	1	7

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

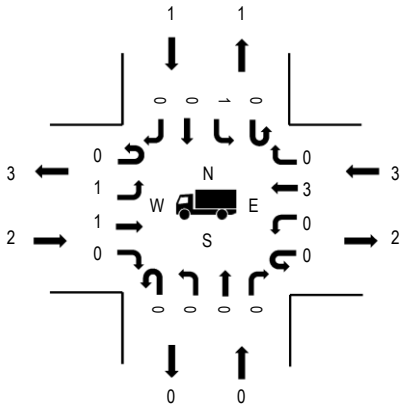
Location: 11 242ND AVE NE & NE 8TH ST PM
Date and Start Time: Tuesday, April 16, 2019
Peak Hour: 04:00 PM - 05:00 PM

Peak Hour

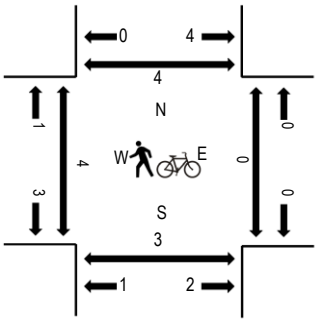
All Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	0.4%	0.95
WB	1.0%	0.88
NB	0.0%	0.46
SB	0.6%	0.57
All	0.6%	0.85

Traffic Counts - All Vehicles

Interval Start Time	NE 8TH ST Eastbound				NE 8TH ST Westbound				242ND AVE NE Northbound				N DWY Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	36	87	3	0	0	69	16	0	1	0	2	0	21	0	48	283	966
4:15 PM	0	33	86	2	0	2	63	12	0	0	0	1	0	14	0	40	253	893
4:30 PM	0	8	110	2	0	1	59	4	0	2	0	0	0	10	0	10	206	838
4:45 PM	0	26	85	2	0	6	74	9	0	5	0	2	0	4	0	11	224	817
5:00 PM	0	18	74	3	0	5	59	4	0	0	0	3	0	7	0	37	210	779
5:15 PM	0	8	94	0	0	4	60	6	0	0	0	2	0	4	0	20	198	
5:30 PM	0	2	94	6	0	4	70	3	0	2	0	0	0	1	0	3	185	
5:45 PM	0	3	98	2	0	1	69	1	0	1	0	4	0	3	0	4	186	
Count Total	0	134	728	20	0	23	523	55	0	11	0	14	0	64	0	173	1,745	
Peak Hour	0	103	368	9	0	9	265	41	0	8	0	5	0	49	0	109	966	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	2	0	3	4:00 PM	2	2	0	2	6
4:15 PM	1	0	0	1	2	4:15 PM	1	0	0	2	3
4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	0	1
4:45 PM	0	0	1	0	1	4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0	5:00 PM	1	0	0	2	3
5:15 PM	0	0	0	0	0	5:15 PM	0	1	0	1	2
5:30 PM	2	0	2	0	4	5:30 PM	0	0	0	2	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	2	2
Count Total	4	0	5	1	10	Count Total	5	4	0	11	20
Peak Hour	2	0	3	1	6	Peak Hour	4	3	0	4	11

Appendix B

Level of Service (LOS) Calculations at Study Intersections

LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay in excess of 80 seconds per vehicle.

The LOS reported at stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group or movement LOS only).

Table B1 outlines the current HCM (6th Edition) LOS criteria for signalized and unsignalized intersections based on these methodologies.

Table B1
LOS Criteria for Signalized and Unsignalized Intersections[1]

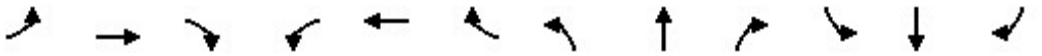
SIGNALIZED INTERSECTIONS			UNSIGNALIZED INTERSECTIONS		
	LOS by Volume-to Capacity (V/C) Ratio[2]			LOS by Volume-to Capacity (V/C) Ratio[3]	
Control Delay (sec/veh)	≤ 1.0	> 1.0	Control Delay (sec/veh)	≤ 1.0	> 1.0
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

1 Source: Highway Capacity Manual (6th Edition), Transportation Research Board, 2016.

2 For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

3 For two-way stop controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections and roundabouts, LOS is solely defined by control delay.

2019 Existing



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	12	9	0	4	4	240	2	0	437	2
Future Volume (vph)	1	0	12	9	0	4	4	240	2	0	437	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	1		1				1					1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	8%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	12	9	0	4	4	240	2	0	437	2
Future Vol, veh/h	1	0	12	9	0	4	4	240	2	0	437	2
Conflicting Peds, #/hr	1	0	1	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	8	0	0	0	0	3	0	0	3	0
Mvmt Flow	1	0	13	10	0	4	4	264	2	0	480	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	758	756	483	762	756	266	483	0	0	266	0	0
Stage 1	482	482	-	273	273	-	-	-	-	-	-	-
Stage 2	276	274	-	489	483	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.28	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.372	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	326	340	572	324	340	778	1090	-	-	1310	-	-
Stage 1	569	557	-	737	688	-	-	-	-	-	-	-
Stage 2	735	687	-	564	556	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	323	338	571	315	338	777	1089	-	-	1310	-	-
Mov Cap-2 Maneuver	323	338	-	315	338	-	-	-	-	-	-	-
Stage 1	566	556	-	734	685	-	-	-	-	-	-	-
Stage 2	727	684	-	550	555	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	14.7	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1089	-	-	539	386	1310	-	-
HCM Lane V/C Ratio	0.004	-	-	0.027	0.037	-	-	-
HCM Control Delay (s)	8.3	-	-	11.9	14.7	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	9	240	10	19	433
Future Volume (vph)	14	9	240	10	19	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	0%	3%	10%	5%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	9	240	10	19	433
Future Vol, veh/h	14	9	240	10	19	433
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	0	3	10	5	3
Mvmt Flow	15	10	261	11	21	471

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	780	267	0	0	272	0
Stage 1	267	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Critical Hdwy	6.47	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	357	777	-	-	1274	-
Stage 1	766	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	349	777	-	-	1274	-
Mov Cap-2 Maneuver	349	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	578	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	445	1274	-
HCM Lane V/C Ratio	-	-	0.056	0.016	-
HCM Control Delay (s)	-	-	13.6	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	116	8	95	7	21	10	191	156	3	1	191
Future Volume (vph)	1	116	8	95	7	21	10	191	156	3	1	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			35
Link Distance (ft)			776			2983			1467			270
Travel Time (s)			15.1			58.1			28.6			5.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	6%	0%	2%	0%	5%	0%	0%	1%	0%	0%	2%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			Yield

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

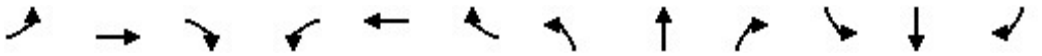
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	278
Future Volume (vph)	278
Ideal Flow (vphpl)	1900
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Sign Control	

Intersection Summary

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	229	39	365	490
Demand Flow Rate, veh/h	238	40	367	500
Vehicles Circulating, veh/h	211	493	138	230
Vehicles Exiting, veh/h	519	12	311	303
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.3	4.9	5.9	8.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	238	40	367	500
Cap Entry Lane, veh/h	1113	835	1199	1091
Entry HV Adj Factor	0.962	0.973	0.996	0.980
Flow Entry, veh/h	229	39	365	490
Cap Entry, veh/h	1071	812	1193	1070
V/C Ratio	0.214	0.048	0.306	0.458
Control Delay, s/veh	5.3	4.9	5.9	8.5
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	147	2	4	308	125	20	35	10	92	1	298
Future Volume (vph)	267	147	2	4	308	125	20	35	10	92	1	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1841	0	1805	1771	0	1805	1794	0	0	1742	1599
Flt Permitted	0.243			0.647			0.950				0.953	
Satd. Flow (perm)	439	1841	0	1228	1771	0	1805	1794	0	0	1742	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			6				351
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	6		1	1		6						8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	3%	0%	0%	2%	1%	0%	3%	0%	4%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	314	175	0	5	509	0	24	53	0	0	109	351
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	3 1
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	3 1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	74.2	72.7		52.9	47.6		8.0	8.0			15.6	38.3
Actuated g/C Ratio	0.65	0.64		0.46	0.42		0.07	0.07			0.14	0.34
v/c Ratio	0.60	0.15		0.01	0.68		0.19	0.40			0.46	0.46
Control Delay	16.6	12.9		16.0	37.5		62.0	62.2			56.5	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	16.6	12.9		16.0	37.5		62.0	62.2			56.5	3.5
LOS	B	B		B	D		E	E			E	A
Approach Delay		15.3			37.2			62.2			16.1	
Approach LOS		B			D			E			B	

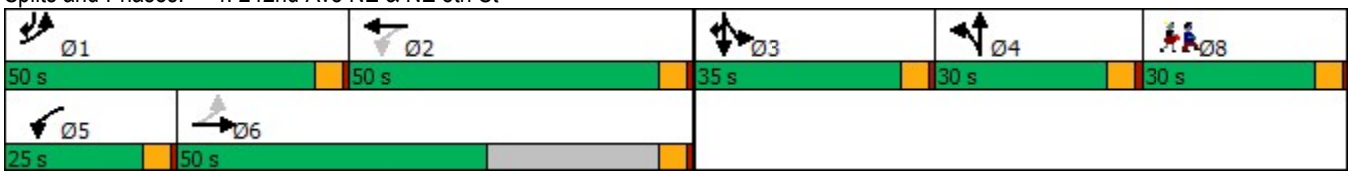
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

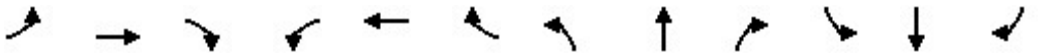
Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Actuated Cycle Length: 113.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 63.1% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: 242nd Ave NE & NE 8th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	0	5	5	0	2	7	354	1	2	306	0
Future Volume (vph)	13	0	5	5	0	2	7	354	1	2	306	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	4		2			2	2			2		4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

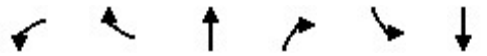
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	5	5	0	2	7	354	1	2	306	0
Future Vol, veh/h	13	0	5	5	0	2	7	354	1	2	306	0
Conflicting Peds, #/hr	4	0	2	0	0	2	2	0	0	2	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	8	0	0	0	0	0	0	3	0	0	1	0
Mvmt Flow	14	0	6	6	0	2	8	393	1	2	340	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	763	760	346	761	760	400	344	0	0	396	0	0
Stage 1	348	348	-	412	412	-	-	-	-	-	-	-
Stage 2	415	412	-	349	348	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	314	338	702	325	338	654	1226	-	-	1174	-	-
Stage 1	656	638	-	621	598	-	-	-	-	-	-	-
Stage 2	603	598	-	671	638	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	309	333	698	319	333	650	1221	-	-	1172	-	-
Mov Cap-2 Maneuver	309	333	-	319	333	-	-	-	-	-	-	-
Stage 1	649	634	-	616	593	-	-	-	-	-	-	-
Stage 2	595	593	-	663	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	14.9	0.2	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1221	-	-	366	373	1172	-	-
HCM Lane V/C Ratio	0.006	-	-	0.055	0.021	0.002	-	-
HCM Control Delay (s)	8	-	-	15.4	14.9	8.1	0	-
HCM Lane LOS	A	-	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	9	327	25	11	331
Future Volume (vph)	23	9	327	25	11	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	3%	4%	0%	1%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	9	327	25	11	331
Future Vol, veh/h	23	9	327	25	11	331
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	0	3	4	0	1
Mvmt Flow	26	10	372	28	13	376

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	790	388	0	0	401	0
Stage 1	387	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	356	665	-	-	1169	-
Stage 1	682	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	350	664	-	-	1168	-
Mov Cap-2 Maneuver	350	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	661	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	404	1168	-
HCM Lane V/C Ratio	-	-	0.09	0.011	-
HCM Control Delay (s)	-	-	14.8	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	210	15	199	9	18	13	120	193	10	2	10
Future Volume (vph)	1	210	15	199	9	18	13	120	193	10	2	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			
Link Distance (ft)			776			2983			1467			
Travel Time (s)			15.1			58.1			28.6			
Confl. Peds. (#/hr)	5	6		6	1		1	6		1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	0%	6%	8%	0%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

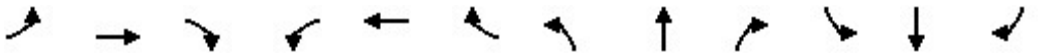
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	198	173
Future Volume (vph)	198	173
Ideal Flow (vphpl)	1900	1900
Link Speed (mph)	35	
Link Distance (ft)	270	
Travel Time (s)	5.3	
Confl. Peds. (#/hr)		6
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Sign Control	Yield	

Intersection Summary

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	437	41	333	394
Demand Flow Rate, veh/h	439	43	341	402
Vehicles Circulating, veh/h	231	552	246	154
Vehicles Exiting, veh/h	325	35	424	441
Ped Vol Crossing Leg, #/h	6	1	6	6
Ped Cap Adj	0.999	1.000	0.999	0.999
Approach Delay, s/veh	7.6	5.4	6.6	6.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	439	43	341	402
Cap Entry Lane, veh/h	1090	786	1074	1179
Entry HV Adj Factor	0.995	0.950	0.977	0.980
Flow Entry, veh/h	437	41	333	394
Cap Entry, veh/h	1084	747	1048	1155
V/C Ratio	0.403	0.055	0.318	0.341
Control Delay, s/veh	7.6	5.4	6.6	6.4
LOS	A	A	A	A
95th %tile Queue, veh	2	0	1	2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	368	9	9	265	41	8	0	5	49	0	109
Future Volume (vph)	103	368	9	9	265	41	8	0	5	49	0	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	1873	0	1805	1839	0	1805	1615	0	0	1770	1615
Flt Permitted	0.334			0.486			0.950				0.950	
Satd. Flow (perm)	627	1873	0	921	1839	0	1805	1615	0	0	1770	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			598				128
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	4		3	3		4						4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	444	0	11	360	0	9	6	0	0	58	128
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	3 1
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	3 1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	32.8	31.6		25.4	19.6		5.9	5.9			10.1	21.8
Actuated g/C Ratio	0.55	0.53		0.42	0.33		0.10	0.10			0.17	0.36
v/c Ratio	0.25	0.45		0.02	0.60		0.05	0.01			0.19	0.19
Control Delay	11.1	15.2		11.4	24.3		37.0	0.0			30.9	3.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	11.1	15.2		11.4	24.3		37.0	0.0			30.9	3.8
LOS	B	B		B	C		D	A			C	A
Approach Delay		14.3			23.9			22.2			12.2	
Approach LOS		B			C			C			B	

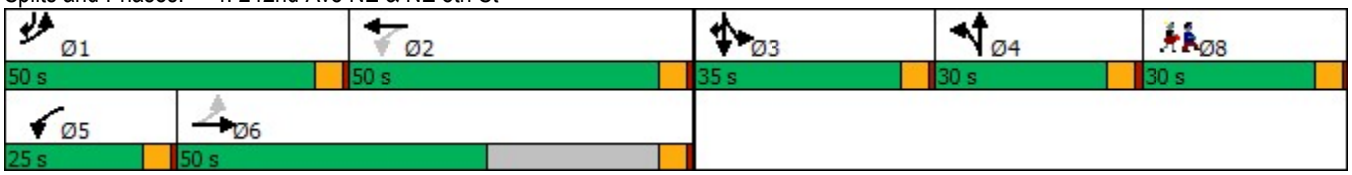
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

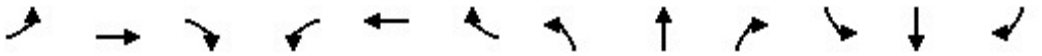
Intersection Summary

Actuated Cycle Length: 60	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 46.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: 242nd Ave NE & NE 8th St



2022 Without Project



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	13	32	0	26	4	336	9	7	530	2
Future Volume (vph)	1	0	13	32	0	26	4	336	9	7	530	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	1		1				1					1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	8%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	1	0	13	32	0	26	4	336	9	7	530	2
Future Vol, veh/h	1	0	13	32	0	26	4	336	9	7	530	2
Conflicting Peds, #/hr	1	0	1	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	8	0	0	0	0	3	0	0	3	0
Mvmt Flow	1	0	14	35	0	29	4	369	10	8	582	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	998	987	585	989	983	375	585	0	0	379	0	0
Stage 1	600	600	-	382	382	-	-	-	-	-	-	-
Stage 2	398	387	-	607	601	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.28	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.372	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	224	249	500	228	251	676	1000	-	-	1191	-	-
Stage 1	491	493	-	645	616	-	-	-	-	-	-	-
Stage 2	632	613	-	487	493	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	212	246	499	220	248	675	999	-	-	1191	-	-
Mov Cap-2 Maneuver	212	246	-	220	248	-	-	-	-	-	-	-
Stage 1	489	489	-	642	614	-	-	-	-	-	-	-
Stage 2	602	611	-	469	489	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	19.3	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	455	315	1191	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034	0.202	0.006	-	-
HCM Control Delay (s)	8.6	-	-	13.2	19.3	8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	44	309	26	33	535
Future Volume (vph)	63	44	309	26	33	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	0%	3%	10%	5%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	44	309	26	33	535
Future Vol, veh/h	63	44	309	26	33	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	0	3	10	5	3
Mvmt Flow	68	48	336	28	36	582

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1004	350	0	0	364	0
Stage 1	350	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Critical Hdwy	6.47	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	262	698	-	-	1178	-
Stage 1	702	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	250	698	-	-	1178	-
Mov Cap-2 Maneuver	250	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	485	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	340	1178	-
HCM Lane V/C Ratio	-	-	0.342	0.03	-
HCM Control Delay (s)	-	-	21	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	151	9	107	8	24	13	215	193	3	6	263
Future Volume (vph)	1	151	9	107	8	24	13	215	193	3	6	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			35
Link Distance (ft)			776			2983			1467			270
Travel Time (s)			15.1			58.1			28.6			5.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	6%	0%	2%	0%	5%	0%	0%	1%	0%	0%	2%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			Yield

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

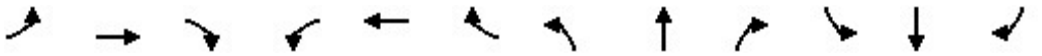
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	383
Future Volume (vph)	383
Ideal Flow (vphpl)	1900
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Sign Control	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	278	47	428	679
Demand Flow Rate, veh/h	289	48	430	692
Vehicles Circulating, veh/h	293	594	182	259
Vehicles Exiting, veh/h	658	18	400	383
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.5	5.6	6.9	13.0
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	289	48	430	692
Cap Entry Lane, veh/h	1023	753	1146	1060
Entry HV Adj Factor	0.962	0.974	0.995	0.981
Flow Entry, veh/h	278	47	428	679
Cap Entry, veh/h	984	733	1141	1039
V/C Ratio	0.282	0.064	0.375	0.653
Control Delay, s/veh	6.5	5.6	6.9	13.0
LOS	A	A	A	B
95th %tile Queue, veh	1	0	2	5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	186	2	4	416	141	22	39	11	103	1	335
Future Volume (vph)	300	186	2	4	416	141	22	39	11	103	1	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1843	0	1805	1782	0	1805	1795	0	0	1742	1599
Flt Permitted	0.097			0.620			0.950				0.953	
Satd. Flow (perm)	175	1843	0	1177	1782	0	1805	1795	0	0	1742	1551
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			6				394
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	6		1	1		6						8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	3%	0%	0%	2%	1%	0%	3%	0%	4%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	221	0	5	655	0	26	59	0	0	122	394
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	1	6		5	2		4	4		3	3	1
Permitted Phases	6			2								3
Detector Phase	1	6		5	2		4	4		3	3	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	50.0
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	25.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	78.5	77.1		52.6	47.4		8.6	8.6			15.8	41.7
Actuated g/C Ratio	0.66	0.65		0.44	0.40		0.07	0.07			0.13	0.35
v/c Ratio	0.78	0.18		0.01	0.92		0.20	0.44			0.53	0.49
Control Delay	41.6	12.7		17.0	55.7		64.0	65.6			61.7	3.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	41.6	12.7		17.0	55.7		64.0	65.6			61.7	3.5
LOS	D	B		B	E		E	E			E	A
Approach Delay		30.5			55.4			65.1			17.3	
Approach LOS		C			E			E			B	

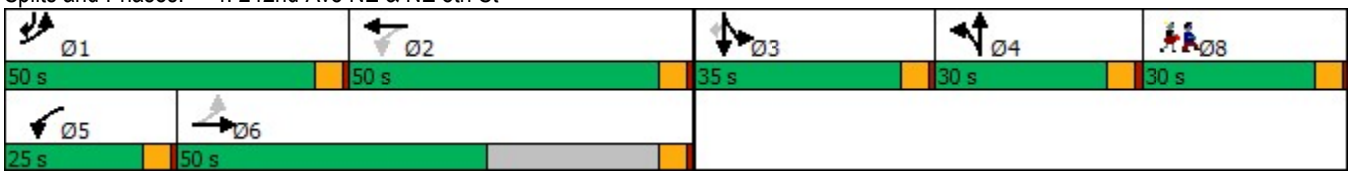
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

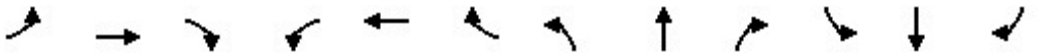
Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Actuated Cycle Length: 118.9
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 37.3 Intersection LOS: D
Intersection Capacity Utilization 72.2% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: 242nd Ave NE & NE 8th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	6	20	0	16	8	456	24	25	423	0
Future Volume (vph)	15	0	6	20	0	16	8	456	24	25	423	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	4		2			2	2			2		4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	6	20	0	16	8	456	24	25	423	0
Future Vol, veh/h	15	0	6	20	0	16	8	456	24	25	423	0
Conflicting Peds, #/hr	4	0	2	0	0	2	2	0	0	2	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	8	0	0	0	0	0	0	3	0	0	1	0
Mvmt Flow	17	0	7	22	0	18	9	507	27	28	470	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1082	1084	476	1073	1071	527	474	0	0	536	0	0
Stage 1	530	530	-	541	541	-	-	-	-	-	-	-
Stage 2	552	554	-	532	530	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	190	219	593	200	223	555	1099	-	-	1042	-	-
Stage 1	522	530	-	529	524	-	-	-	-	-	-	-
Stage 2	507	517	-	535	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	178	210	590	192	214	552	1095	-	-	1040	-	-
Mov Cap-2 Maneuver	178	210	-	192	214	-	-	-	-	-	-	-
Stage 1	516	514	-	524	519	-	-	-	-	-	-	-
Stage 2	485	512	-	514	514	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.1	20.6	0.1	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1095	-	-	222	270	1040	-	-
HCM Lane V/C Ratio	0.008	-	-	0.105	0.148	0.027	-	-
HCM Control Delay (s)	8.3	-	-	23.1	20.6	8.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	33	426	79	50	427
Future Volume (vph)	56	33	426	79	50	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	3%	4%	0%	1%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	33	426	79	50	427
Future Vol, veh/h	56	33	426	79	50	427
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	0	3	4	0	1
Mvmt Flow	64	38	484	90	57	485

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1130	531	0	0	575	0
Stage 1	530	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	223	552	-	-	1008	-
Stage 1	586	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	551	-	-	1007	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	502	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.5	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	267	1007	-
HCM Lane V/C Ratio	-	-	0.379	0.056	-
HCM Control Delay (s)	-	-	26.5	8.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	313	17	224	10	20	21	135	269	11	2	13
Future Volume (vph)	1	313	17	224	10	20	21	135	269	11	2	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			
Link Distance (ft)			776			2983			1467			
Travel Time (s)			15.1			58.1			28.6			
Confl. Peds. (#/hr)	5	6		6	1		1	6		1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	0%	6%	8%	0%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

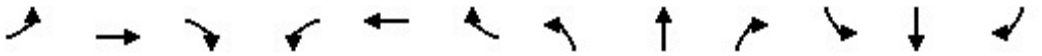
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	258	240
Future Volume (vph)	258	240
Ideal Flow (vphpl)	1900	1900
Link Speed (mph)	35	
Link Distance (ft)	270	
Travel Time (s)	5.3	
Confl. Peds. (#/hr)		6
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Sign Control	Yield	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	573	53	427	528
Demand Flow Rate, veh/h	576	56	438	538
Vehicles Circulating, veh/h	299	756	360	172
Vehicles Exiting, veh/h	411	42	515	640
Ped Vol Crossing Leg, #/h	6	1	6	6
Ped Cap Adj	0.999	1.000	0.999	0.999
Approach Delay, s/veh	10.9	7.0	9.4	8.2
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	576	56	438	538
Cap Entry Lane, veh/h	1017	638	956	1158
Entry HV Adj Factor	0.995	0.942	0.975	0.981
Flow Entry, veh/h	573	53	427	528
Cap Entry, veh/h	1011	601	931	1135
V/C Ratio	0.567	0.088	0.459	0.465
Control Delay, s/veh	10.9	7.0	9.4	8.2
LOS	B	A	A	A
95th %tile Queue, veh	4	0	2	3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	491	10	10	343	46	9	0	6	55	0	123
Future Volume (vph)	116	491	10	10	343	46	9	0	6	55	0	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	1875	0	1805	1843	0	1805	1615	0	0	1770	1615
Flt Permitted	0.343			0.378			0.950				0.950	
Satd. Flow (perm)	644	1875	0	717	1843	0	1805	1615	0	0	1770	1574
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			3			546				145
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	4		3	3		4						4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	590	0	12	458	0	11	7	0	0	65	145
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pm+ov
Protected Phases	1	6		5	2		4	4		3	3	1
Permitted Phases	6			2								3
Detector Phase	1	6		5	2		4	4		3	3	1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	50.0
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	25.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None		None	None	None
Act Effct Green (s)	53.0	52.9		45.2	39.8		5.6	5.6			10.2	16.3
Actuated g/C Ratio	0.69	0.69		0.59	0.52		0.07	0.07			0.13	0.21
v/c Ratio	0.24	0.46		0.02	0.48		0.08	0.01			0.28	0.32
Control Delay	9.4	13.6		10.3	19.7		44.6	0.0			38.9	5.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	9.4	13.6		10.3	19.7		44.6	0.0			38.9	5.1
LOS	A	B		B	B		D	A			D	A
Approach Delay		12.8			19.5			27.2			15.6	
Approach LOS		B			B			C			B	

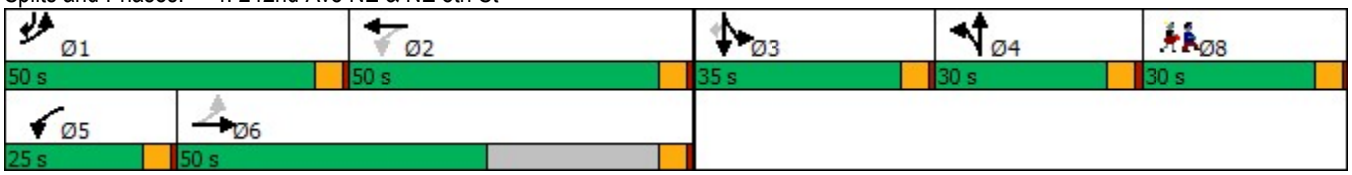
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Actuated Cycle Length: 77.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 52.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: 242nd Ave NE & NE 8th St



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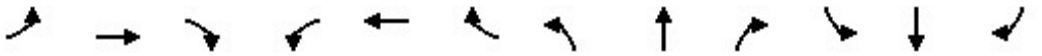


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	13	38	0	31	4	337	11	9	530	2
Future Volume (vph)	1	0	13	38	0	31	4	337	11	9	530	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	1		1				1					1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	8%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	1	0	13	38	0	31	4	337	11	9	530	2
Future Vol, veh/h	1	0	13	38	0	31	4	337	11	9	530	2
Conflicting Peds, #/hr	1	0	1	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	8	0	0	0	0	3	0	0	3	0
Mvmt Flow	1	0	14	42	0	34	4	370	12	10	582	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1006	994	585	995	989	377	585	0	0	382	0	0
Stage 1	604	604	-	384	384	-	-	-	-	-	-	-
Stage 2	402	390	-	611	605	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.28	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.372	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	222	247	500	226	249	674	1000	-	-	1188	-	-
Stage 1	489	491	-	643	615	-	-	-	-	-	-	-
Stage 2	629	611	-	484	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	208	244	499	217	246	673	999	-	-	1188	-	-
Mov Cap-2 Maneuver	208	244	-	217	246	-	-	-	-	-	-	-
Stage 1	487	487	-	640	613	-	-	-	-	-	-	-
Stage 2	594	609	-	466	487	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	20.2	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	454	312	1188	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034	0.243	0.008	-	-
HCM Control Delay (s)	8.6	-	-	13.2	20.2	8.1	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.9	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	45	311	26	33	541
Future Volume (vph)	63	45	311	26	33	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	0%	3%	10%	5%	3%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	45	311	26	33	541
Future Vol, veh/h	63	45	311	26	33	541
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	0	3	10	5	3
Mvmt Flow	68	49	338	28	36	588

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1012	352	0	0	366	0
Stage 1	352	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Critical Hdwy	6.47	6.2	-	-	4.15	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.3	-	-	2.245	-
Pot Cap-1 Maneuver	259	696	-	-	1176	-
Stage 1	701	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	247	696	-	-	1176	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.2	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	338	1176	-
HCM Lane V/C Ratio	-	-	0.347	0.031	-
HCM Control Delay (s)	-	-	21.2	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	152	9	107	8	24	13	215	194	3	6	265
Future Volume (vph)	1	152	9	107	8	24	13	215	194	3	6	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			35
Link Distance (ft)			776			2983			1467			270
Travel Time (s)			15.1			58.1			28.6			5.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	6%	0%	2%	0%	5%	0%	0%	1%	0%	0%	2%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			Yield

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

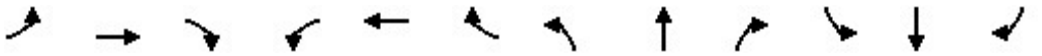
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	387
Future Volume (vph)	387
Ideal Flow (vphpl)	1900
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.96
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Sign Control	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	279	47	429	685
Demand Flow Rate, veh/h	290	48	431	699
Vehicles Circulating, veh/h	296	596	183	259
Vehicles Exiting, veh/h	662	18	403	385
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.5	5.6	6.9	13.2
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	290	48	431	699
Cap Entry Lane, veh/h	1020	751	1145	1060
Entry HV Adj Factor	0.962	0.974	0.995	0.981
Flow Entry, veh/h	279	47	429	685
Cap Entry, veh/h	982	732	1140	1039
V/C Ratio	0.284	0.064	0.376	0.660
Control Delay, s/veh	6.5	5.6	6.9	13.2
LOS	A	A	A	B
95th %tile Queue, veh	1	0	2	5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	187	2	4	419	142	22	39	11	103	1	335
Future Volume (vph)	300	187	2	4	419	142	22	39	11	103	1	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1719	1843	0	1805	1782	0	1805	1795	0	0	1742	1599
Flt Permitted	0.086			0.620			0.950				0.953	
Satd. Flow (perm)	155	1843	0	1177	1782	0	1805	1795	0	0	1742	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			6				394
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	6		1	1		6						8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	3%	0%	0%	2%	1%	0%	3%	0%	4%	0%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	222	0	5	660	0	26	59	0	0	122	394
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	3 1
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	3 1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	79.0	77.5		52.8	47.5		8.6	8.6			17.2	44.9
Actuated g/C Ratio	0.65	0.64		0.44	0.39		0.07	0.07			0.14	0.37
v/c Ratio	0.80	0.19		0.01	0.94		0.20	0.44			0.49	0.47
Control Delay	46.3	13.4		17.8	59.7		65.5	67.1			59.4	3.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	46.3	13.4		17.8	59.7		65.5	67.1			59.4	3.3
LOS	D	B		B	E		E	E			E	A
Approach Delay		33.6			59.3			66.6			16.6	
Approach LOS		C			E			E			B	

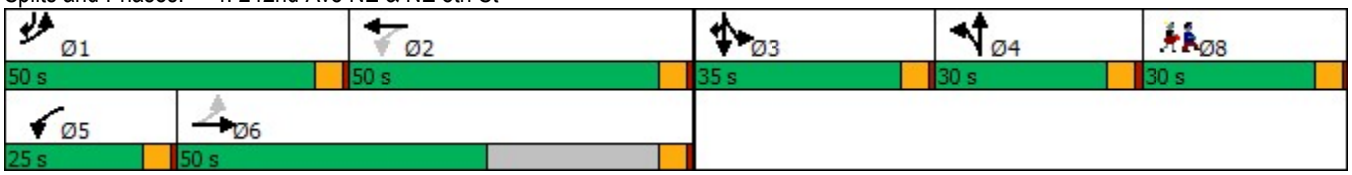
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

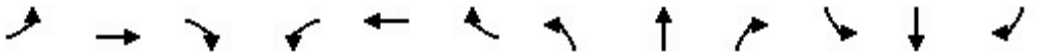
Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Actuated Cycle Length: 120.8	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 39.6	Intersection LOS: D
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: 242nd Ave NE & NE 8th St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	6	22	0	19	8	456	29	30	424	0
Future Volume (vph)	15	0	6	22	0	19	8	456	29	30	424	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		268			663			367			160	
Travel Time (s)		7.3			18.1			7.1			3.1	
Confl. Peds. (#/hr)	4		2			2	2			2		4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	0	6	22	0	19	8	456	29	30	424	0
Future Vol, veh/h	15	0	6	22	0	19	8	456	29	30	424	0
Conflicting Peds, #/hr	4	0	2	0	0	2	2	0	0	2	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	8	0	0	0	0	0	0	3	0	0	1	0
Mvmt Flow	17	0	7	24	0	21	9	507	32	33	471	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1097	1100	477	1086	1084	529	475	0	0	541	0	0
Stage 1	541	541	-	543	543	-	-	-	-	-	-	-
Stage 2	556	559	-	543	541	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	185	214	592	196	219	554	1098	-	-	1038	-	-
Stage 1	515	524	-	528	523	-	-	-	-	-	-	-
Stage 2	505	514	-	528	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	204	589	187	209	551	1094	-	-	1036	-	-
Mov Cap-2 Maneuver	171	204	-	187	209	-	-	-	-	-	-	-
Stage 1	509	505	-	523	518	-	-	-	-	-	-	-
Stage 2	480	509	-	504	505	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.9	21	0.1	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1094	-	-	214	270	1036	-	-
HCM Lane V/C Ratio	0.008	-	-	0.109	0.169	0.032	-	-
HCM Control Delay (s)	8.3	-	-	23.9	21	8.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.6	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	33	431	79	51	429
Future Volume (vph)	57	33	431	79	51	429
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		35			35
Link Distance (ft)	2979		190			313
Travel Time (s)	81.2		3.7			6.1
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	0%	3%	4%	0%	1%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	33	431	79	51	429
Future Vol, veh/h	57	33	431	79	51	429
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	4	0	3	4	0	1
Mvmt Flow	65	38	490	90	58	488

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1141	537	0	0	581	0
Stage 1	536	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	220	548	-	-	1003	-
Stage 1	583	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	202	547	-	-	1002	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.1	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	263	1002	-
HCM Lane V/C Ratio	-	-	0.389	0.058	-
HCM Control Delay (s)	-	-	27.1	8.8	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.2	-

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	1	316	17	224	10	20	21	135	271	11	2	13
Future Volume (vph)	1	316	17	224	10	20	21	135	271	11	2	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)			35			35			35			
Link Distance (ft)			776			2983			1467			
Travel Time (s)			15.1			58.1			28.6			
Confl. Peds. (#/hr)	5	6		6	1		1	6		1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	0%	6%	8%	0%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control			Yield			Yield			Yield			

Intersection Summary	
Area Type:	Other
Control Type: Roundabout	

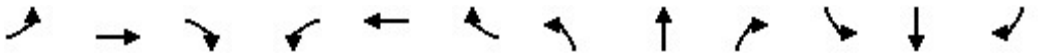
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	260	241
Future Volume (vph)	260	241
Ideal Flow (vphpl)	1900	1900
Link Speed (mph)	35	
Link Distance (ft)	270	
Travel Time (s)	5.3	
Confl. Peds. (#/hr)		6
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	3%	1%
Shared Lane Traffic (%)		
Sign Control	Yield	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	576	53	429	531
Demand Flow Rate, veh/h	579	56	440	541
Vehicles Circulating, veh/h	301	761	363	172
Vehicles Exiting, veh/h	412	42	517	645
Ped Vol Crossing Leg, #/h	6	1	6	6
Ped Cap Adj	0.999	1.000	0.999	0.999
Approach Delay, s/veh	11.1	7.0	9.5	8.3
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	579	56	440	541
Cap Entry Lane, veh/h	1015	635	953	1158
Entry HV Adj Factor	0.995	0.942	0.975	0.981
Flow Entry, veh/h	576	53	429	531
Cap Entry, veh/h	1009	598	928	1135
V/C Ratio	0.571	0.088	0.462	0.468
Control Delay, s/veh	11.1	7.0	9.5	8.3
LOS	B	A	A	A
95th %tile Queue, veh	4	0	2	3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	494	10	10	344	46	9	0	6	55	0	123
Future Volume (vph)	116	494	10	10	344	46	9	0	6	55	0	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	125		0	100		0
Storage Lanes	1		0	1		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	1787	1875	0	1805	1843	0	1805	1615	0	0	1770	1615
Flt Permitted	0.332			0.364			0.950				0.950	
Satd. Flow (perm)	624	1875	0	691	1843	0	1805	1615	0	0	1770	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			3			545				145
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1987			776			542			381	
Travel Time (s)		38.7			15.1			14.8			10.4	
Confl. Peds. (#/hr)	4		3	3		4						4
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	593	0	12	459	0	11	7	0	0	65	145
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	pt+ov
Protected Phases	1	6		5	2		4	4		3	3	3 1
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	3 1
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	50.0	50.0		25.0	50.0		30.0	30.0		35.0	35.0	
Total Split (%)	25.6%	25.6%		12.8%	25.6%		15.4%	15.4%		17.9%	17.9%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	52.0	50.6		44.1	38.7		5.6	5.6			10.2	21.8
Actuated g/C Ratio	0.66	0.64		0.56	0.49		0.07	0.07			0.13	0.27
v/c Ratio	0.26	0.50		0.03	0.51		0.09	0.01			0.29	0.27
Control Delay	9.5	14.1		10.3	20.4		44.7	0.0			39.2	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	9.5	14.1		10.3	20.4		44.7	0.0			39.2	4.4
LOS	A	B		B	C		D	A			D	A
Approach Delay		13.3			20.1			27.3			15.1	
Approach LOS		B			C			C			B	

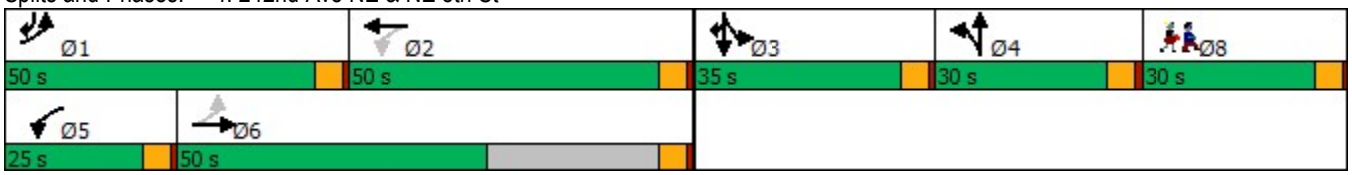
Intersection Summary	
Area Type:	Other
Cycle Length: 195	

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	22.0
Total Split (s)	30.0
Total Split (%)	15%
Yellow Time (s)	4.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Actuated Cycle Length: 79.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 53.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: 242nd Ave NE & NE 8th St



Appendix C

Trip Generation Calculations

Floyd Site - NE 18th Street (17 lots)
Trip Generation Summary

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate	Trips Generated In	Trips Generated Out	Trips Generated Total
Daily								
Proposed Use:								
Single-Family Homes	17 DU	210	50%	50%	EQN	102	102	204
Less Existing Use:								
Single-Family Homes	2 DU	210	50%	50%	9.44	-10	-9	-19
					Net New Daily Trips =	**92**	**93**	**185**
AM Peak Hour								
Proposed Use:								
Single-Family Homes	17 DU	210	25%	75%	EQN	4	13	17
Less Existing Use:								
Single-Family Homes	2 DU	210	25%	75%	0.74	0	-1	-1
					Net New AM Peak Hour Trips =	**4**	**12**	**16**
PM Peak Hour								
Proposed Use:								
Single-Family Homes	17 DU	210	63%	37%	EQN	12	7	19
Less Existing Use:								
Single-Family Homes	2 DU	210	63%	37%	0.99	-1	-1	-2
					Net New PM Peak Hour Trips =	**11**	**6**	**17**

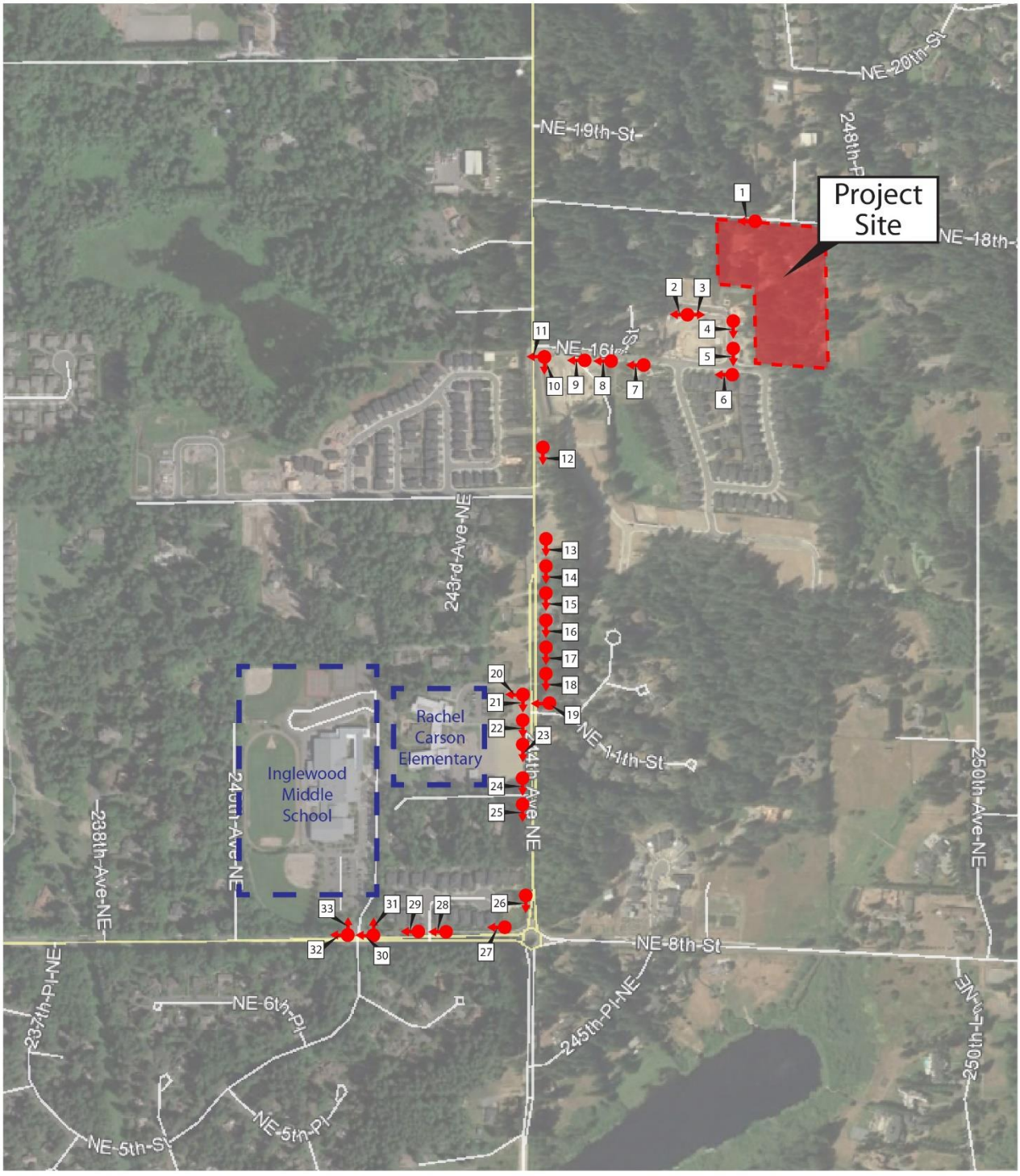
Notes:

[1] DU = Dwelling Units.

[2] Institute of Transportation Engineers, *Trip Generation* Manual (10th edition) Land Use Code.

Appendix D

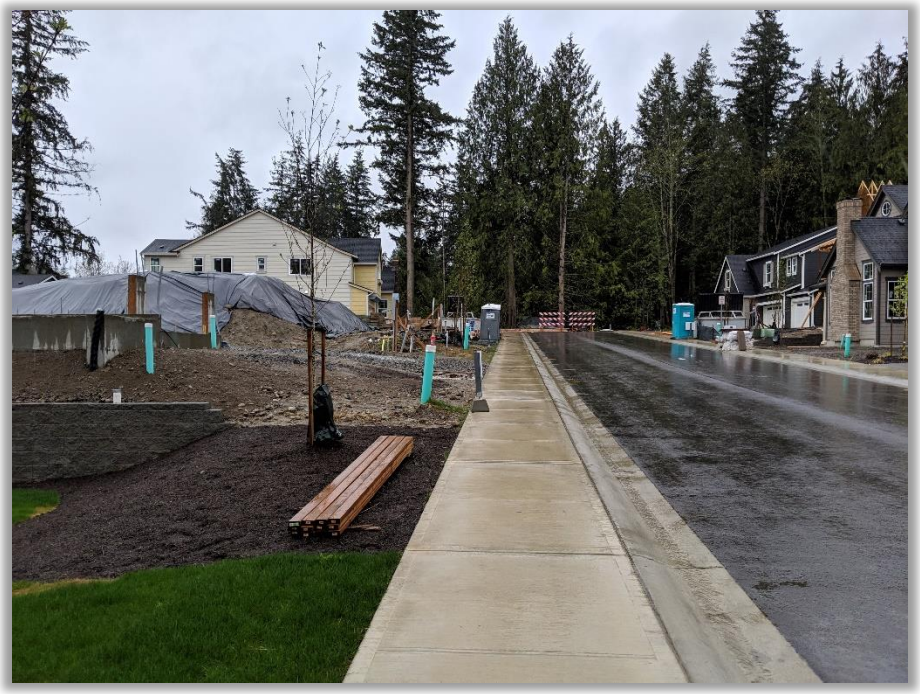
Safe Walk Route Exhibits



Key to Walk Route Photos

N
NOT TO SCALE

1. Looking west along the south side of NE 18th Street approximately 1018 feet east of the 244th Ave NE and NE 18th St intersection. Conditions: Gravel Shoulder.

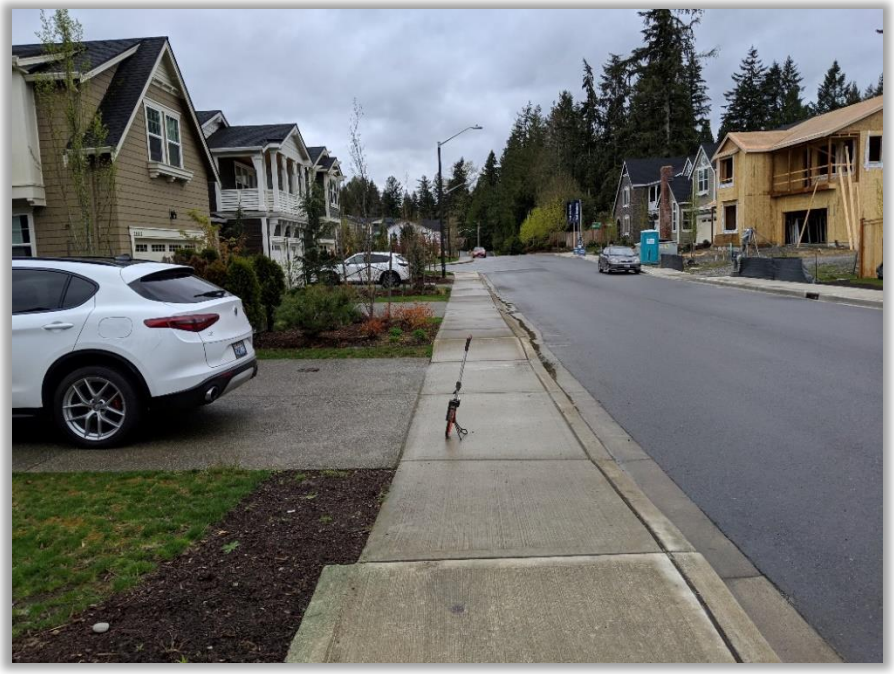


2. Looking west towards the NE 18th Street Assemblage pedestrian connection along the south side of NE 16th Place approximately 100 feet west of the NE 16th Place and 246th Place NE intersection. Conditions: 5 feet sidewalk.

3. Looking east along the south side of NE 16th Place approximately 100 feet west of the NE 16th Place and 246th Place NE intersection. Conditions: 5 feet sidewalk.

4. Looking south along west side of 246th Place NE approximately 150 feet north of the NE 16th Street and 246th Place NE intersection. Conditions: 5 feet sidewalk.

5. Looking south on the northwest corner of the NE 16th Street and 246th Place NE intersection. Conditions: 28 feet roadway across NE 16th Street and 5 feet sidewalk.



6. Looking west on the south side of NE 16th Street at the NE 16th Street and 246th Place NE intersection. Conditions: 6 feet sidewalk.

7. Looking west on the south side of NE 16th Street approximately 275 feet east of the NE 16th Street and 244th Place NE intersection. Conditions: 6 feet sidewalk.

8. Looking west on the south side of NE 16th Street approximately 75 feet east of the NE 16th Street and 244th Place NE intersection. Conditions: 6 feet sidewalk transitions to 5 feet sidewalk.

9. Looking west on the south side of NE 16th Street at the southeast corner of the NE 16th Street and 244th Place NE intersection. Conditions: 24 feet roadway across 244th Place NE and 5 feet sidewalk.

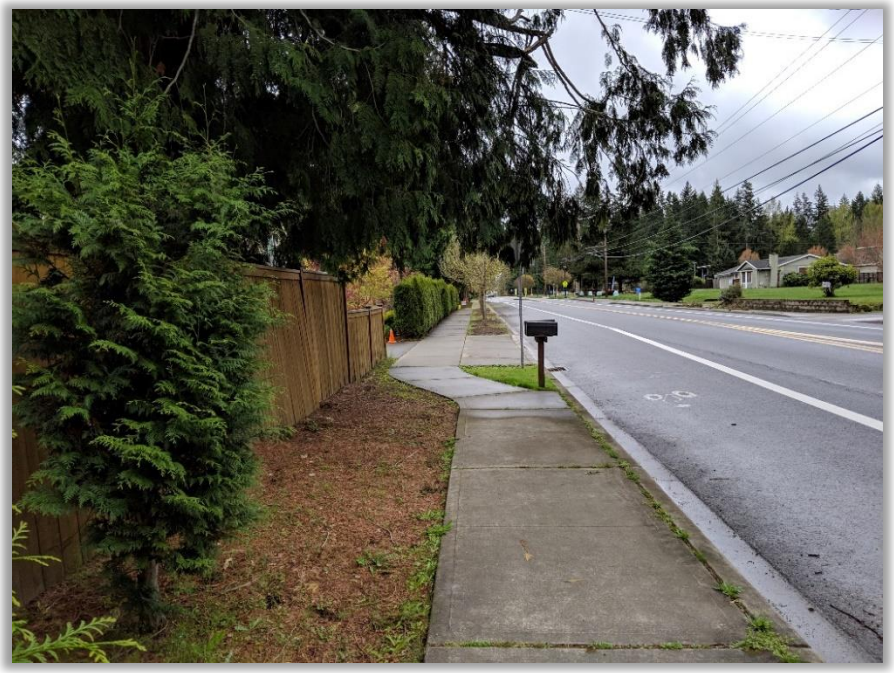
10. Looking west on the south side of NE 16th Street at the southwest corner of the NE 16th Street and 244th Place NE intersection. Conditions: 5 feet sidewalk and 6 feet paved shoulder.

11. Looking south on the east side of 244th Avenue NE at the southeast corner of the NE 16th Street and 244th Avenue NE intersection. Conditions: 5 feet sidewalk transitions to 6 feet sidewalk and 5 feet planter, 6 feet paved shoulder.

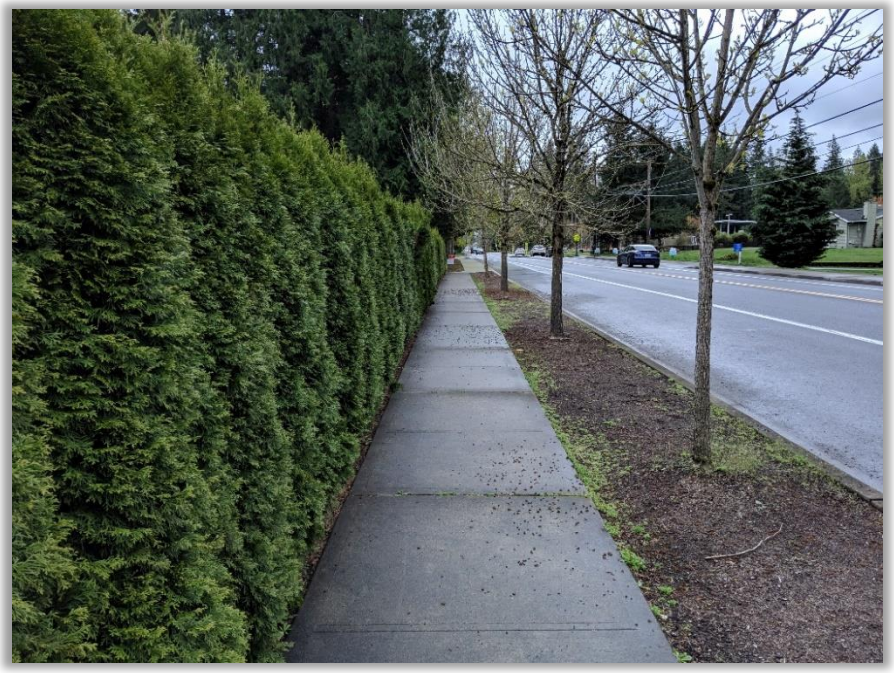
12. Looking south on the east side of 244th Avenue NE approximately 140 feet north of the NE 14th Street and 244th Avenue NE intersection. Conditions: 6 feet sidewalk and 5 feet planter, 6 feet paved shoulder.

13. Looking south on the east side of 244th Avenue NE approximately 375 feet south of the NE 14th Street and 244th Avenue NE intersection. Conditions: 6 feet sidewalk and 5 feet planter transitions to 5 feet sidewalk, 6 feet paved shoulder.

14. Looking south on the east side of 244th Avenue NE approximately 430 feet south of the NE 14th Street and 244th Avenue NE intersection. Conditions: 5 feet sidewalk and 6 feet shoulder transitions to 5 feet sidewalk and 11 feet paved shoulder.

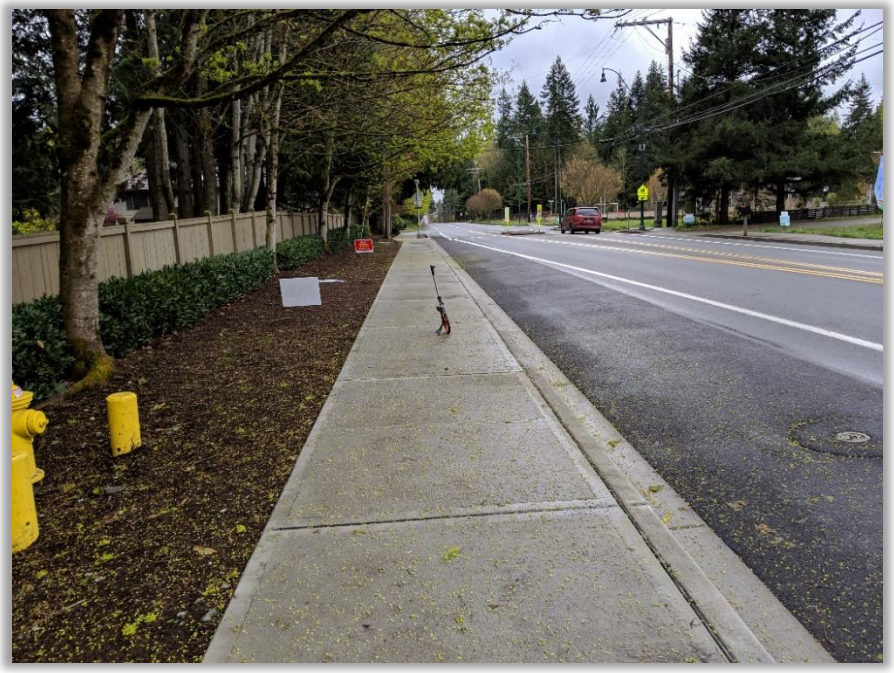


15. Looking south on the east side of 244th Avenue NE approximately 475 feet south of the NE 14th Street and 244th Avenue NE intersection. Conditions: 5 feet sidewalk transitions to 5 feet sidewalk and 5 feet planter, 11 feet paved shoulder.



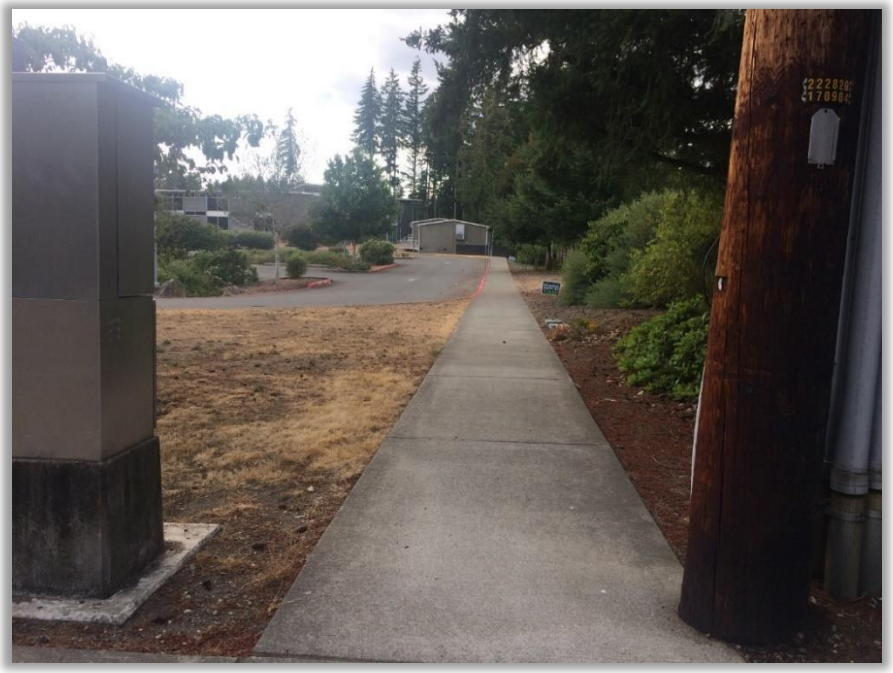
16. Looking south on the east side of 244th Avenue NE approximately 365 feet north of the NE 11th Street and 244th Avenue NE intersection. Conditions: 5 feet sidewalk and 5 feet planter, 11 feet paved shoulder.

17. Looking south on the east side of 244th Avenue NE approximately 315 feet north of the NE 11th Street and 244th Avenue NE intersection. Conditions: 5 feet sidewalk and 5 feet planter transitions to 6 feet sidewalk, 11 feet paved shoulder.



18. Looking south on the east side of 244th Avenue NE approximately 265 feet north of the NE 11th Street and 244th Avenue NE intersection. Conditions: 6 feet sidewalk, 11 feet paved shoulder transitions to 5 feet paved shoulder.

19. Looking west on the east side of 244th Avenue NE at Rachel Carson Elementary School midblock crossing. Conditions: 41 feet roadway across 244th Avenue NE.



20. Looking west toward Rachel Carson Elementary School entrance along west side of 244th Avenue NE. Conditions: 5 feet sidewalk to entrance of elementary school.

21. Looking south along west side of 244th Avenue NE just south of Rachel Carson Elementary School midblock crossing. Conditions: 6 feet sidewalk, 5 feet planter, 5 feet paved shoulder.

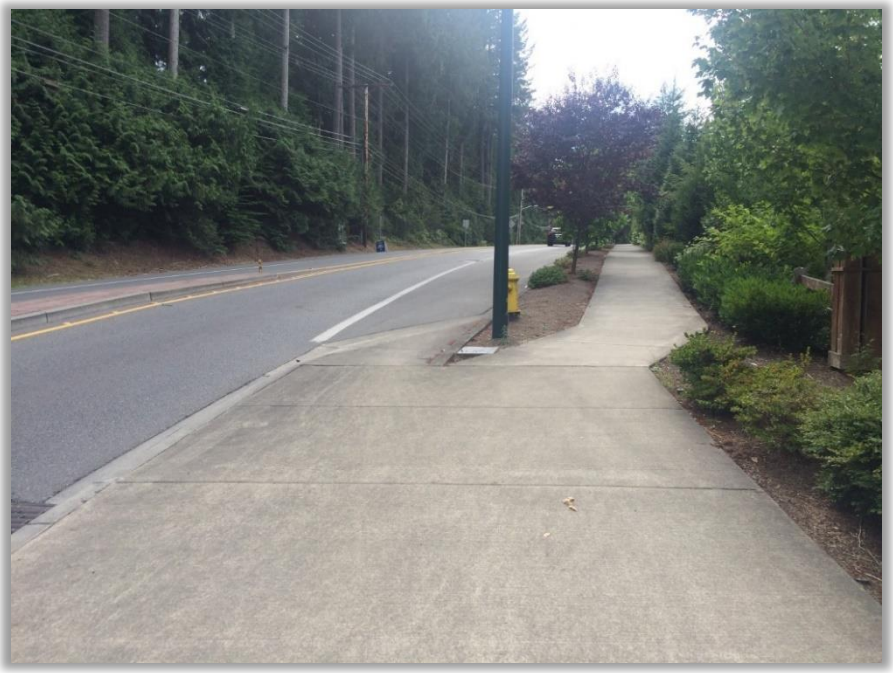
22. Looking south on northwest corner of 244th Avenue NE and NE 11th Street. Conditions: 46 feet across Elementary School driveway, 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder. Elementary school driveway is stop-controlled.

23. Looking south on southwest corner of 244th Avenue NE and NE 11th Street. Conditions: 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder.

24. Looking south on northwest corner of 244th Avenue NE and NE 10th Street. Conditions: 16 feet roadway across NE 10th Street, 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder. NE 10th Street is not stop-controlled.

25. Looking south on southwest corner of 244th Avenue NE and NE 10th Street. Conditions: 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder.

26. Looking south along west side of 244th Avenue NE approximately 475 feet south of 244th Avenue NE and NE 10th Street intersection. Conditions: 6 feet sidewalk and 5 feet planter transitions to 10 feet sidewalk, 5 feet paved shoulder.



27. Looking west along north side of NE 8th Street, east of roundabout. Conditions: 12 feet sidewalk transitions to 6 feet sidewalk and 5 feet planter, 10 feet paved shoulder.

28. Looking west on northeast corner of NE 8th Street and NE 8th Place. Conditions: 35 feet roadway across NE 8th Place, 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder.

29. Looking west on northwest corner of NE 8th Street and NE 8th Place. Conditions: 6 feet sidewalk, 5 feet planter, 6 feet paved shoulder.

30. Looking west on northeast corner of NE 8th Street and 242nd Avenue NE. Conditions: 45 feet roadway across Inglewood Middle School entrance, 6 feet asphalt sidewalk, 4 feet paved shoulder, signalized intersection.

31. Looking north on northeast corner of NE 8th Street and 242nd Avenue NE. Conditions: 6 feet asphalt sidewalk.

32. Looking west on northwest corner of NE 8th Street and 242nd Avenue NE. Conditions: 6 feet asphalt sidewalk, 6 feet paved shoulder.

33. Looking north on northwest corner of NE 8th Street and 242nd Avenue NE facing Inglewood Middle School entrance. Conditions: 6 feet asphalt sidewalk, 11 feet planter.