Kirkland Heights Redevelopment

13310 NE 133rd Street
Kirkland, WA 98034

Contract No. TC2200131

Bid Set Documents
Project Manual
Volume 5: Appendix B

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KIRKLAND HEIGHTS

Kirkland, WA

TRAFFIC IMPACT ANALYSIS (TIA)

March 16, 2023

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KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT ANALYSIS

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TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

The main goals of this study focus on the assessment of existing roadway conditions and forecasts of newly generated project traffic. The first task includes the review of general roadway information on the adjacent street system and baseline vehicular volumes. Forecasts of future traffic and dispersion patterns on the street system are then determined using established trip generation and distribution techniques. As a final step, appropriate conclusions and mitigation measures are defined if needed.

2. PROJECT DESCRIPTION

Kirkland Heights proposes for the construction of 96 new affordable housing dwelling units in the city of Kirkland. The subject site, located at 13310 NE 133rd Street, comprises 13.53-acre tax parcel #: 222605-9034. Approximately 180 affordable housing dwelling units exist on-site. Table 1 below provides a summary of existing and full build-out site characteristics.

Table 1: Kirkland Heights Project Summary

	Dwelling Units	Bedrooms	On-Site Parking Stalls
Existing	180	480	311
Full Build-Out	276	698	528
Net New	96	218	217

All future project residents are to comprise income levels at or below 80% Area Median Income (AMI). Two new buildings are to be constructed within the eastern portion of the subject site, comprising 48 dwelling units. The remaining 48 dwelling units will be 3rd floor additions to 12 existing buildings on-site. Field observations indicated that approximately 311 parking spaces are currently provided on-site, which includes a mixture of parking lot spaces and on-street stalls located along NE 133rd Street/135th Avenue NE. Upon full project build-out, approximately 528 parking stalls will be provided on-site.

Access to the subject site is to continue via 132nd Avenue NE & NE 133rd Street, 135th Avenue NE & NE 132nd Street and via three additional driveways extending north from NE 132nd Street. The NE 133rd Street/135th Avenue NE roadway provides access to parking lots and on-street parking internal to the development.

Figure 1 below shows the general site location with surrounding street network and primary arterials. A site plan illustrating the overall project and access configuration is given in Figure 2. Buildings receiving 3rd floor dwelling unit additions are depicted in blue.

Lot #	Standard	Compact	ADA	Subtotal	
1	16	18	2	36	
2	26	0	1	27	T*
3	27	0	1	28	
4	22	0	1	23	
5	17	0	3	20	
6	23	0	0	23	
7	20	0	1	21	T*
8	42	0	1	43	T*
9	10	11	1	22	
10	28	0	1	29	T*
11	7	4	0	11	
12	7	3	0	10	
13	89	47	16	152	
TOTALS	**334**	**83**	**28**	**445**	
Street Parking				83	
GRAND TOTAL				**528**	

T: Tandem stalls. Equivalent to two standard stalls.

Count	Required Parking Calculation
325	Existing Parking Stalls
465	Required Parking Stalls per Unit Mix
47	10% Guest Parking Requirement (465 x 10%)
512	**Total Parking Required with 10% Guest Parking**
528	**Total Parking Stalls Provided**

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SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Existing Street System

The surrounding roadway serving the project are described below.

NE 132nd Street: is an east-west, two to three-lane roadway bordering the subject site to the south. Between 100th Avenue NE and 132nd Avenue NE, the roadway is classified as a principal arterial. East of 132nd Avenue NE, it is classified as a local roadway. Travel lanes are approximately 10-feet in width, and additional turn-lanes are provided at major intersections. Bike lanes varying width are typically provided along either side of the roadway west of 132nd Avenue NE. Curb, gutter and sidewalk is available along both sides of the roadway. The posted speed limit in the subject site vicinity is 25- to 35-mph.

132nd Avenue NE: is a north-south two- to three-lane collector roadway bordering the subject site to the west. In the subject site vicinity, one travel lane in either direction and a center two-way left-turn lane or left-turn pockets are provided. Travel lanes are approximately 10-feet in width. Bike lanes ~4.5- to 5-feet in width are provided along both sides of the roadway, followed by curb, gutter and sidewalk. The posted speed limit in the site vicinity is 25- to 35-mph.

NE 133rd Street/135th Avenue NE: is a two-way private roadway located within the subject site. Total travel width of the roadway is approximately 18- to 26-feet. On-street parking is provided along the majority of either side the roadway. East of 132nd Avenue NE, the roadway travels northeast for approximately 1070-feet. The roadway then jogs south for approximately 460-feet before intersecting with NE 132nd Street. The posted speed limit in the site vicinity is 5-mph.

3.2 Non-Motorist Infrastructure

Sidewalk is currently provided and will be further constructed internal to the development facilitating non-motorist travel within the subject site. Extensive non-motorist infrastructure is currently provided in the vicinity of the subject site. Sidewalk is provided along both sides of all fronting roadways. Moreover, bike lanes are available on 136th Avenue NE, 132nd Avenue NE and NE 132nd Street west of 132nd Avenue NE. Speed bumps and a low posted speed limit (5-mph) are available along on 135th Avenue NE/NE 133rd Street. The nearest marked crossings available in the vicinity of the subject site are located as follows:

- All legs of 132nd Avenue NE & NE 132nd Street (pedestrian actuated)
- South leg of 132nd Avenue NE & NE 134th Place
- North leg of 132nd Avenue NE & NE 136th Street

3.3 Roadway Improvements

The City of Kirkland's 2023-2028 Capital Improvement Program was reviewed, which indicated that several improvement projects are planned in the vicinity of the subject site. Each funded, planned improvement in the project vicinity is summarized in Table 1 below.

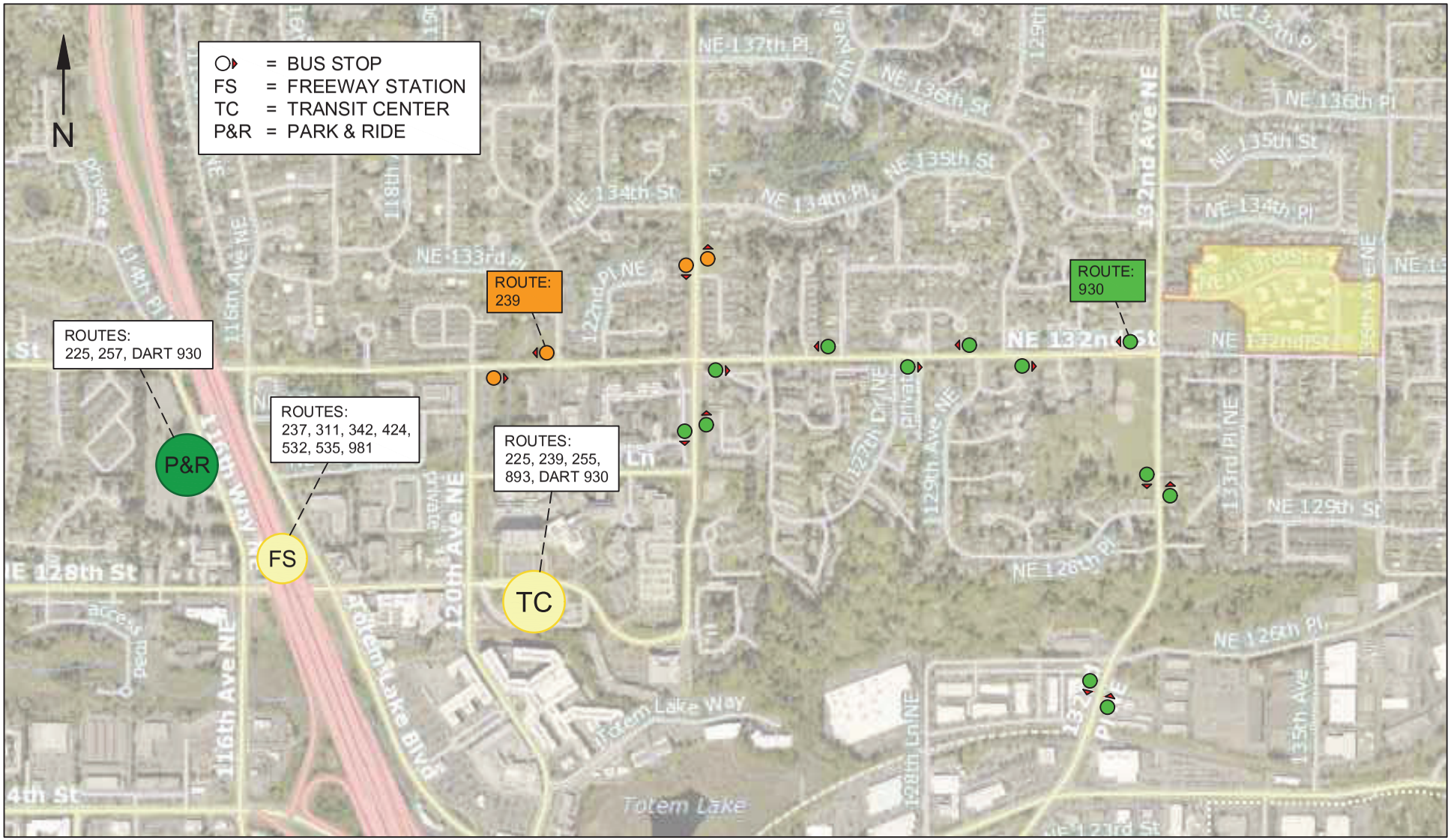
Table 2: Transportation Improvement Projects

Name	Location	Improvement	Cost
Preservation 124th Ave (STC 1110000)	132nd St to 144th St	Repair/resurfacing of streets; repair/ replacement of damaged concrete curb, gutter/sidewalks; ADA accessible curb ramps	$2,915,517
Crossing Improvements (NMC 1350000)	NE 124th St & Slater Ave	Pedestrian improvements for WB to NB intersection movements	$150,000
Crossing Improvements (NMC 1360000)	NE 132nd St & Slater Ave	Lighted and signalized crosswalk, curb, channelization, and storm drain	$3,117,000
Nonmotorized Improvements (NMC 1370000)	Willows Rd At East Trail	Install RFBs to ensure pedestrians are visible to drivers from both directions	$230,000

3.4 Transit Service

The review of the King County Metro regional bus schedule indicated that the nearest transit service provided in the vicinity of the subject site is via DART Route 930. The route provides service from Kingsgate Park & Ride to Redmond Town Center. The nearest stop in relation to the subject site is located just west at the intersection of NE 132nd Street & 132nd Avenue NE (<0.1-miles walking-distance). Weekday service is provided from 6:00 AM – 8:13 PM with approximately 30-minute headways. NO weekend service is provided.

Moreover, the Totem Lake Transit Center is located ~1.2-miles walking-distance southwest of the subject site. The graphic below illustrates the nearest public transit amenities in relation to the subject site. Refer to King County Metro's Schedules & Maps for more detailed information. Figure 3 on the following page depicts public transit amenities in the vicinity of the subject site.



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TRANSIT AVAILABILITY MAP
FIGURE 3

3.5 Existing Peak Hour Volumes

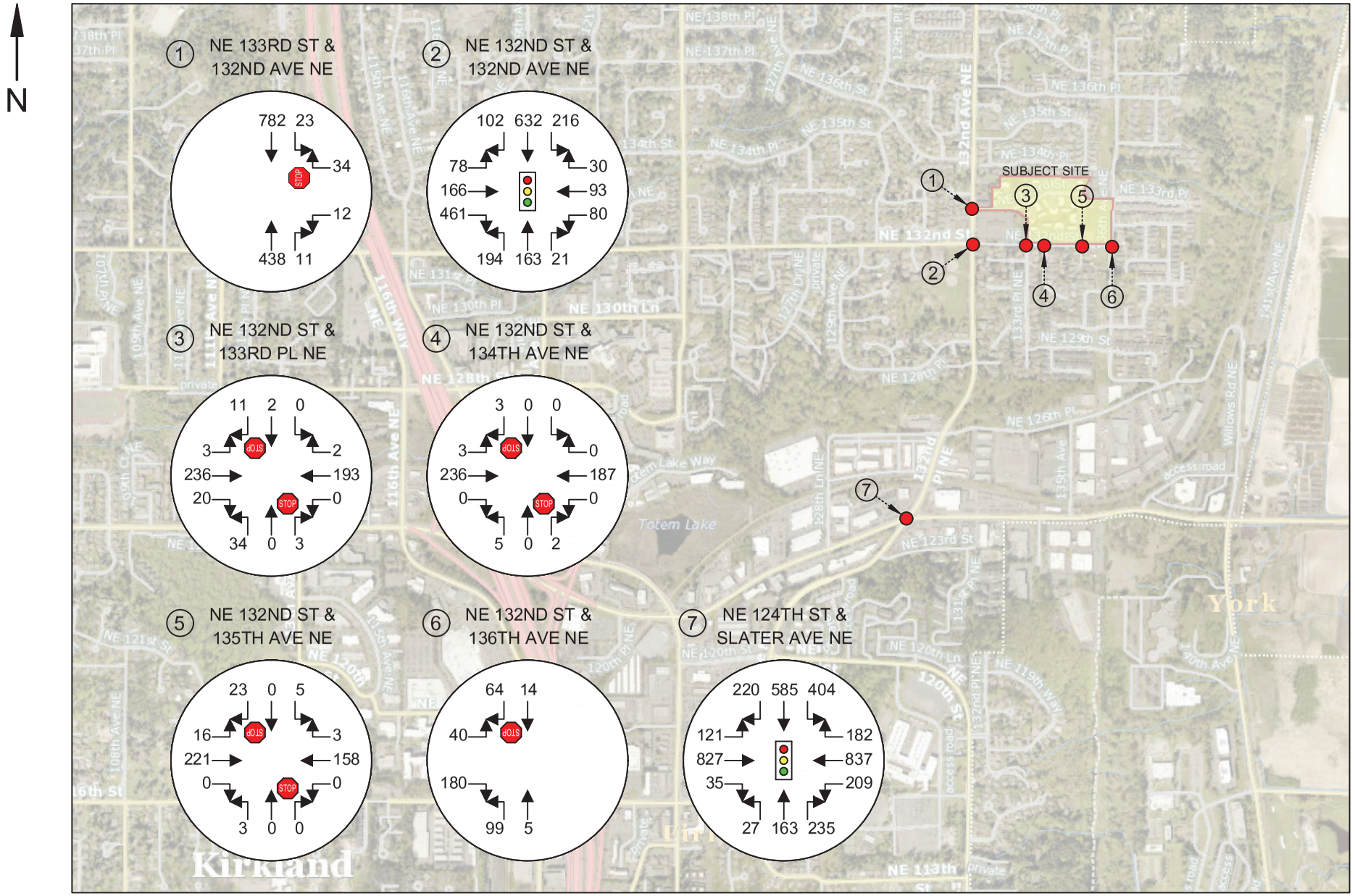
Field data for this study was obtained from the City and collected by our firm in February of 2023. The City's proportional share calculation worksheet was utilized to determine which intersections should be included in analysis. Moreover, comments from the City indicated all intersections along NE 132nd Street from 132nd Avenue NE to 136th Avenue NE should be included in analysis. Figure A, attached in the appendix, depicts significantly impacted intersections according to the development's new average weekday daily trips (see Table 4). Average daily trips were coordinated with the City during the scoping process. The following intersections were found to be proportionally significant and/or were directed to be included in analysis by the City:

1. 132nd Avenue NE & NE 133rd Street (Access) – Heath: 2/23/2023
2. 132nd Avenue NE & NE 132nd Street – Heath: 2/23/2023; City: 10/08/2019
3. 133rd Place NE & NE 132nd Street – Heath: 2/23/2023
4. 134th Avenue NE & NE 132nd Street – Heath: 2/23/2023
5. 135th Avenue NE (Access) & NE 132nd Street – Heath: 2/23/2023
6. 136th Avenue NE & NE 132nd Street – Heath: 2/23/2023
7. 132nd Place NE/Slater Avenue NE & NE 124th Street – City: 10/08/2019

Counts were performed between the AM peak period of 7:00 AM – 9:00 AM and the PM peak period of 4:00 PM - 6:00 PM at intersection #'s: 1 through 6. The single hour exhibiting highest overall intersection volumes is then derived (peak hour) and is used for analysis for each respective location. Count data from 2019 provided by the City was available at intersections 1 and 7. Total intersection volumes for 2019 City data and 2023 counts conducted by our firm were compared at the intersection of 132nd Avenue NE & NE 132nd Street. Available City data was shown to be approximately 55.39% greater in the AM peak hour and 15.39% greater in the PM peak hour at the intersection.

As such, City data was utilized for intersections 2 and 7. Moreover, 2023 peak hour data collected at intersections 1, 3, 4, 5 and 6 were grossed up by factors of 1.55 in the AM peak hour and 1.15 in the PM peak hour to establish baseline 2023 conditions.

Figure 4 on the following page identifies baseline AM peak hour volumes while Figure 5 illustrates PM peak hour volumes. Full count sheets have been attached in the appendix for reference.



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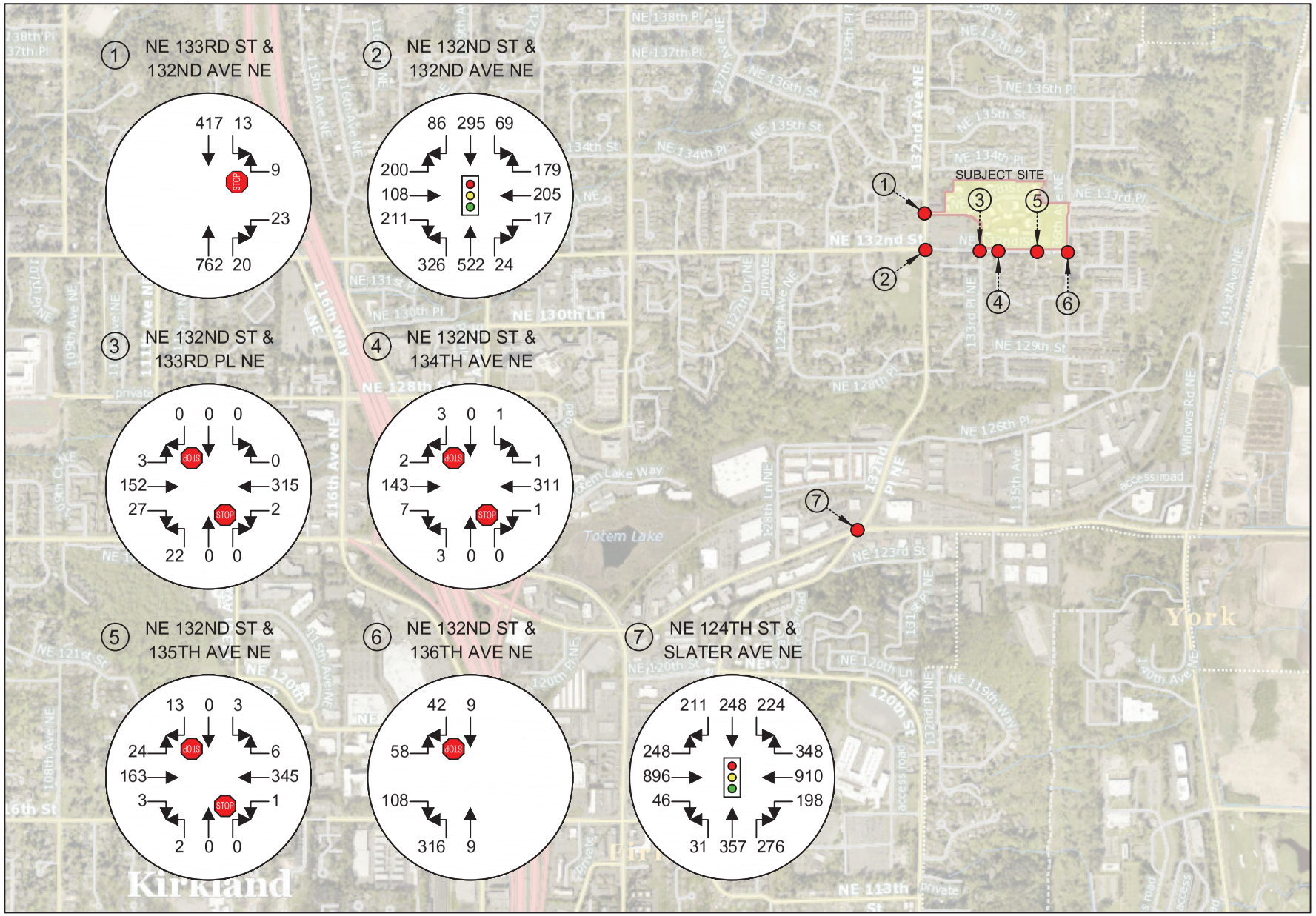
BASELINE 2023 AM PEAK HOUR VOLUMES
FIGURE 4



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BASELINE 2023 PM PEAK HOUR VOLUMES
FIGURE 5

3.6 Level of Service

Existing intersection delays were determined through the use of the *Highway Capacity Manual* 6th Edition. Capacity analysis is used to determine level of service (LOS) which is an established measure of congestion for transportation facilities. The range[1] for intersection level of service is LOS A to LOS F with the former indicating the best operating conditions with low control delays and the latter indicating the worst conditions with heavy control delays. Detailed descriptions of intersection LOS are given in the 2016 Highway Capacity Manual. Level of service calculations were made through the use of the *Synchro 11* analysis program. For signalized intersections, LOS is determined by the intersection's overall weighted average delay for each approaching leg. Side-street stop-controlled intersections LOS is determined by the approach with the highest delay. Table 3 presents existing AM and PM peak hour LOS delays for the key intersections/driveways of study.

Table 3: Existing Weekday Peak Hour Level of Service

Delays given in seconds per vehicle

			AM Peak Hour		*PM Peak Hour*	
Intersection	**Control**	**Movement**	**LOS**	**Delay**	**LOS**	**Delay**
132nd Ave NE & NE 133rd St	Stop	WB	B	14.4	C	17.5
132nd Ave NE & NE 132nd St	Signal	Overall	C	32.5	D	36.7
133rd Pl NE & NE 132nd St	Stop	NB	B	12.8	B	13.4
134th Ave NE & NE 132nd St	Stop	NB	B	11.4	B	12.7
135th Ave NE & NE 132nd St	Stop	NB	B	12.1	B	14.8
136th Ave NE & NE 132nd St	Stop	EB	A	9.7	B	11.6
132nd Pl NE/Slater Ave NE & NE 124th St	Signal	Overall	D	46.3	D	51.4

The City of Kirkland has an adopted level of service standard of LOS D or better[2]. As shown in Table 2, all study intersections are shown to operate with LOS D or better conditions, meeting City standards.

---

[1] *Signalized Intersections - Level of Service*

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Stop Controlled Intersections – Level of Service

Level of Service	Control Delay per Vehicle (sec)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Highway Capacity Manual, 6th Edition

[2] Transportation Impact Analysis Guidelines, August 2014

3.7 Crash History Data & Analysis

A list of five years of recorded collision data (2018-2022) was analyzed for the project frontage and for all intersections on NE 132nd Street between 132nd Avenue NE and 136th avenue NE, as directed by the City in scoping comments. A summary of the accident totals per year at each study intersection is provided in Table 4 below. Where available, city of Kirkland data was utilized. All remaining intersections were derived via WSDOT data.

Table 4: Crash History

Ref. #	Location	2018	2019	2020	2021	2022	Ave./ Yr	Crash Rate (MEV)
1	*132nd Ave NE & NE 133rd St*	0	0	0	1	0	0.2	0.04
2	132nd Ave NE & NE 132nd St	15	10	1	4	3	6.6	0.81
3	*133rd Pl NE & NE 132nd St*	0	0	1	0	0	0.2	0.11
4	*134th Ave NE & NE 132nd St*	0	0	0	0	0	0.0	0.00
5	135th Ave NE & NE 132nd St	1	0	0	0	0	0.2	0.10
6	*136th Ave NE & NE 132nd St*	0	1	0	0	0	0.2	0.10

WSDOT data; City of Kirkland data

A review of the crash data indicates that approximately 0.2 crashes occurred per year at study intersections 1, 3, 4 and 6. Approximately 6.6 crashes occurred per year at the 132nd Avenue NE & NE 132nd Street intersection. Lastly, no crashes occurred at 134th Avenue NE & NE 132nd Street. The intersection crash rate is calculated at an estimated 0.00 to 0.81 per MEV at the intersections of study. WSDOT data indicated that no fatalities were recorded at any intersection. Summaries of the incidents that occurred at each intersection are provided below.

132nd Avenue NE & NE 133rd Street: one incident that occurred involving a westbound vehicle hitting a pedestrian. The driver did not grant right-of-way to the non-motorist, who was recorded to have experienced possible injury.

132nd Avenue NE & NE 132nd Street: one incident occurred involving a westbound vehicle hitting a pedestrian. The majority of collision occurrences were listed as "from opposite direction – one left turn, one straight" and "rear-end". Four collisions involved vehicles and pedestrians/pedalcyclists. Possible injury (2/4) and suspected minor injury (2/4) occurred.

133rd Place NE & NE 132nd Street: one incident occurred involving one vehicle performing a left turn and another vehicle going straight. Contributing driver circumstances were listed as "improper turn/merge" and no injuries were apparent.

134th Avenue NE & NE 132nd Street: no incidents were recorded at the study intersection during the specified analysis timeframe.

135th Avenue NE & NE 132nd Street: no details are available for the incident that occurred at this intersection.

136th Avenue NE & NE 132nd Street: one incident occurred involving an eastbound vehicle hitting a stationary tree. The driver experienced no apparent injury and was recorded as being under the influence of alcohol.

4. FORECAST TRAFFIC DEMAND & ANALYSIS

4.1 Project Trip Generation

Trip generation is used to determine the magnitude of project impacts on the surrounding street system. This is usually denoted by the quantity or specific number of new trips that enter and exit a project during a designated time period, such as a specific peak hour (AM or PM) or an entire day. Data presented in this report was obtained from the Institute of Transportation Engineer's publication Trip Generation Manual, 11th Edition. Discussions with the applicant indicate that all proposed dwelling units are to accommodate low-income households and will entail rent limitations. As such, the designated land use for this project is defined under Land Use Code (LUC) 223 – Affordable Housing (Income Limits). Table 5 below summarizes the estimated project trip generation using fitted curve equations ITE rates or as directed by the City during the scoping process with dwelling units as the input variable. Included are the average weekday daily traffic (AWDT) and the AM and PM peak hours. Refer to the appendix for trip generation output.

Table 5: Project Trip Generation

Land Use	Dwelling Units	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Affordable Housing (Income Limits)	96	358	14	34	**48**	26	18	**44**

Based on ITE data, the project is anticipated to generate 358 average weekday daily trips with 48 total trips (14 in / 34 out) occurring during the AM peak hour and 44 trips (26 in / 18 out) occurring during the PM peak hour.

4.2 Distribution & Assignment

Trip distribution describes the anticipated travel routes for inbound and outbound project traffic during the peak hour study periods. AM and PM peak hour trip distribution percentages are illustrated in Figures 6 and 7, respectively. Trip distribution percentages were derived in discussion with the City during the scoping process. All project-generated traffic was assigned to the primary project accesses of NE 133rd Street & 132nd Avenue NE and NE 132nd Street & 135th Avenue NE.

4.3 Future Peak Hour Volumes

A three-year horizon of 2026 was used to analyze future conditions. Background volumes at the intersections of study were derived by applying a 2.0 percent compound annual growth rate, as approved by the City during the scoping process. Figures 8 and 9 represent forecast 2026 AM and PM peak hour volumes without project traffic. Figures 10 and 11 represent forecast peak hour volumes with project traffic added.

4.4 Project Access

Primary access via the outlying roadway system to and from the site is proposed via:

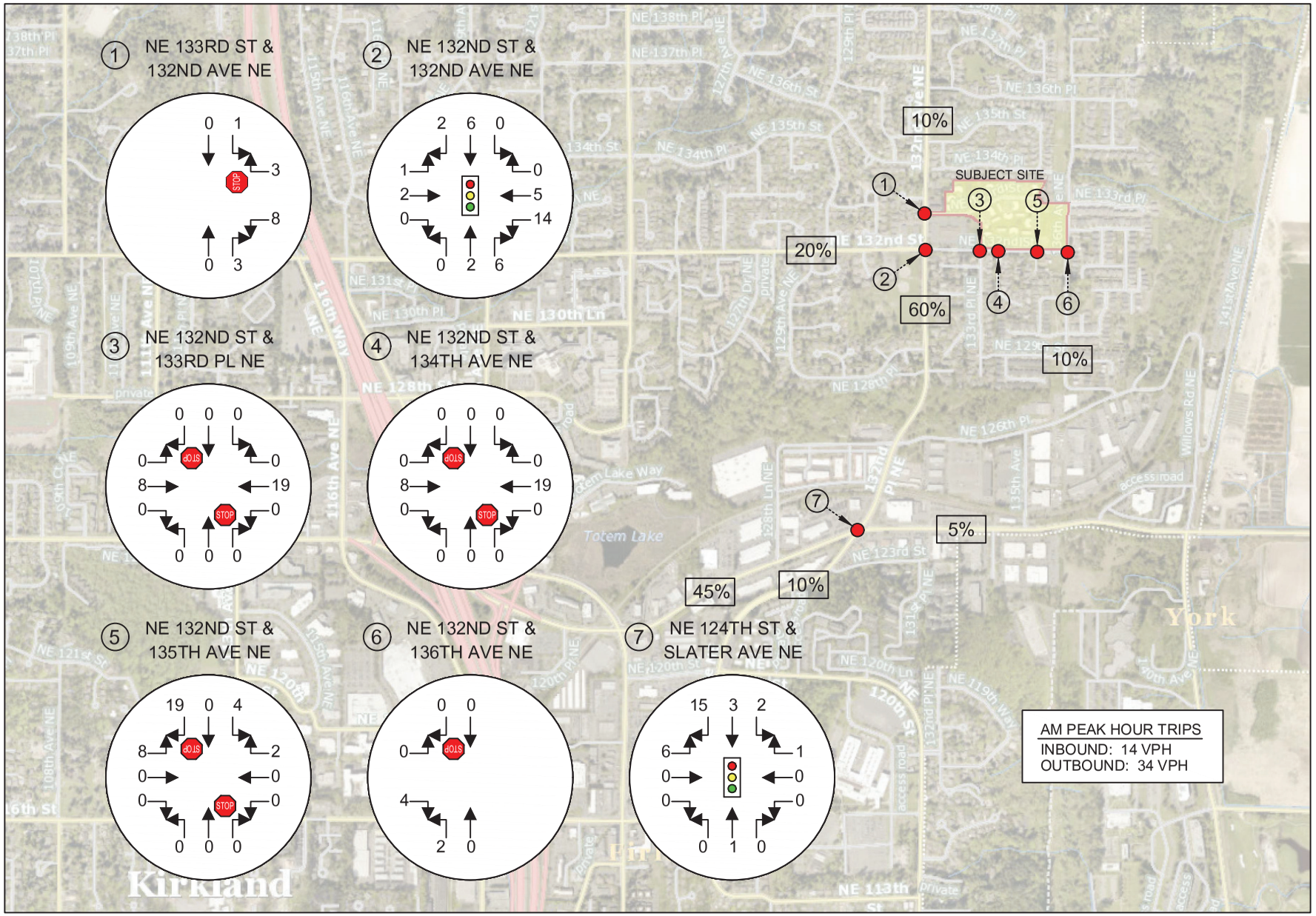
- NE 133rd Street & 132nd Avenue NE
- 135th Avenue NE & NE 132nd Street
- Three driveways extending north from NE 132nd Street serving proposed parking lots 9 and 10

Refer to Figure 2 for more details regarding site access. The site plan indicates that the east leg of NE 133rd Street & 132nd Avenue NE and the north leg of 135th Avenue NE & NE 132nd Street are to be narrowed, formalizing the connections to the major roadways via a removal of parking. It should also be noted that the NE 133rd Street/135th Avenue NE private roadway located internal to the development provides access to parking lots driveways and on-street parking internal to the development.

Per ITE data, each proposed driveway on NE 132nd Street are anticipated to receive approximately 12-49 peak hour trips. Moreover, NE 132nd Street comprises a posted speed limit of 25-mph along the project frontage and the roadway is anticipated to encompass an ADT of just over 6,000 vehicles. As such, a minimum entering sight distance (ESD) of 280-feet[3] is recommended at the three project driveways on NE 132nd Street. Preliminary measurements indicate that no sight line deficiencies are identified at the NE 132nd Street project driveways.

Lastly, approximately 280-feet of ESD would be required at both of the existing intersections (NE 133rd Street & 132nd Avenue NE; 135th Avenue NE & NE 132nd Street) serving as primary sight access based off of the posted 25-mph speed limits on both major roadways. Preliminary measurements indicate sight lines are met in excess of 300-feet at both access intersections. Overall, no sight line deficiencies are identified as a result of the development proposal.

[3]City of Kirkland Department of Public Works Pre-Approved Plans Policy – Policy R-13: Intersection Sight Distance



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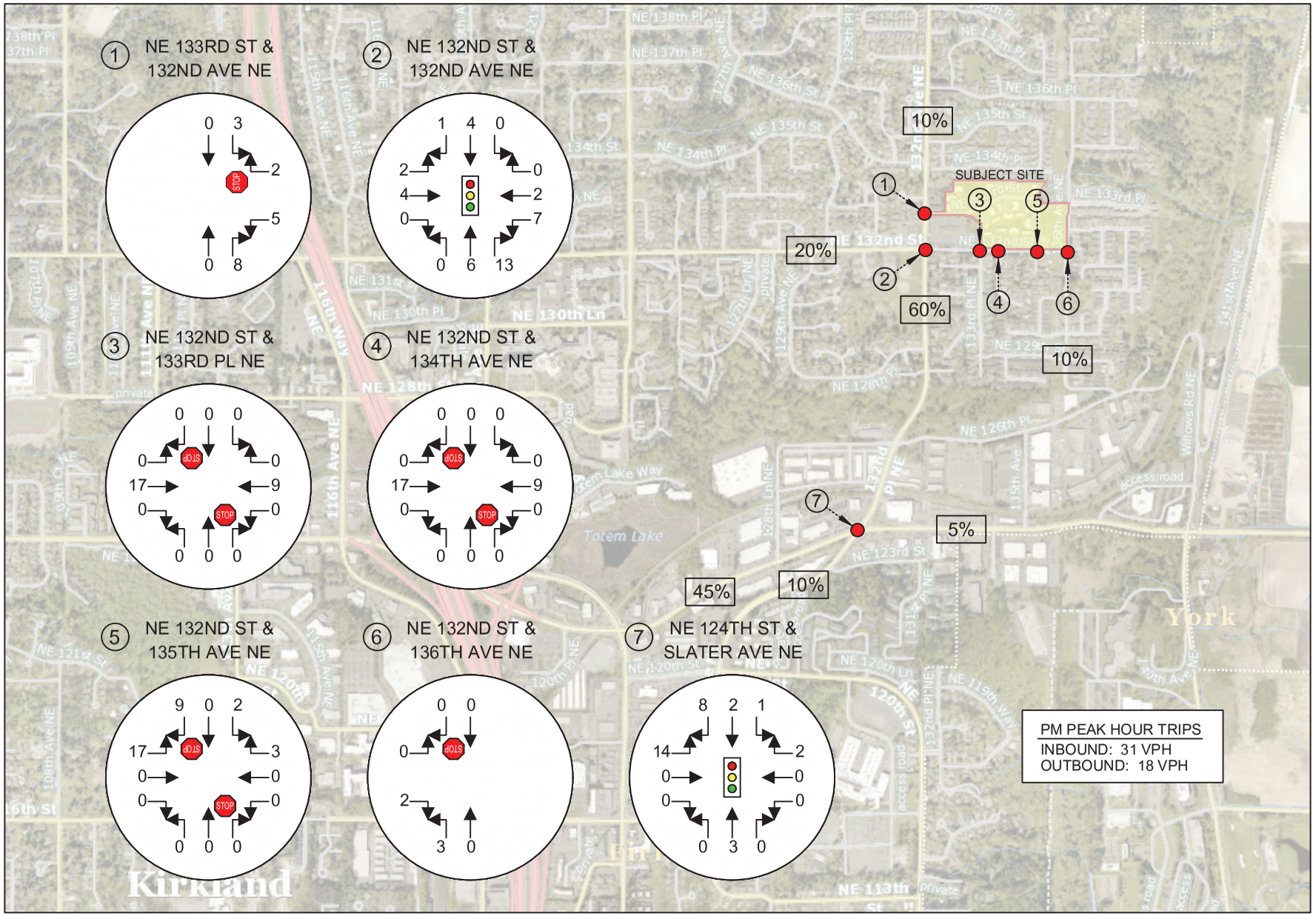
AM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 6



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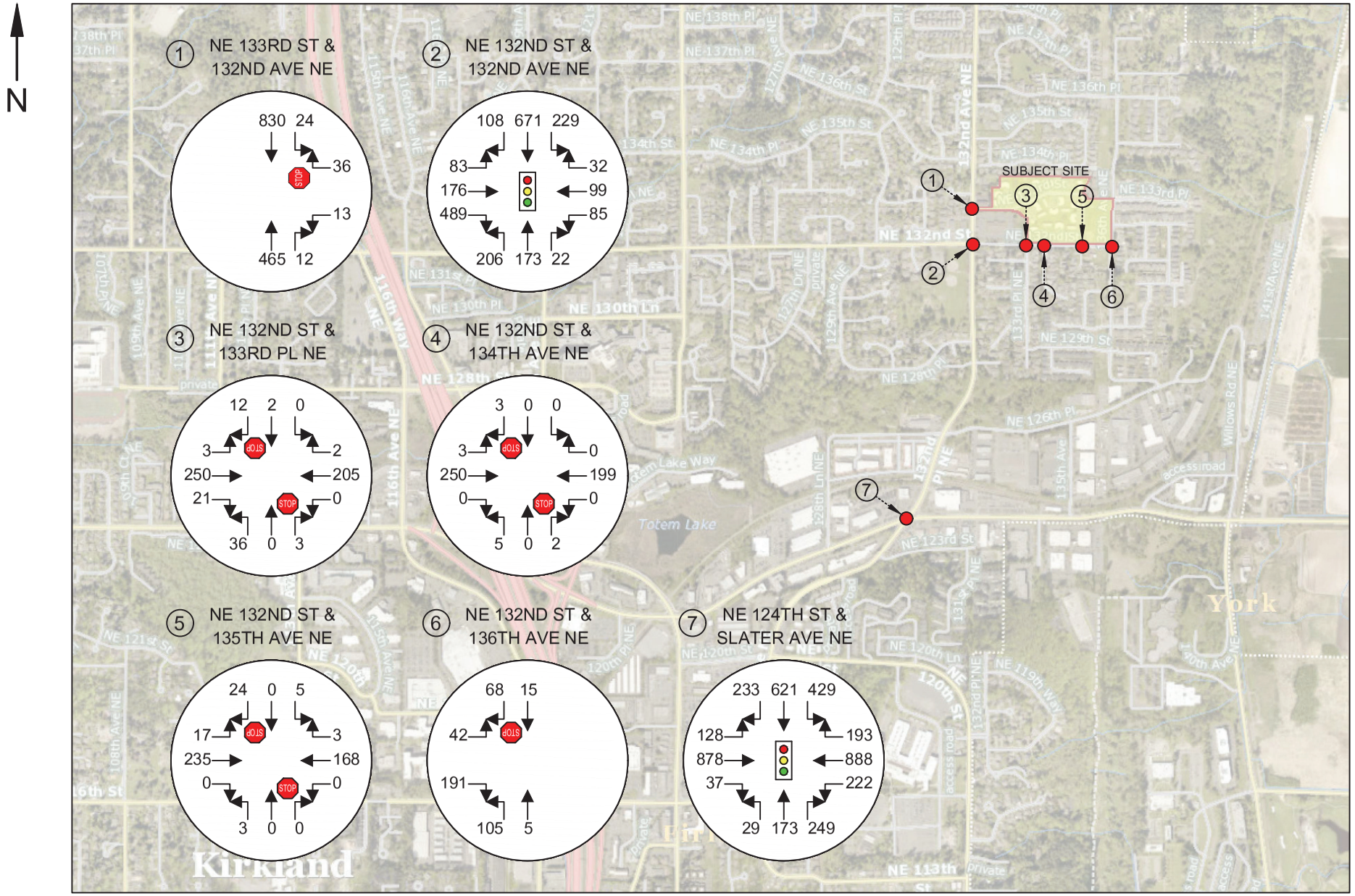
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 7



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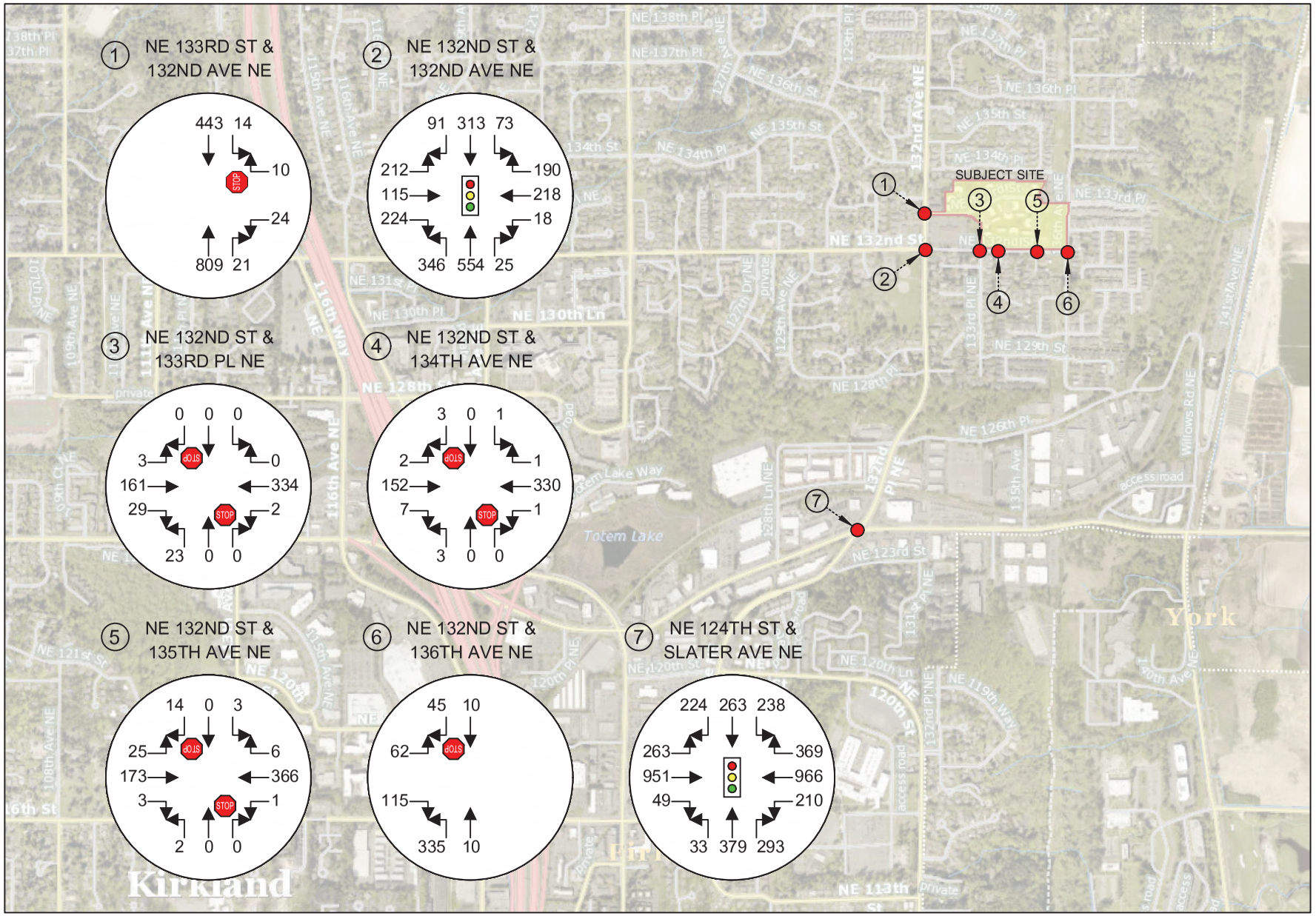
FORECAST 2026 AM PEAK HOUR BACKGROUND VOLUMES
FIGURE 8



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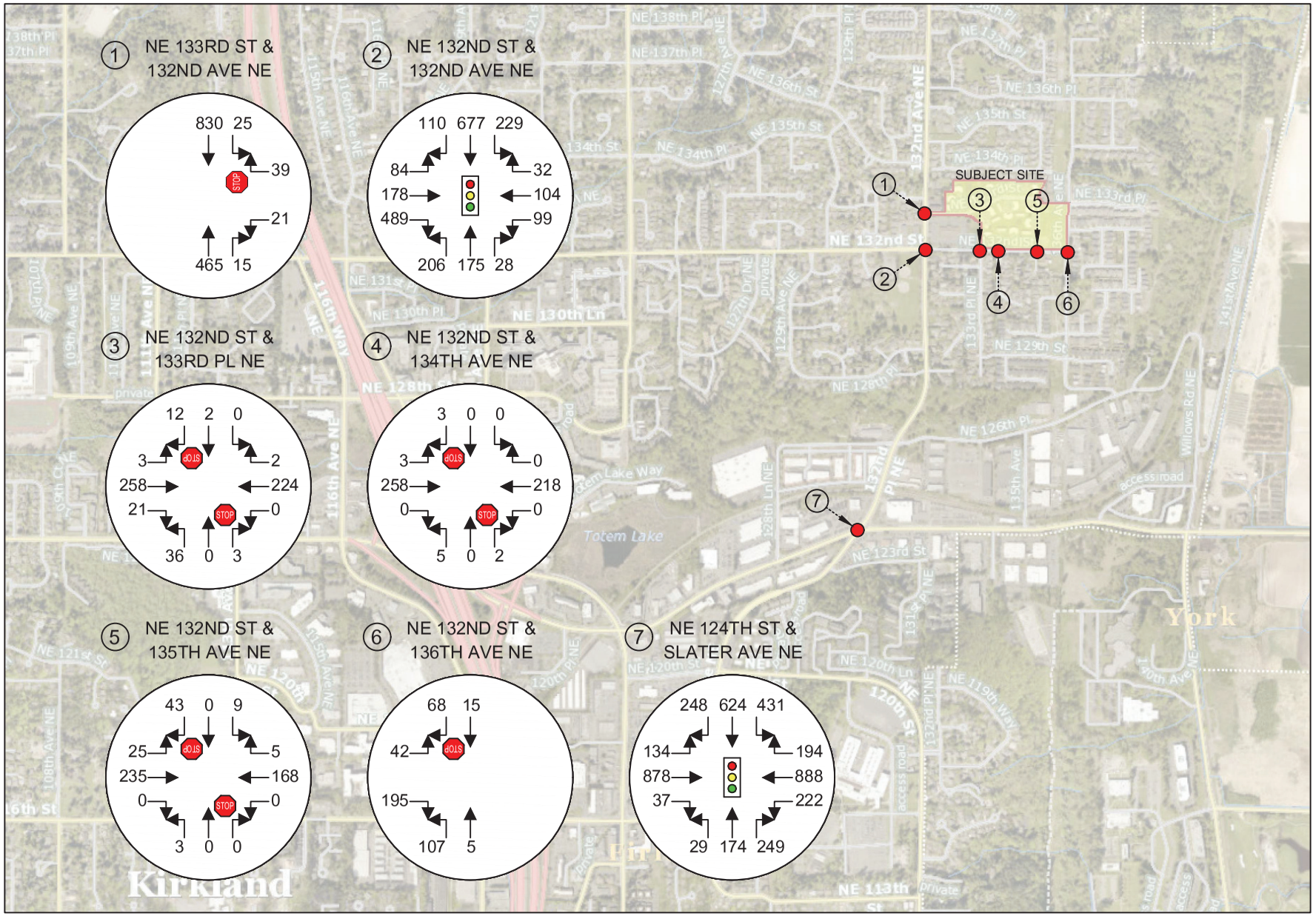
FORECAST 2026 PM PEAK HOUR BACKGROUND VOLUMES
FIGURE 9



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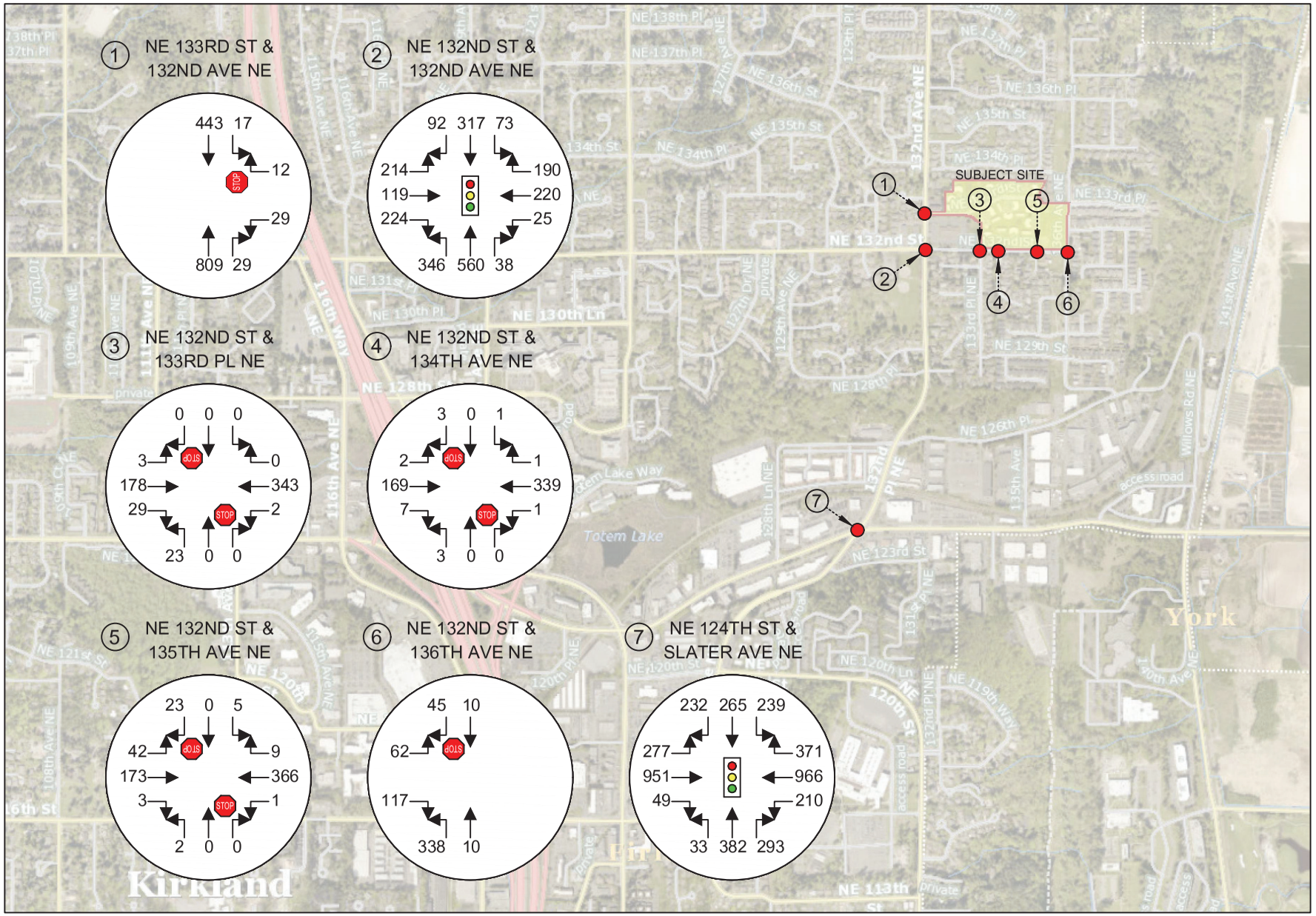
FORECAST 2026 AM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 10



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KIRKLAND HEIGHTS

FORECAST 2026 PM PEAK HOUR VOLUMES WITH PROJECT
FIGURE 11

4.5 Future Level of Service

Level of service analyses were made of the future AM and PM peak hour volumes without (background) and with project related trips added to the key roadways and intersections. This analysis once again involved the use of the *Synchro 11* analysis program. Delays for the outlying study intersections and project accesses under future conditions are shown below in Table 6.

Table 6: Forecast 2026 Weekday Peak Hour Level of Service

Delays Given in Seconds per Vehicle

			Without Project		*With Project*	
Intersection	**Control**	**Peak Hour**	**LOS**	**Delay**	**LOS**	**Delay**
132nd Ave NE & NE 133rd St	Stop	AM	C	15.1	C	16.5
		PM	C	18.6	C	19.1
132nd Ave NE & NE 132nd St	Signal	AM	D	36.2	D	38.9
		PM	D	40.7	D	41.6
133rd Pl NE & NE 132nd St	Stop	AM	B	13.2	B	13.6
		PM	B	13.9	B	14.3
134th Ave NE & NE 132nd St	Stop	AM	B	11.7	B	11.9
		PM	B	13.1	B	13.4
135th Ave NE & NE 132nd St	Stop	AM	B	12.5	B	13.0
		PM	C	15.4	C	16.6
136th Ave NE & NE 132nd St	Stop	AM	A	9.8	A	9.8
		PM	B	11.9	B	12.0
132nd Pl NE/Slater Ave NE & NE 124th St	Signal	AM	D	51.1	D	51.6
		PM	E	57.1	E	58.6

Per city of Kirkland's *Policy R-38 Transportation Impact Analysis Review,* mitigation is required at a signalized "significant" intersection if a proposed development's proportional share is greater than or equal to 15% under LOS E conditions or 5% under LOS F conditions. All primary accesses and study intersections are shown to operate with LOS D or better conditions with the exception of 132nd Place NE/Slater Avenue NE & NE 124th Street. As the project's proportional shares (AM: 0.68%; PM: 0.70%) do not surpass the aforementioned thresholds at 132nd Place NE/Slater Avenue NE & NE 124th Street, no mitigation is required at this time.

Overall, no operational deficiencies are identified as a result of the development proposal.

4.6 Parking

Proposed Parking Supply

Approximately 528 parking stalls are proposed to be provided on-site upon full build-out, with 445 parking stalls located within designated parking lots and the remaining 83 parking stalls provided as street parking along NE 133rd Street/135th Avenue NE. It should be noted that a portion of the parking lot stalls (120/445) will be in the form of tandem spaces. A comparison of existing versus proposed on-site parking provision rates was conducted. Table 7 below outlines dwelling units, parking stalls and parking rates per dwelling unit under both existing and full build-out conditions on-site.

Table 7: On-Site Parking Provision Rates – Existing vs. Proposed

Development Scenario	Dwelling Units On-Site	Provided Parking On-Site	Rate per Dwelling Unit
Existing	180	311 stalls	1.73
Proposed (Full Build-Out)	*276*	*528 stalls*	*1.91*

As illustrated in Table 7, the development proposal entails *increasing* the parking rate that is currently provided on-site from 1.73 to 1.91 parking stalls per dwelling unit. As such, the development proposal entails providing more overall parking per dwelling unit than currently available on-site. By increasing the overall parking rate per dwelling unit on-site, off-site street parking and subsequent parking impacts to the surrounding neighborhood streets is anticipated to decrease.

ITE Parking Demand Estimates

To quantify parking demands associated with the proposed development, the Institute of Transportation Engineers (ITE) publication Parking Generation Manual, 5th Edition (2019) was referenced for supporting data. Affordable Housing – Income Limits (LUC 223) was utilized for parking demand estimations. Average and 85th percentile rates with the independent variables of "bedrooms" and "dwelling units" were applied in determining parking demands. Based on the provided site plans, full site build-out is to entail 276 dwelling units comprising 698 bedrooms.

Table 8: Weekday Parking Demand Estimates – Full Site Build-Out

Land Use	Peak Period	Units	Ave. (veh./unit)	Parked Veh.	85th %-tile (veh./unit)	Parked Veh.
Affordable Housing – Income Limits (LUC 223)	Weekday: 10:00 PM - 5:00 AM	698 bedrooms	0.54	377	0.82	572
		276 DU's	0.99	273	1.33	367
			Average:	**325 stalls**	**Average:**	**470 stalls**

Based on ITE parking data for two independent variables, the development could be expected to demand between 273 to 572 parking stalls. Under average parking conditions, the proposed development may generate 273 to 377 parked vehicles. Under peak parking conditions, 367 to 572 parking stalls may be demanded on-site. With 528 parking stalls provided on-site, average project-associated parking demands estimated via ITE data would be satisfied on-site.

It should be noted that ITE parking demand estimates project a high degree of variance, from 273 parked vehicles to 572 parked vehicles. As such, a parking study was conducted of the existing Kirkland Heights site to further substantiate projected parking demands upon full project build-out. The site-specific parking study is described in the following section.

Existing Kirkland Heights Site Parking Study

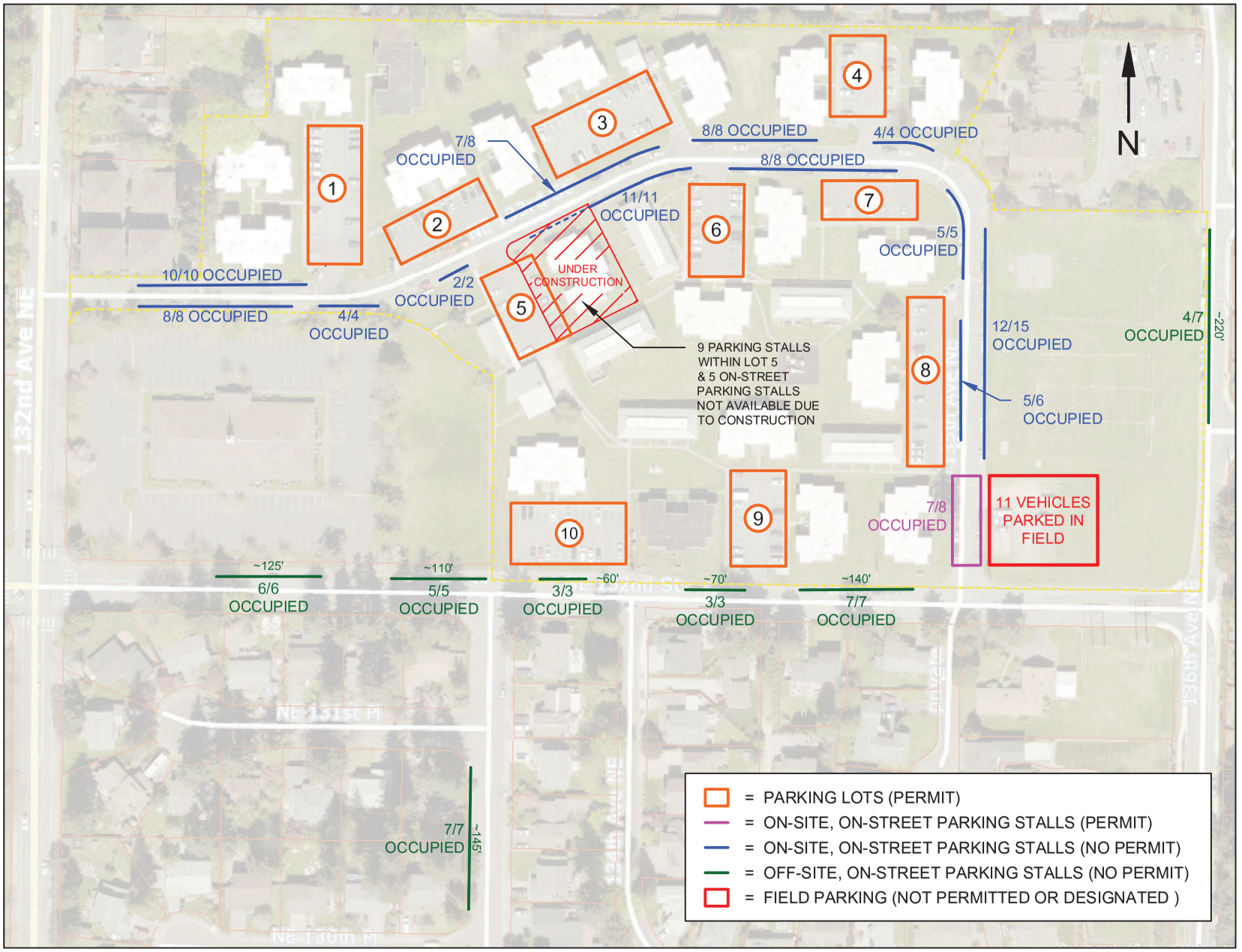
To further quantify parking demands associated with Kirkland Heights project upon full build-out, existing project resident parking utilization was observed both on-site and off-site. ITE data indicates that peak parking demands for affordable housing land uses occur between 10:00 PM and 5:00 AM. As such, three weekday samples were taken during this timeframe to coincide with peak project parking demands. The sample area consisted of the following:

- *On-site parking*, which included:
  - Parking lots (205 available stalls)
  - Designated on-street parking along NE 133rd Street and 135th Avenue NE (92 available stalls)
- *Off-site parking*, which included:
  - NE 132nd Street: 132nd Avenue NE to 136th Avenue NE
  - 136th Avenue NE: 136th Avenue NE to NE 133rd Place
  - All neighborhood streets south of the subject site (i.e.: 133rd Place NE and subsequent feeder streets; 134th Avenue NE; 135th Avenue NE)

Total parking utilization associated with the existing Kirkland Heights development during the three sample times are illustrated in Figures 12, 13 and 14 on the following pages. The previously outlined sample area is depicted within the figures. Total parking utilization accounts for all vehicles parked both on- and off-site.

PARKING AREA	OCCUPIED STALLS
LOT 1	27/33
LOT 2	11/14
LOT 3	22/26
LOT 4	16/20
LOT 5*	8/10
LOT 6	19/22
LOT 7	10/12
LOT 8	16/21
LOT 9	18/23
LOT 10	20/24
LOT SUBTOTAL	167/205
ON-SITE, ON-STREET	86/92
*TOTAL DESIGNATED ON-SITE PARKING OCCUPANCY	253/297
ON-SITE, FIELD PARKING	11 PARKED
OFF-SITE, ON-STREET	35/38
TOTAL PARKING UTILIZATION	299 STALLS

*311 PARKING STALLS ARE TYPICALLY AVAILABLE ON-SITE. HOWEVER, CONSTRUCTION MADE 14 STALLS UNAVAILABLE AT TIME OF FIELD OBSERVATIONS.



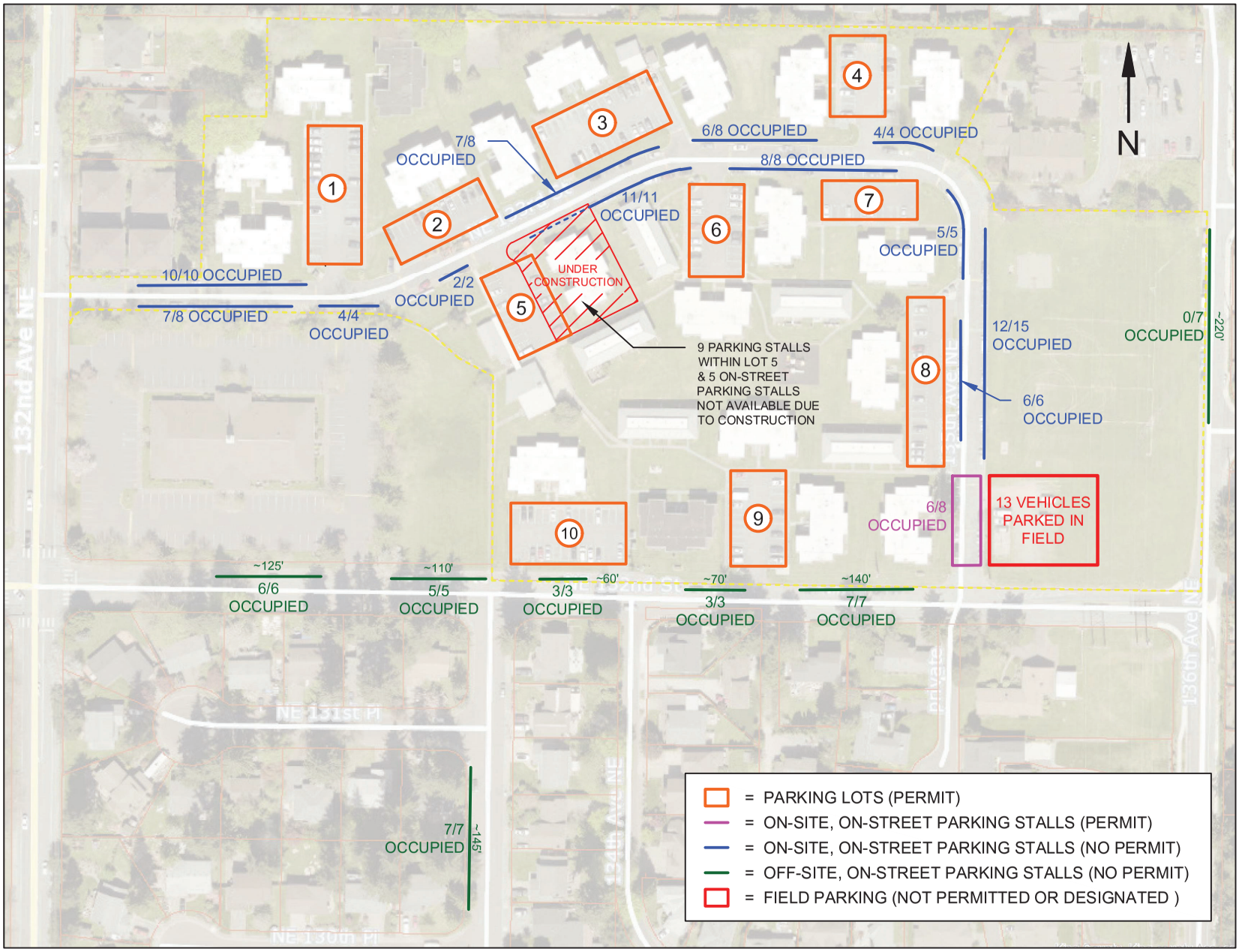
HEATH&ASSOCIATES
Transportation Planning & Engineering

KIRKLAND HEIGHTS

SITE PARKING DEMANDS - 2/23/2023 AT 10:30 PM
FIGURE 12

PARKING AREA	OCCUPIED STALLS
LOT 1	27/33
LOT 2	11/14
LOT 3	24/26
LOT 4	13/20
LOT 5*	5/10
LOT 6	17/22
LOT 7	10/12
LOT 8	15/21
LOT 9	19/23
LOT 10	20/24
LOT SUBTOTAL	161/205
ON-SITE, ON-STREET	83/92
*TOTAL DESIGNATED ON-SITE PARKING OCCUPANCY	244/297
ON-SITE, FIELD PARKING	13 PARKED
OFF-SITE, ON-STREET	31/38
TOTAL PARKING UTILIZATION	288 STALLS

*311 PARKING STALLS ARE TYPICALLY AVAILABLE ON-SITE. HOWEVER, CONSTRUCTION MADE 14 STALLS UNAVAILABLE AT TIME OF FIELD OBSERVATIONS.



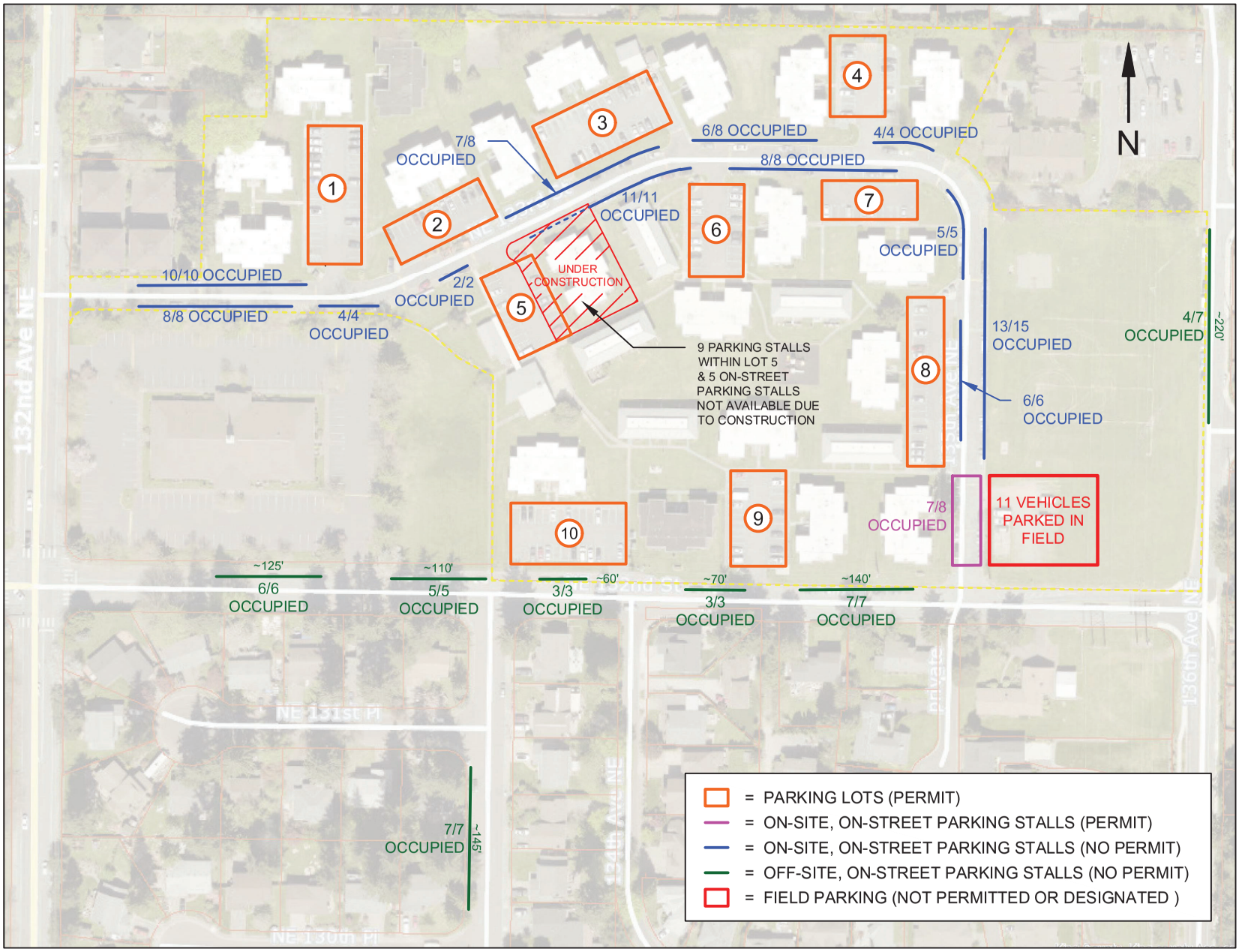
HEATH&ASSOCIATES
Transportation Planning & Engineering

KIRKLAND HEIGHTS

SITE PARKING DEMANDS - 2/28/2023 AT 10:15 PM
FIGURE 13

PARKING AREA	OCCUPIED STALLS
LOT 1	26/33
LOT 2	10/14
LOT 3	22/26
LOT 4	13/20
LOT 5*	7/10
LOT 6	17/22
LOT 7	9/12
LOT 8	17/21
LOT 9	17/23
LOT 10	20/24
LOT SUBTOTAL	158/205
ON-SITE, ON-STREET	86/92
*TOTAL DESIGNATED ON-SITE PARKING OCCUPANCY	244/297
ON-SITE, FIELD PARKING	11 PARKED
OFF-SITE, ON-STREET	35/38
TOTAL PARKING UTILIZATION	290 STALLS

*311 PARKING STALLS ARE TYPICALLY AVAILABLE ON-SITE. HOWEVER, CONSTRUCTION MADE 14 STALLS UNAVAILABLE AT TIME OF FIELD OBSERVATIONS.



HEATH&ASSOCIATES
Transportation Planning & Engineering

KIRKLAND HEIGHTS

SITE PARKING DEMANDS - 3/2/2023 AT 11:00 PM
FIGURE 14

Vehicle owners are required to possess a parking permit when parked within the on-site parking lots and within the 8 on-street parking stalls located just north of 135th Avenue NE & NE 132nd Street. Permitted stalls are allocated to project residents at one stall per licensed driver. All other on-site, on-street parking is unregulated. It should be noted that 311 parking stalls are typically available on-site. However, construction was occurring at/near a building located adjacent parking lot 5, which made 9 parking lot stalls and 4 designated on-street parking stalls unavailable. Parking typically occurred within the parking lot was therefore assumed to have been using unpermitted on-street parking along NE 133rd Street and 135th Avenue NE.

To determine if vehicles parked off-site along the above-noted neighborhood roadway segments were associated with Kirkland Heights residents, the origin/destination of each driver was observed. It should be noted that no Kirkland Heights residents were observed to park along NE 131st Place, 134th Avenue NE or 135th Avenue NE south of NE 132nd Avenue NE during any sample period. The only roadway segment within the southerly neighborhood where project residents were shown to utilize parking was along 133rd Place NE between NE 131st Place and NE 130th Place. Approximately 7 vehicles associated with the project were parked along this segment during each sample.

All parking observed along NE 132nd Street between 132nd and 136th Avenue NE and along the 136th Avenue NE was assumed to be associated with the Kirkland Heights development. This presents a conservative analysis as parking along 136th Avenue NE may also be affiliated with the adjacent Crestline Apartments development. Conversations with the Kirkland Heights Assistant Manager indicated that the majority of parking associated with Crestline Apartments is contained within their provided parking lot. However, spillover from the development occasionally occurs, with the neighboring residents utilizing Kirkland Heights on-street parking along NE 133rd Street/135th Avenue NE.

Vehicles were observed to park within the field currently located in the southeast corner of the subject site. These vehicles, primarily commercial/vans in nature, are owned by project residents. The work-related vehicles were likely parked in the field as licensed drivers are only allocated one permitted parking stall, which the residents utilize for their personal vehicle. Regardless, all vehicles observed to be parked in the field were accounted for within the subject site's total parking utilization tally.

Overall, the total number of parked vehicles deemed to be associated with the subject site within each sample are considered to present holistic and conservative estimates. Table 9 on the following page outlines total parking utilization rates associated with the existing Kirkland Heights site.

Table 9: Existing Parking Utilization Rates

Land Use	Date	Parked Vehicles	Rate per Bedroom (480 bedrooms)	Rate per Dwelling Unit (180 DU's)
Existing Kirkland Heights Site	2/23/2023	299	**0.62**	**1.66**
	2/28/2023	288	0.60	1.60
	3/2/2023	290	0.60	1.61

As illustrated in Table 7, a maximum parking utilization rate of 0.62 parked vehicles per bedroom or 1.66 parked vehicles per dwelling unit was observed. Again, it should be noted that these rates account for all parking associated with the existing subject site, both on- and off-site. Moreover, the maximum observed parking rates specific to the subject site similarly align with ITE data, falling between the average (0.54 stalls/bedroom) and 85th percentile parking rates (0.82 stalls/bedroom).

The derived parking rates derived from the existing Kirkland Heights site can be applied to the proposed project upon full build-out. The development proposal entails constructing an additional 96 dwelling units comprising 218 bedrooms. As such, a total of 276 dwelling units or 698 bedrooms are to be provided on-site upon full project build-out. Table 10 below outlines anticipated project parking demands based on the derived maximum parking rates.

Table 10: Full Build-Out Parking Demands

Land Use	Unit Type/Size	Maximum Derived Rate	Maximum Estimated Parking Utilization
Proposed Full Build-Out	698 bedrooms	0.62	433 parked vehicles
	276 dwelling units	1.66	458 parked vehicles

Applying the derived parking rates to the proposed development upon full build-out, Kirkland Heights may be anticipated to demand approximately 433 to 458 parking stalls. With 528 parking stalls provided on-site, parking demands associated with the subject site upon full build-out are anticipated to be accommodated.

Lastly, approximately 120 of the 528 parking stalls on-site are tandem stalls. Any tandem parking spaces shall be assigned to a single dwelling unit.

Overall, ITE data and a sample site parking study of the existing subject site indicates that the proposed parking provision of 528 stalls on-site is anticipated to accommodate the Kirkland Heights development upon full build-out. Should parking demands become an issue in the future, Transportation Demand Management (TDM) strategies may be explored.

4.7 Left Turn Warrant Analysis

Left turn lanes are a means of providing necessary storage space for left turning vehicles at intersections. For this impact study, procedures described by the WSDOT Design Manual Exhibit 1310-7a were used to ascertain storage requirements at NE 132nd Street & 125th Avenue NE. Based on the criteria set forth in the warrant calculations, a left turn lane *would not be warranted* under forecast 2026 AM and PM peak hour conditions at the access intersection. Full calculation sheets have been included in the appendix.

5. CONCLUSIONS & MITIGATION

Kirkland Heights proposes for the development of 96 new affordable housing (income limits) dwelling units within the city of Kirkland. Development is to occur within 13.53-acre tax parcel #: 222605-9034, which comprises a site address of 13310 NE 133rd Street. Approximately 180 affordable housing dwelling units comprising 480 bedrooms exist on-site. Upon full project build-out, the subject site will comprise 276 dwelling units with a total of 698 bedrooms. Approximately 48 of the dwelling units are to be constructed within two new buildings within the eastern portion of the subject site. The remaining 48 dwelling units will be 3rd floor additions to 12 existing buildings on-site.

Access to the subject site is proposed to occur primary via two existing intersections: 132nd Avenue NE & NE 133rd Street and 135th Avenue NE & NE 132nd Street. Three additional driveways extending north from NE 132nd Street into the subject site are proposed to continue. The private NE 133rd Street/135th Avenue NE roadway travels internal to the subject site, providing street parking and access to parking lot driveways. A conceptual site plan illustrating the overall configuration of the project is provided in Figure 2.

Based on ITE data, the proposed 96-dwelling unit addition on-site is anticipated to generate approximately 358 new average weekday daily trips with 48 (14 in / 34 out) AM peak hour trips and 44 (26 in / 18 out) PM peak hour trips. A buildout year of 2025 is anticipated for the proposed development. A level of service (LOS) analysis was performed using a three-year horizon which included a background growth rate and project-generated traffic added to the roadway network. Therefore, a three-year horizon of 2026 was analyzed to present conditions under future conditions with project buildout.

Forecast 2026 PM peak hour delays are anticipated to operate with LOS E delays at the outlying intersection of 132nd Place NE/Slater Avenue NE & NE 124th Street. However, the proposed development's proportional share at the intersection is anticipated to be less than 1.0%, indicating that no mitigation is required. All other study intersections and project driveways are shown to meet City LOS standards. No significant impact from the development proposal is identified.

Lastly, ITE data and a parking study of the existing Kirkland Heights site indicated that the proposed parking provision of 528 parking stalls on-site is anticipated to accommodate future parking demands. The proposed parking provision on-site increases current on-site parking rates per dwelling unit compared to existing conditions. A parking utilization rate derived from the sample study was applied to the development upon full build-out, which indicated that up to 458 parking stalls may be required on-site to satisfy project needs. With a proposed parking supply of 528 stalls, estimated project parking demands are anticipated to be satisfied.

Based on this analysis, recommended mitigation is as follows:

1. Pay traffic impact fees as required by the city of Kirkland. Exact fees and calculations will be determined by the City at the time of building permit issuance.

No other mitigation is identified at this time.

KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

INTERSECTION COUNT SHEETS
2019 CITY OF KIRKLAND DATA

Prepared for: **City of Kirkland**

Traffic Count Consultants, Inc.

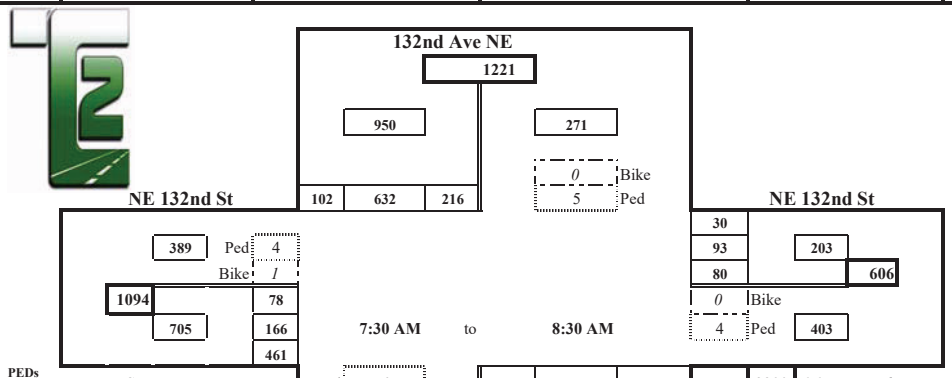
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 132nd Ave NE & NE 132nd St **Date of Count:** Tue 10/08/2019

Location: Kirkland, WA **Checked By:** Jen

Time Interval	From North on (SB) 132nd Ave NE				From South on (NB) 132nd Ave NE				From East on (WB) NE 132nd St				From West on (EB) NE 132nd St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
7:15 A	7	41	130	32	2	30	31	4	0	7	24	2	7	16	32	86	435
7:30 A	7	40	156	35	5	48	34	3	0	21	24	6	3	11	32	65	475
7:45 A	6	52	161	38	4	51	43	7	1	13	26	1	9	17	41	88	538
8:00 A	2	46	155	30	5	53	34	5	0	19	27	8	2	13	40	129	559
8:15 A	2	70	150	13	3	42	39	6	0	23	20	11	2	18	54	118	564
8:30 A	7	48	166	21	4	48	47	3	3	25	20	10	3	30	31	126	575
8:45 A	5	42	154	33	2	36	25	7	0	25	15	10	5	14	56	109	526
9:00 A	0	41	157	28	3	38	47	9	2	16	25	8	3	11	47	119	546
9:15 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	36	380	1229	230	28	346	300	44	6	149	181	56	34	130	333	840	4218
	Peak Hour: 7:30 AM to 8:30 AM																
Total	17	216	632	102	16	194	163	21	4	80	93	30	16	78	166	461	2236
Approach	950				378				203				705				2236
%HV	1.8%				4.2%				2.0%				2.3%				2.4%
PHF	0.95				0.94				0.92				0.93				0.97



PEDs Across:	N	S	E	W	
INT 01	0	2	0	1	3
INT 02	1	0	0	0	1
INT 03	1	1	2	2	6
INT 04	1	1	0	1	3
INT 05	2	4	2	0	8
INT 06	1	0	0	1	2
INT 07	0	0	2	0	2
INT 08	1	5	1	2	9
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	7	13	7	7	34

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

2300 *1.0 PHF Peak Hour Volume*

		PHF	%HV
	EB	0.93	2.3%
Check	WB	0.92	2.0%
In: 2236	NB	0.94	4.2%
Out: 2236	SB	0.95	1.8%
	T Int.	0.97	2.4%

Conditions:

Special Notes

COK19051TM_314A

Prepared for: **City of Kirkland**

Traffic Count Consultants, Inc.

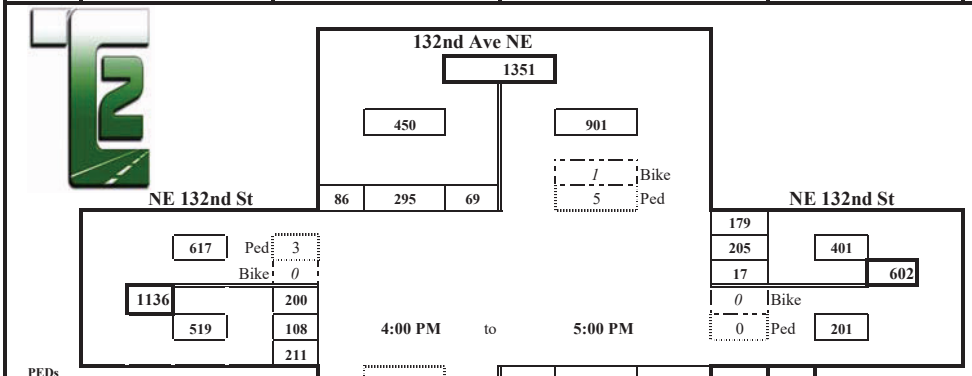
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 132nd Ave NE & NE 132nd St **Date of Count:** Tue 10/08/2019

Location: Kirkland, WA **Checked By:** Jen

Time Interval	From North on (SB) 132nd Ave NE				From South on (NB) 132nd Ave NE				From East on (WB) NE 132nd St				From West on (EB) NE 132nd St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	3	24	71	26	3	86	98	8	0	2	62	41	5	34	26	63	541
4:30 P	5	17	73	16	1	86	151	11	0	4	49	40	6	50	22	50	569
4:45 P	3	20	74	18	2	65	131	3	0	5	45	53	1	74	32	46	566
5:00 P	2	8	77	26	5	89	142	2	1	6	49	45	1	42	28	52	566
5:15 P	0	7	60	18	1	66	142	7	2	6	51	52	4	51	28	33	521
5:30 P	2	4	69	11	2	65	127	5	1	1	57	48	4	61	30	61	539
5:45 P	1	7	67	7	1	58	151	3	1	5	35	60	3	52	25	53	523
6:00 P	1	6	76	10	5	97	159	8	0	2	42	67	5	63	48	63	641
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	17	93	567	132	20	612	1101	47	5	31	390	406	29	427	239	421	4466
Peak Hour: 4:00 PM to 5:00 PM																	
Total	13	69	295	86	11	326	522	24	1	17	205	179	13	200	108	211	2242
Approach	450				872				401				519				2242
%HV	2.9%				1.3%				0.2%				2.5%				1.7%
PHF	0.93				0.88				0.95				0.85				0.99



PEDs Across:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	2	0	0	1	3
INT 03	0	2	0	1	3
INT 04	3	0	0	1	4
INT 05	4	3	0	1	8
INT 06	0	3	2	3	8
INT 07	3	4	0	6	13
INT 08	0	0	0	0	0
INT 09					0
INT 10					0
INT 11					0
INT 12					0
	12	12	2	13	**39**

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

2564 *1.0 PHF Peak Hour Volume*

		PHF	%HV
		EB	0.85	2.5%
Check		**WB**	0.95	0.2%
In:	2242	**NB**	0.88	1.3%
Out:	2242	**SB**	0.93	2.9%
		T Int.	0.99	1.7%

Conditions:

Special Notes

COK19051TM_314P

Prepared for: **City of Kirkland**

Traffic Count Consultants, Inc.

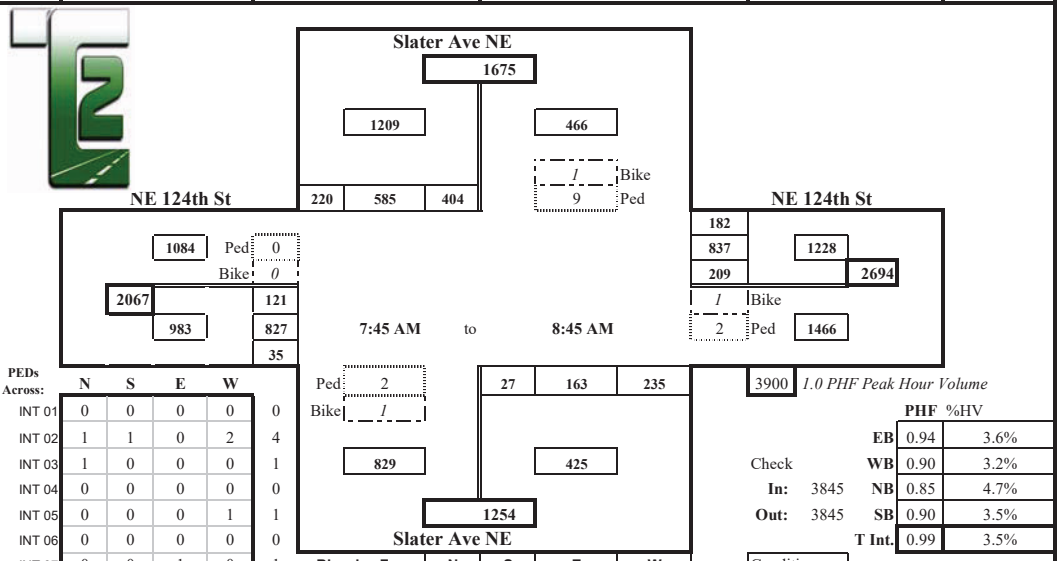
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Slater Ave NE & NE 124th St **Date of Count:** Tue 10/08/2019

Location: Kirkland, WA **Checked By:** Jen

Time Interval	From North on (SB) Slater Ave NE				From South on (NB) Slater Ave NE				From East on (WB) NE 124th St				From West on (EB) NE 124th St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
6:15 A	2	33	39	24	4	1	21	30	1	18	62	18	4	14	141	0	401
6:30 A	6	35	42	27	1	4	8	23	7	25	74	18	7	18	167	3	444
6:45 A	2	55	70	3	2	7	20	46	6	35	102	24	3	17	171	0	550
7:00 A	3	86	107	42	1	8	43	39	7	32	98	43	6	31	198	3	730
7:15 A	6	75	83	39	2	3	33	36	12	43	146	43	7	29	239	3	772
7:30 A	10	94	108	51	5	7	26	51	17	38	140	42	1	41	193	5	796
7:45 A	10	102	119	44	4	9	34	51	17	41	201	48	7	37	229	3	918
8:00 A	15	97	124	53	3	10	45	70	14	60	210	44	7	37	215	10	975
8:15 A	12	99	174	61	9	8	41	57	8	53	201	30	5	22	208	4	958
8:30 A	6	90	121	64	1	5	37	47	10	58	227	58	12	40	211	11	969
8:45 A	9	118	166	42	7	4	40	61	7	38	199	50	11	22	193	10	943
9:00 A	9	92	127	60	7	11	39	58	12	61	230	28	13	38	199	9	952
Total Survey	90	976	1280	510	46	77	387	569	118	502	1890	446	83	346	2364	61	9408
	Peak Hour: 7:45 AM to 8:45 AM																
Total	42	404	585	220	20	27	163	235	39	209	837	182	35	121	827	35	3845
Approach	1209				425				1228				983				3845
%HV	3.5%				4.7%				3.2%				3.6%				3.5%
PHF	0.90				0.85				0.90				0.94				0.99



PEDs Across:	N	S	E	W	
INT 01	0	0	0	0	0
INT 02	1	1	0	2	4
INT 03	1	0	0	0	1
INT 04	0	0	0	0	0
INT 05	0	0	0	1	1
INT 06	0	0	0	0	0
INT 07	0	0	1	0	1
INT 08	2	0	0	0	2
INT 09	2	0	1	0	3
INT 10	0	0	0	0	0
INT 11	5	2	1	0	8
INT 12	3	1	2	1	7
	14	4	5	4	**27**

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

3900 *1.0 PHF Peak Hour Volume*

		PHF	%HV
		EB	0.94	3.6%
Check		WB	0.90	3.2%
In:	3845	NB	0.85	4.7%
Out:	3845	SB	0.90	3.5%
		T Int.	0.99	3.5%

Conditions:

Special Notes

COK19051TM_324A

Prepared for: **City of Kirkland**

Traffic Count Consultants, Inc.

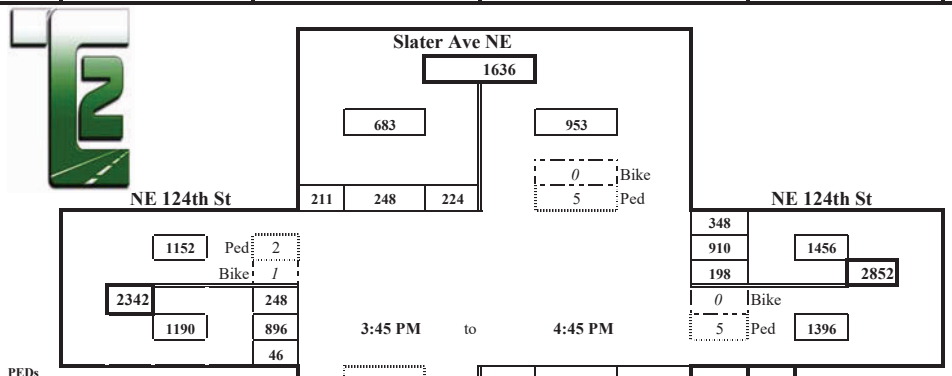
Phone: (253) 770-1407 FAX: (253) 770-1411 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: Slater Ave NE & NE 124th St **Date of Count:** Tue 10/08/2019

Location: Kirkland, WA **Checked By:** Jen

Time Interval Ending at	From North on (SB) Slater Ave NE				From South on (NB) Slater Ave NE				From East on (WB) NE 124th St				From West on (EB) NE 124th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
3:45 P	3	64	53	50	8	9	112	69	8	45	220	72	17	49	201	14	958
4:00 P	6	57	56	52	4	4	120	67	8	51	251	80	9	67	223	19	1047
4:15 P	4	53	68	57	4	9	75	97	4	47	213	75	5	60	187	14	955
4:30 P	1	57	55	48	6	9	86	59	5	53	213	92	16	61	255	4	992
4:45 P	5	57	69	54	7	9	76	53	7	47	233	101	18	60	231	9	999
5:00 P	2	54	73	54	2	6	48	35	10	52	182	104	8	60	226	9	903
5:15 P	3	26	70	83	1	10	61	32	2	55	190	68	10	65	250	16	926
5:30 P	2	44	95	44	1	15	33	37	4	58	224	69	5	44	226	9	898
5:45 P	1	40	60	39	1	16	49	25	3	59	145	74	8	50	246	21	824
6:00 P	3	68	101	38	2	7	92	42	5	53	201	84	5	59	170	11	926
6:15 P	1	51	77	47	1	16	105	46	2	69	241	99	8	63	139	43	996
6:30 P	2	41	47	34	5	29	134	54	4	60	201	63	4	39	157	16	875
Total Survey	33	612	824	600	42	139	991	616	62	649	2514	981	113	677	2511	185	11299
	Peak Hour: 3:45 PM to 4:45 PM																
Total	16	224	248	211	21	31	357	276	24	198	910	348	48	248	896	46	3993
Approach	683				664				1456				1190				3993
%HV	2.3%				3.2%				1.6%				4.0%				2.7%
PHF	0.95				0.87				0.95				0.93				0.95



PEDs Across:	N	S	E	W	
INT 01	1	0	0	0	1
INT 02	2	2	0	1	5
INT 03	0	0	0	0	0
INT 04	0	0	1	0	1
INT 05	3	1	4	1	9
INT 06	0	0	2	0	2
INT 07	2	0	2	0	4
INT 08	0	2	2	0	4
INT 09	1	1	2	0	4
INT 10	1	0	3	0	4
INT 11	1	0	0	0	1
INT 12	0	1	0	0	1
	11	7	16	2	**36**

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

4188 *1.0 PHF Peak Hour Volume*

		PHF	%HV
		EB	0.93	4.0%
Check		WB	0.95	1.6%
In:	3993	NB	0.87	3.2%
Out:	3993	SB	0.95	2.3%
		T Int.	0.95	2.7%

Conditions:

Special Notes

COK19051TM_324P

KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

INTERSECTION COUNT SHEETS
2023 HEATH & ASSOCIATES DATA

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000k
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

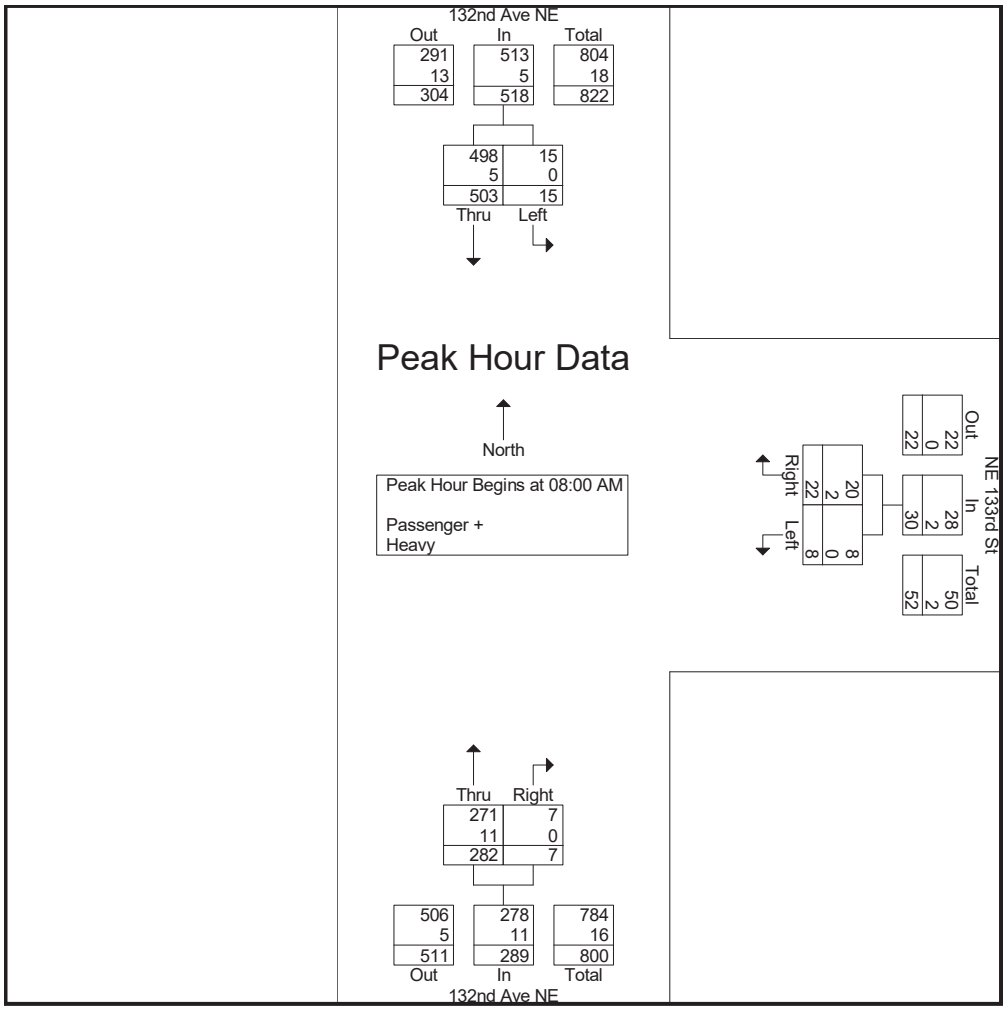
	132nd Ave NE Southbound			NE 133rd St Westbound			132nd Ave NE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
07:00 AM	82	1	83	1	2	3	1	37	38	124
07:15 AM	79	2	81	1	1	2	0	41	41	124
07:30 AM	90	0	90	1	8	9	1	51	52	151
07:45 AM	106	0	106	0	4	4	6	50	56	166
Total	357	3	360	3	15	18	8	179	187	565
08:00 AM	122	3	125	8	4	12	2	67	69	206
08:15 AM	120	6	126	7	2	9	4	99	103	238
08:30 AM	156	5	161	4	2	6	1	52	53	220
08:45 AM	105	1	106	3	0	3	0	64	64	173
Total	503	15	518	22	8	30	7	282	289	837
Grand Total	860	18	878	25	23	48	15	461	476	1402
Apprch %	97.9	2.1		52.1	47.9		3.2	96.8		
Total %	61.3	1.3	62.6	1.8	1.6	3.4	1.1	32.9	34	
Passenger +	846	18	864	23	23	46	15	444	459	1369
% Passenger +	98.4	100	98.4	92	100	95.8	100	96.3	96.4	97.6
Heavy	14	0	14	2	0	2	0	17	17	33
% Heavy	1.6	0	1.6	8	0	4.2	0	3.7	3.6	2.4

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000k
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	132nd Ave NE Southbound			NE 133rd St Westbound			132nd Ave NE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	122	3	125	**8**	**4**	**12**	2	67	69	206
08:15 AM	120	**6**	126	7	2	9	**4**	**99**	**103**	**238**
08:30 AM	**156**	5	**161**	4	2	6	1	52	53	220
08:45 AM	105	1	106	3	0	3	0	64	64	173
Total Volume	503	15	518	22	8	30	7	282	289	837
% App. Total	97.1	2.9		73.3	26.7		2.4	97.6		
PHF	.806	.625	.804	.688	.500	.625	.438	.712	.701	.879
Passenger +	498	15	513	20	8	28	7	271	278	819
% Passenger +	99.0	100	99.0	90.9	100	93.3	100	96.1	96.2	97.8
Heavy	5	0	5	2	0	2	0	11	11	18
% Heavy	1.0	0	1.0	9.1	0	6.7	0	3.9	3.8	2.2



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000L
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

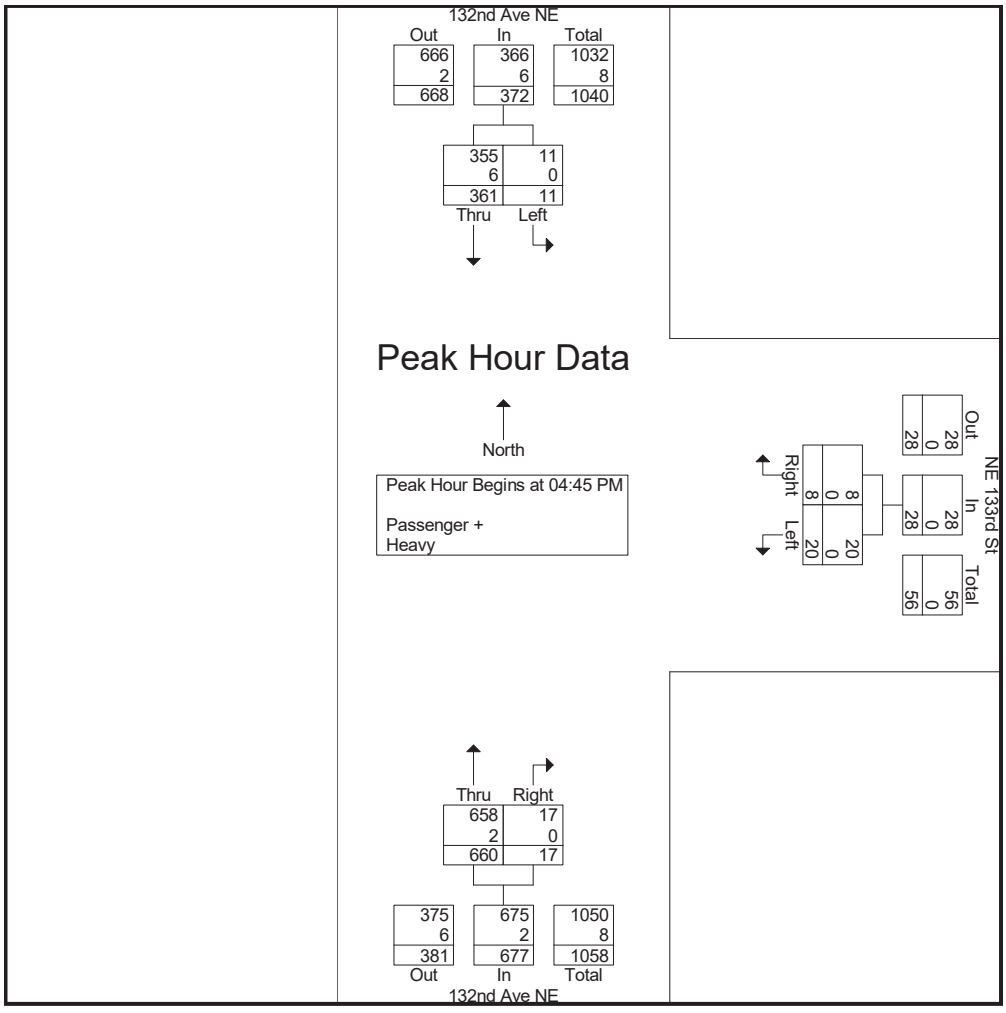
	132nd Ave NE Southbound			NE 133rd St Westbound			132nd Ave NE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	124	8	132	3	1	4	2	118	120	256
04:15 PM	67	8	75	5	2	7	3	119	122	204
04:30 PM	68	6	74	5	3	8	6	136	142	224
04:45 PM	88	2	90	2	2	4	4	147	151	245
Total	347	24	371	15	8	23	15	520	535	929
05:00 PM	98	3	101	0	3	3	2	154	156	260
05:15 PM	96	1	97	3	4	7	6	181	187	291
05:30 PM	79	5	84	3	11	14	5	178	183	281
05:45 PM	70	3	73	2	1	3	6	156	162	238
Total	343	12	355	8	19	27	19	669	688	1070
Grand Total	690	36	726	23	27	50	34	1189	1223	1999
Apprch %	95	5		46	54		2.8	97.2		
Total %	34.5	1.8	36.3	1.2	1.4	2.5	1.7	59.5	61.2	
Passenger +	680	36	716	23	27	50	33	1183	1216	1982
% Passenger +	98.6	100	98.6	100	100	100	97.1	99.5	99.4	99.1
Heavy	10	0	10	0	0	0	1	6	7	17
% Heavy	1.4	0	1.4	0	0	0	2.9	0.5	0.6	0.9

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000L
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	132nd Ave NE Southbound			NE 133rd St Westbound			132nd Ave NE Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	88	2	90	2	2	4	4	147	151	245
05:00 PM	**98**	3	**101**	0	3	3	2	154	156	260
05:15 PM	96	1	97	**3**	4	7	**6**	**181**	**187**	**291**
05:30 PM	79	**5**	84	3	**11**	**14**	5	178	183	281
Total Volume	361	11	372	8	20	28	17	660	677	1077
% App. Total	97	3		28.6	71.4		2.5	97.5		
PHF	.921	.550	.921	.667	.455	.500	.708	.912	.905	.925
Passenger +	355	11	366	8	20	28	17	658	675	1069
% Passenger +	98.3	100	98.4	100	100	100	100	99.7	99.7	99.3
Heavy	6	0	6	0	0	0	0	2	2	8
% Heavy	1.7	0	1.6	0	0	0	0	0.3	0.3	0.7



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000a
Site Code : 00005000
Start Date : 3/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

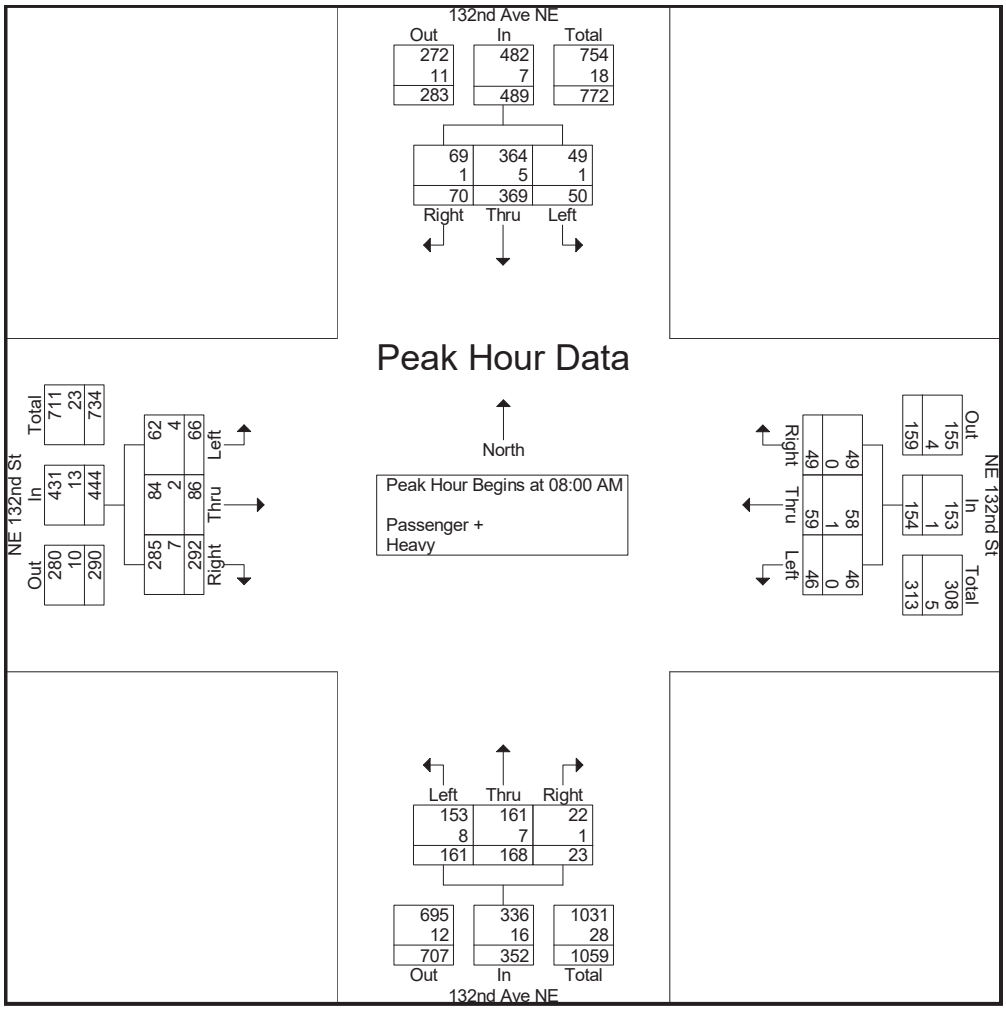
	132nd Ave NE Southbound				NE 132nd St Westbound				132nd Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	14	62	7	83	5	16	6	27	3	23	22	48	54	18	7	79	237
07:15 AM	14	50	6	70	4	10	11	25	2	29	45	76	58	16	7	81	252
07:30 AM	15	58	16	89	5	26	15	46	4	33	48	85	81	15	8	104	324
07:45 AM	13	84	7	104	5	7	9	21	7	38	36	81	80	22	11	113	319
Total	56	254	36	346	19	59	41	119	16	123	151	290	273	71	33	377	1132
08:00 AM	17	101	13	131	14	17	10	41	3	36	47	86	63	18	17	98	356
08:15 AM	24	74	15	113	15	14	10	39	8	63	33	104	67	18	26	111	367
08:30 AM	18	120	13	151	6	9	14	29	6	35	47	88	84	24	8	116	384
08:45 AM	11	74	9	94	14	19	12	45	6	34	34	74	78	26	15	119	332
Total	70	369	50	489	49	59	46	154	23	168	161	352	292	86	66	444	1439
Grand Total	126	623	86	835	68	118	87	273	39	291	312	642	565	157	99	821	2571
Apprch %	15.1	74.6	10.3		24.9	43.2	31.9		6.1	45.3	48.6		68.8	19.1	12.1		
Total %	4.9	24.2	3.3	32.5	2.6	4.6	3.4	10.6	1.5	11.3	12.1	25	22	6.1	3.9	31.9	
Passenger +	124	613	84	821	68	116	87	271	37	280	297	614	547	154	94	795	2501
% Passenger +	98.4	98.4	97.7	98.3	100	98.3	100	99.3	94.9	96.2	95.2	95.6	96.8	98.1	94.9	96.8	97.3
Heavy	2	10	2	14	0	2	0	2	2	11	15	28	18	3	5	26	70
% Heavy	1.6	1.6	2.3	1.7	0	1.7	0	0.7	5.1	3.8	4.8	4.4	3.2	1.9	5.1	3.2	2.7

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000a
Site Code : 00005000
Start Date : 3/23/2023
Page No : 2

	132nd Ave NE Southbound				NE 132nd St Westbound				132nd Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	17	101	13	131	14	17	10	41	3	36	**47**	86	63	18	17	98	356
08:15 AM	**24**	74	**15**	113	**15**	14	10	39	**8**	**63**	33	**104**	67	18	**26**	111	367
08:30 AM	18	**120**	13	**151**	6	9	**14**	29	6	35	47	88	**84**	24	8	116	**384**
08:45 AM	11	74	9	94	14	**19**	12	**45**	6	34	34	74	78	**26**	15	**119**	332
Total Volume	70	369	50	489	49	59	46	154	23	168	161	352	292	86	66	444	1439
% App. Total	14.3	75.5	10.2		31.8	38.3	29.9		6.5	47.7	45.7		65.8	19.4	14.9		
PHF	.729	.769	.833	.810	.817	.776	.821	.856	.719	.667	.856	.846	.869	.827	.635	.933	.937
Passenger +	69	364	49	482	49	58	46	153	22	161	153	336	285	84	62	431	1402
% Passenger +	98.6	98.6	98.0	98.6	100	98.3	100	99.4	95.7	95.8	95.0	95.5	97.6	97.7	93.9	97.1	97.4
Heavy	1	5	1	7	0	1	0	1	1	7	8	16	7	2	4	13	37
% Heavy	1.4	1.4	2.0	1.4	0	1.7	0	0.6	4.3	4.2	5.0	4.5	2.4	2.3	6.1	2.9	2.6



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000b
Site Code : 00005000
Start Date : 3/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

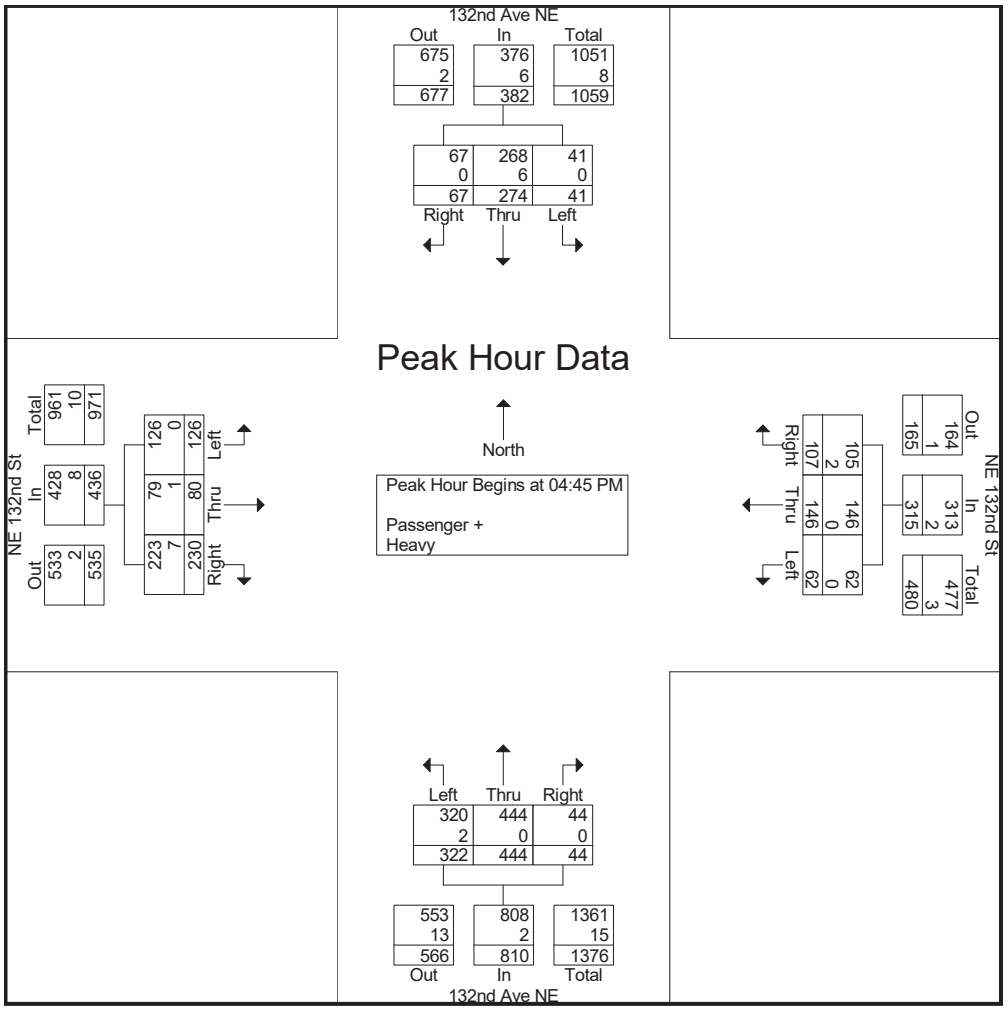
	132nd Ave NE Southbound				NE 132nd St Westbound				132nd Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	19	48	30	97	18	53	11	82	11	86	64	161	66	25	16	107	447
04:15 PM	10	45	9	64	12	40	10	62	9	84	73	166	65	27	25	117	409
04:30 PM	11	54	12	77	32	51	4	87	20	82	81	183	61	25	21	107	454
04:45 PM	14	77	7	98	20	31	8	59	7	101	70	178	55	21	32	108	443
Total	54	224	58	336	82	175	33	290	47	353	288	688	247	98	94	439	1753
05:00 PM	15	69	8	92	29	44	27	100	12	106	84	202	60	28	23	111	505
05:15 PM	16	78	14	108	28	39	18	85	15	103	71	189	56	17	49	122	504
05:30 PM	22	50	12	84	30	32	9	71	10	134	97	241	59	14	22	95	491
05:45 PM	15	52	6	73	27	36	16	79	17	111	73	201	41	13	33	87	440
Total	68	249	40	357	114	151	70	335	54	454	325	833	216	72	127	415	1940
Grand Total	122	473	98	693	196	326	103	625	101	807	613	1521	463	170	221	854	3693
Apprch %	17.6	68.3	14.1		31.4	52.2	16.5		6.6	53.1	40.3		54.2	19.9	25.9		
Total %	3.3	12.8	2.7	18.8	5.3	8.8	2.8	16.9	2.7	21.9	16.6	41.2	12.5	4.6	6	23.1	
Passenger +	121	464	98	683	194	325	102	621	99	804	604	1507	449	167	219	835	3646
% Passenger +	99.2	98.1	100	98.6	99	99.7	99	99.4	98	99.6	98.5	99.1	97	98.2	99.1	97.8	98.7
Heavy	1	9	0	10	2	1	1	4	2	3	9	14	14	3	2	19	47
% Heavy	0.8	1.9	0	1.4	1	0.3	1	0.6	2	0.4	1.5	0.9	3	1.8	0.9	2.2	1.3

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000b
Site Code : 00005000
Start Date : 3/23/2023
Page No : 2

	132nd Ave NE Southbound				NE 132nd St Westbound				132nd Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	14	77	7	98	20	31	8	59	7	101	70	178	55	21	32	108	443
05:00 PM	15	69	8	92	29	**44**	**27**	**100**	12	106	84	202	**60**	**28**	23	111	**505**
05:15 PM	16	**78**	**14**	**108**	28	39	18	85	**15**	103	71	189	56	17	**49**	**122**	504
05:30 PM	**22**	50	12	84	**30**	32	9	71	10	**134**	**97**	**241**	59	14	22	95	491
Total Volume	67	274	41	382	107	146	62	315	44	444	322	810	230	80	126	436	1943
% App. Total	17.5	71.7	10.7		34	46.3	19.7		5.4	54.8	39.8		52.8	18.3	28.9		
PHF	.761	.878	.732	.884	.892	.830	.574	.788	.733	.828	.830	.840	.958	.714	.643	.893	.962
Passenger +	67	268	41	376	105	146	62	313	44	444	320	808	223	79	126	428	1925
% Passenger +	100	97.8	100	98.4	98.1	100	100	99.4	100	100	99.4	99.8	97.0	98.8	100	98.2	99.1
Heavy	0	6	0	6	2	0	0	2	0	0	2	2	7	1	0	8	18
% Heavy	0	2.2	0	1.6	1.9	0	0	0.6	0	0	0.6	0.2	3.0	1.3	0	1.8	0.9



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000c
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

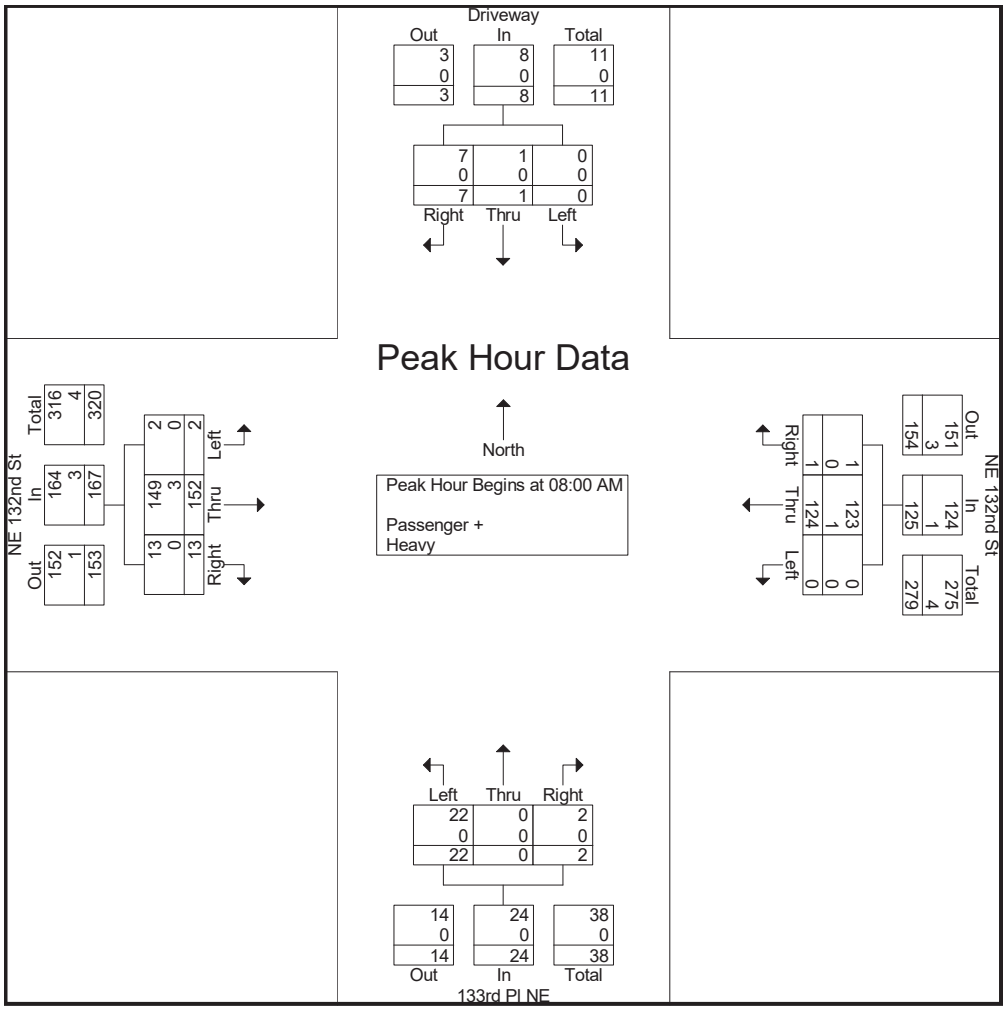
	Driveway Southbound				NE 132nd St Westbound				133rd Pl NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	1	0	0	1	0	19	0	19	0	0	5	5	1	28	0	29	54
07:15 AM	0	0	0	0	0	24	0	24	1	0	3	4	1	19	0	20	48
07:30 AM	0	0	0	0	0	35	0	35	0	0	10	10	1	33	1	35	80
07:45 AM	1	0	0	1	1	17	0	18	0	1	6	7	3	35	2	40	66
Total	2	0	0	2	1	95	0	96	1	1	24	26	6	115	3	124	248
08:00 AM	2	0	0	2	0	36	0	36	0	0	6	6	3	31	0	34	78
08:15 AM	3	1	0	4	0	28	0	28	2	0	6	8	6	40	0	46	86
08:30 AM	1	0	0	1	1	25	0	26	0	0	4	4	2	42	1	45	76
08:45 AM	1	0	0	1	0	35	0	35	0	0	6	6	2	39	1	42	84
Total	7	1	0	8	1	124	0	125	2	0	22	24	13	152	2	167	324
Grand Total	9	1	0	10	2	219	0	221	3	1	46	50	19	267	5	291	572
Apprch %	90	10	0		0.9	99.1	0		6	2	92		6.5	91.8	1.7		
Total %	1.6	0.2	0	1.7	0.3	38.3	0	38.6	0.5	0.2	8	8.7	3.3	46.7	0.9	50.9	
Passenger +	9	1	0	10	2	217	0	219	2	1	46	49	18	262	5	285	563
% Passenger +	100	100	0	100	100	99.1	0	99.1	66.7	100	100	98	94.7	98.1	100	97.9	98.4
Heavy	0	0	0	0	0	2	0	2	1	0	0	1	1	5	0	6	9
% Heavy	0	0	0	0	0	0.9	0	0.9	33.3	0	0	2	5.3	1.9	0	2.1	1.6

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000c
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	Driveway Southbound				NE 132nd St Westbound				133rd Pl NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	0	0	2	0	**36**	0	**36**	0	0	**6**	6	3	31	0	34	78
08:15 AM	**3**	**1**	0	**4**	0	28	0	28	**2**	0	6	**8**	**6**	40	0	**46**	**86**
08:30 AM	1	0	0	1	**1**	25	0	26	0	0	4	4	2	**42**	**1**	45	76
08:45 AM	1	0	0	1	0	35	0	35	0	0	6	6	2	39	1	42	84
Total Volume	7	1	0	8	1	124	0	125	2	0	22	24	13	152	2	167	324
% App. Total	87.5	12.5	0		0.8	99.2	0		8.3	0	91.7		7.8	91	1.2		
PHF	.583	.250	.000	.500	.250	.861	.000	.868	.250	.000	.917	.750	.542	.905	.500	.908	.942
Passenger +	7	1	0	8	1	123	0	124	2	0	22	24	13	149	2	164	320
% Passenger +	100	100	0	100	100	99.2	0	99.2	100	0	100	100	100	98.0	100	98.2	98.8
Heavy	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
% Heavy	0	0	0	0	0	0.8	0	0.8	0	0	0	0	0	2.0	0	1.8	1.2



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PO Box 397 Puyallup, WA 98371

File Name : 5000d
Site Code : 00005000
Start Date : 2/22/2023
Page No : 1

Groups Printed- Passenger + - Heavy

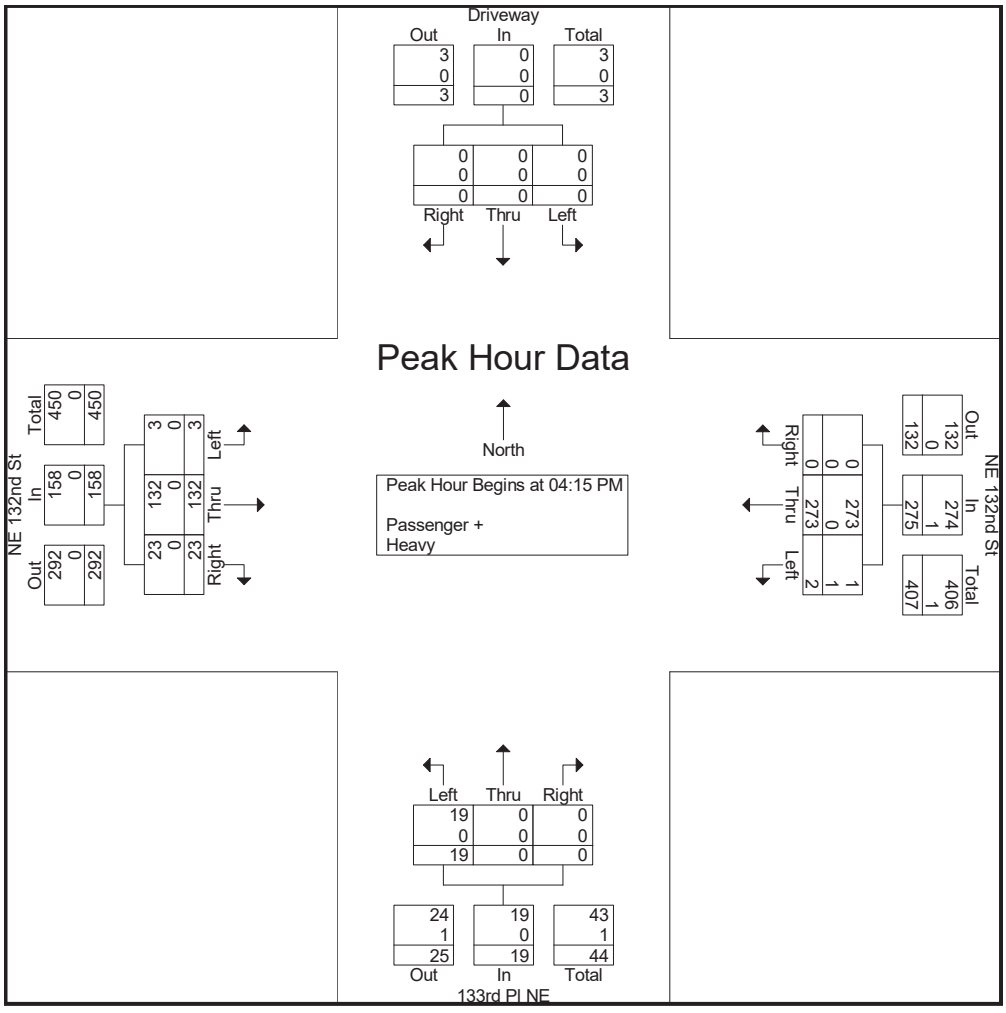
	Driveway Southbound				NE 132nd St Westbound				133rd Pl NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	1	0	1	2	0	73	1	74	0	0	2	2	5	24	0	29	107
04:15 PM	0	0	0	0	0	64	0	64	0	0	7	7	8	27	1	36	107
04:30 PM	0	0	0	0	0	63	0	63	0	0	4	4	6	38	1	45	112
04:45 PM	0	0	0	0	0	60	1	61	0	0	5	5	5	37	1	43	109
Total	1	0	1	2	0	260	2	262	0	0	18	18	24	126	3	153	435
05:00 PM	0	0	0	0	0	86	1	87	0	0	3	3	4	30	0	34	124
05:15 PM	0	0	0	0	0	64	0	64	0	0	3	3	9	31	0	40	107
05:30 PM	0	0	0	0	0	71	0	71	0	0	4	4	4	31	0	35	110
05:45 PM	1	0	0	1	0	39	0	39	0	0	5	5	5	31	1	37	82
Total	1	0	0	1	0	260	1	261	0	0	15	15	22	123	1	146	423
Grand Total	2	0	1	3	0	520	3	523	0	0	33	33	46	249	4	299	858
Apprch %	66.7	0	33.3		0	99.4	0.6		0	0	100		15.4	83.3	1.3		
Total %	0.2	0	0.1	0.3	0	60.6	0.3	61	0	0	3.8	3.8	5.4	29	0.5	34.8	
Passenger +	2	0	1	3	0	518	2	520	0	0	33	33	46	249	4	299	855
% Passenger +	100	0	100	100	0	99.6	66.7	99.4	0	0	100	100	100	100	100	100	99.7
Heavy	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
% Heavy	0	0	0	0	0	0.4	33.3	0.6	0	0	0	0	0	0	0	0	0.3

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000d
Site Code : 00005000
Start Date : 2/22/2023
Page No : 2

	Driveway Southbound				NE 132nd St Westbound				133rd Pl NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	64	0	64	0	0	**7**	**7**	**8**	27	**1**	36	107
04:30 PM	0	0	0	0	0	63	0	63	0	0	4	4	6	**38**	1	**45**	112
04:45 PM	0	0	0	0	0	60	**1**	61	0	0	5	5	5	37	1	43	109
05:00 PM	0	0	0	0	0	**86**	1	**87**	0	0	3	3	4	30	0	34	**124**
Total Volume	0	0	0	0	0	273	2	275	0	0	19	19	23	132	3	158	452
% App. Total	0	0	0		0	99.3	0.7		0	0	100		14.6	83.5	1.9		
PHF	.000	.000	.000	.000	.000	.794	.500	.790	.000	.000	.679	.679	.719	.868	.750	.878	.911
Passenger +	0	0	0	0	0	273	1	274	0	0	19	19	23	132	3	158	451
% Passenger +	0	0	0	0	0	100	50.0	99.6	0	0	100	100	100	100	100	100	99.8
Heavy	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
% Heavy	0	0	0	0	0	0	50.0	0.4	0	0	0	0	0	0	0	0	0.2



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000i
Site Code : 00005000
Start Date : 2/22/2023
Page No : 1

Groups Printed- Passenger + - Heavy

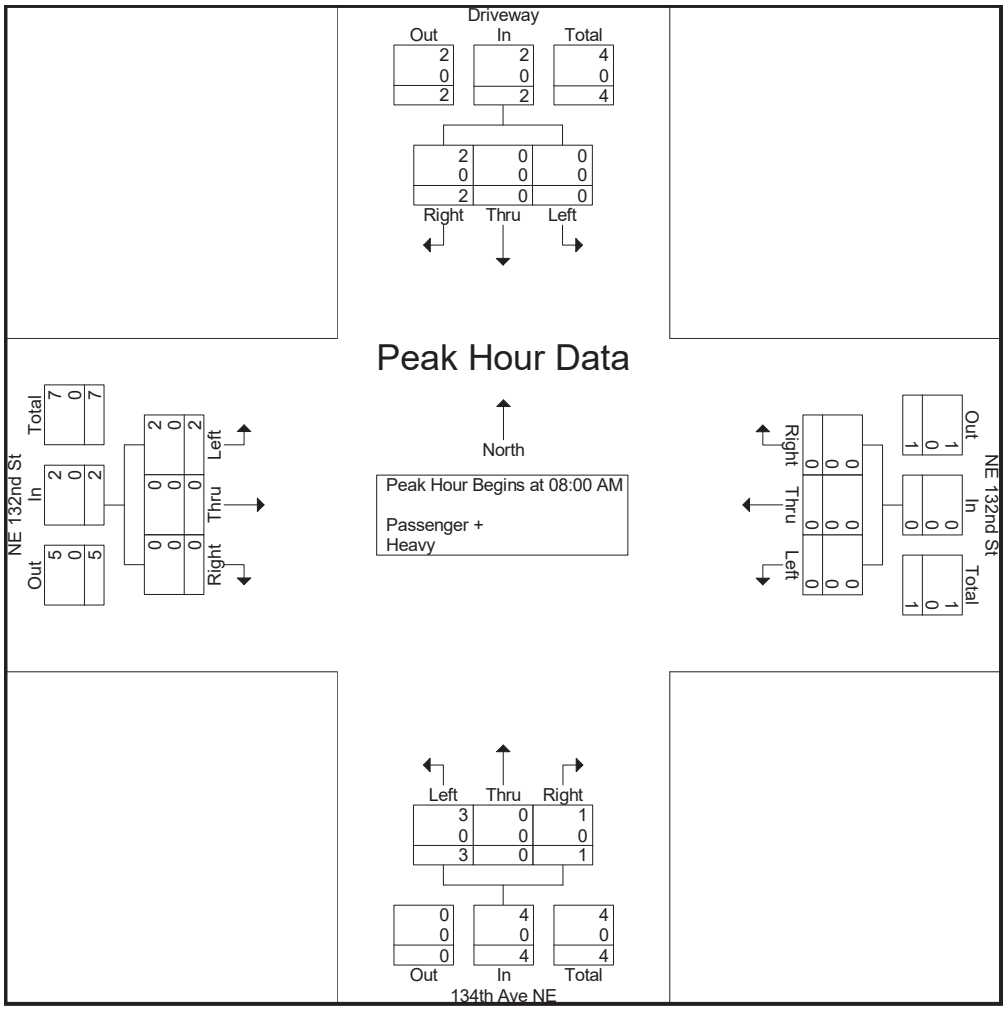
	Driveway Southbound				NE 132nd St Westbound				134th Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:15 AM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	0	0	0	0	0	0	2	2	1	0	0	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	2	0	0	2	0	0	0	0	1	0	1	2	0	0	1	1	5
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
Total	2	0	0	2	0	0	0	0	1	0	3	4	0	0	2	2	8
Grand Total	4	0	0	4	0	0	0	0	1	0	5	6	1	0	2	3	13
Apprch %	100	0	0		0	0	0		16.7	0	83.3		33.3	0	66.7		
Total %	30.8	0	0	30.8	0	0	0	0	7.7	0	38.5	46.2	7.7	0	15.4	23.1	
Passenger +	4	0	0	4	0	0	0	0	1	0	5	6	1	0	2	3	13
% Passenger +	100	0	0	100	0	0	0	0	100	0	100	100	100	0	100	100	100
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000i
Site Code : 00005000
Start Date : 2/22/2023
Page No : 2

	Driveway Southbound				NE 132nd St Westbound				134th Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	**2**	0	0	**2**	0	0	0	0	**1**	0	1	**2**	0	0	**1**	**1**	**5**
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
Total Volume	2	0	0	2	0	0	0	0	1	0	3	4	0	0	2	2	8
% App. Total	100	0	0		0	0	0		25	0	75		0	0	100		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.250	.000	.750	.500	.000	.000	.500	.500	.400
Passenger +	2	0	0	2	0	0	0	0	1	0	3	4	0	0	2	2	8
% Passenger +	100	0	0	100	0	0	0	0	100	0	100	100	0	0	100	100	100
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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PO Box 397 Puyallup, WA 98371

File Name : 5000j
Site Code : 00005000
Start Date : 2/22/2023
Page No : 1

Groups Printed- Passenger + - Heavy

	Driveway Southbound				NE 132nd St Westbound				134th Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
04:30 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	2	2	4
Total	1	0	0	1	0	0	1	1	1	0	2	3	0	0	4	4	9
05:00 PM	0	0	0	0	1	0	1	2	0	0	1	1	1	0	0	1	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	2	0	2	4	5
05:45 PM	2	0	1	3	0	0	0	0	0	0	1	1	2	0	0	2	6
Total	3	0	1	4	1	0	1	2	0	0	3	3	6	0	2	8	17
Grand Total	4	0	1	5	1	0	2	3	1	0	5	6	6	0	6	12	26
Apprch %	80	0	20		33.3	0	66.7		16.7	0	83.3		50	0	50		
Total %	15.4	0	3.8	19.2	3.8	0	7.7	11.5	3.8	0	19.2	23.1	23.1	0	23.1	46.2	
Passenger +	4	0	1	5	1	0	1	2	1	0	4	5	6	0	6	12	24
% Passenger +	100	0	100	100	100	0	50	66.7	100	0	80	83.3	100	0	100	100	92.3
Heavy	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
% Heavy	0	0	0	0	0	0	50	33.3	0	0	20	16.7	0	0	0	0	7.7

Heath & Associates

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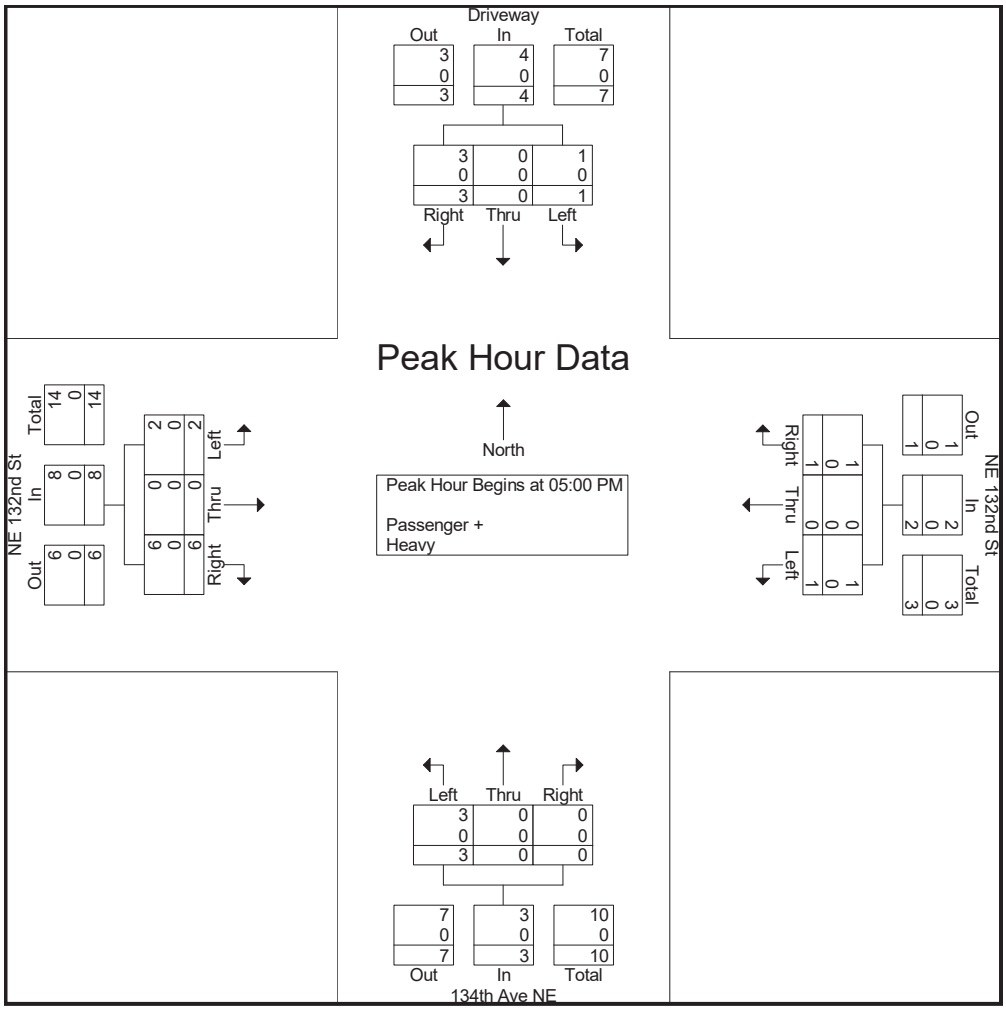
File Name : 5000j
Site Code : 00005000
Start Date : 2/22/2023
Page No : 2

	Driveway Southbound				NE 132nd St Westbound				134th Ave NE Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	**1**	0	**1**	**2**	0	0	**1**	**1**	1	0	0	1	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	2
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	**2**	0	**2**	**4**	5
05:45 PM	**2**	0	**1**	**3**	0	0	0	0	0	0	1	1	2	0	0	2	**6**
Total Volume	3	0	1	4	1	0	1	2	0	0	3	3	6	0	2	8	17
% App. Total	75	0	25		50	0	50		0	0	100		75	0	25		
PHF	.375	.000	.250	.333	.250	.000	.250	.250	.000	.000	.750	.750	.750	.000	.250	.500	.708
Passenger +	3	0	1	4	1	0	1	2	0	0	3	3	6	0	2	8	17
% Passenger +	100	0	100	100	100	0	100	100	0	0	100	100	100	0	100	100	100
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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PO Box 397 Puyallup, WA 98371

File Name : 5000g
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

	135th Ave NE Southbound				NE 132nd St Westbound				Private Dr Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	1	0	1	2	0	18	0	18	0	0	0	0	0	22	4	26	46
07:15 AM	7	0	0	7	0	15	0	15	0	0	0	0	0	21	0	21	43
07:30 AM	5	0	2	7	0	27	0	27	0	0	0	0	0	32	2	34	68
07:45 AM	6	0	0	6	0	13	0	13	0	0	0	0	0	27	5	32	51
Total	19	0	3	22	0	73	0	73	0	0	0	0	0	102	11	113	208
08:00 AM	5	0	0	5	1	29	0	30	0	0	0	0	0	30	2	32	67
08:15 AM	2	0	1	3	1	27	0	28	0	0	0	0	0	40	1	41	72
08:30 AM	2	0	2	4	0	20	0	20	0	0	0	0	0	38	4	42	66
08:45 AM	6	0	0	6	0	26	0	26	0	0	2	2	0	34	3	37	71
Total	15	0	3	18	2	102	0	104	0	0	2	2	0	142	10	152	276
Grand Total	34	0	6	40	2	175	0	177	0	0	2	2	0	244	21	265	484
Apprch %	85	0	15		1.1	98.9	0		0	0	100		0	92.1	7.9		
Total %	7	0	1.2	8.3	0.4	36.2	0	36.6	0	0	0.4	0.4	0	50.4	4.3	54.8	
Passenger +	34	0	6	40	1	171	0	172	0	0	2	2	0	238	20	258	472
% Passenger +	100	0	100	100	50	97.7	0	97.2	0	0	100	100	0	97.5	95.2	97.4	97.5
Heavy	0	0	0	0	1	4	0	5	0	0	0	0	0	6	1	7	12
% Heavy	0	0	0	0	50	2.3	0	2.8	0	0	0	0	0	2.5	4.8	2.6	2.5

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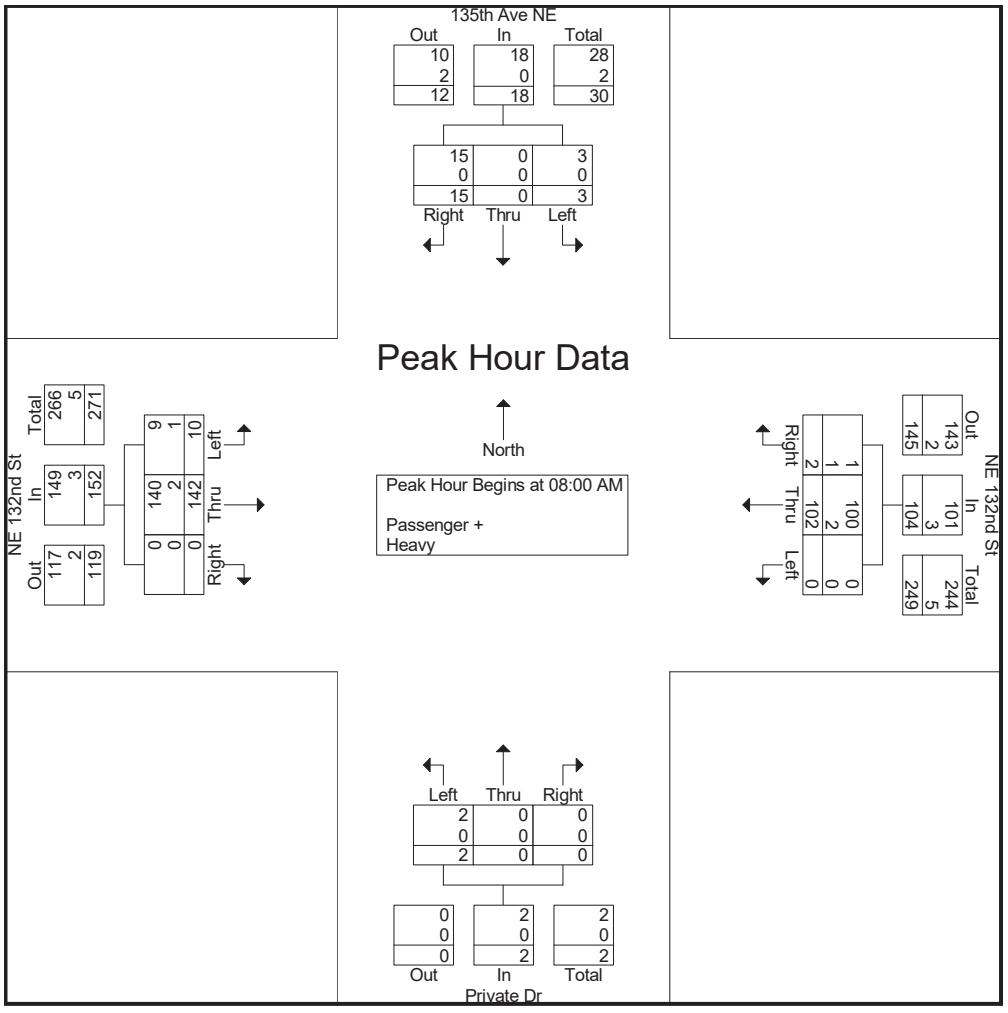
File Name : 5000g
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	135th Ave NE Southbound				NE 132nd St Westbound				Private Dr Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	5	0	0	5	**1**	**29**	0	**30**	0	0	0	0	0	30	2	32	67
08:15 AM	2	0	1	3	1	27	0	28	0	0	0	0	0	**40**	1	41	**72**
08:30 AM	2	0	**2**	4	0	20	0	20	0	0	0	0	0	38	**4**	**42**	66
08:45 AM	**6**	0	0	**6**	0	26	0	26	0	0	**2**	**2**	0	34	3	37	71
Total Volume	15	0	3	18	2	102	0	104	0	0	2	2	0	142	10	152	276
% App. Total	83.3	0	16.7		1.9	98.1	0		0	0	100		0	93.4	6.6		
PHF	.625	.000	.375	.750	.500	.879	.000	.867	.000	.000	.250	.250	.000	.888	.625	.905	.958
Passenger +	15	0	3	18	1	100	0	101	0	0	2	2	0	140	9	149	270
% Passenger +	100	0	100	100	50.0	98.0	0	97.1	0	0	100	100	0	98.6	90.0	98.0	97.8
Heavy	0	0	0	0	1	2	0	3	0	0	0	0	0	2	1	3	6
% Heavy	0	0	0	0	50.0	2.0	0	2.9	0	0	0	0	0	1.4	10.0	2.0	2.2



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PO Box 397 Puyallup, WA 98371

File Name : 5000h
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

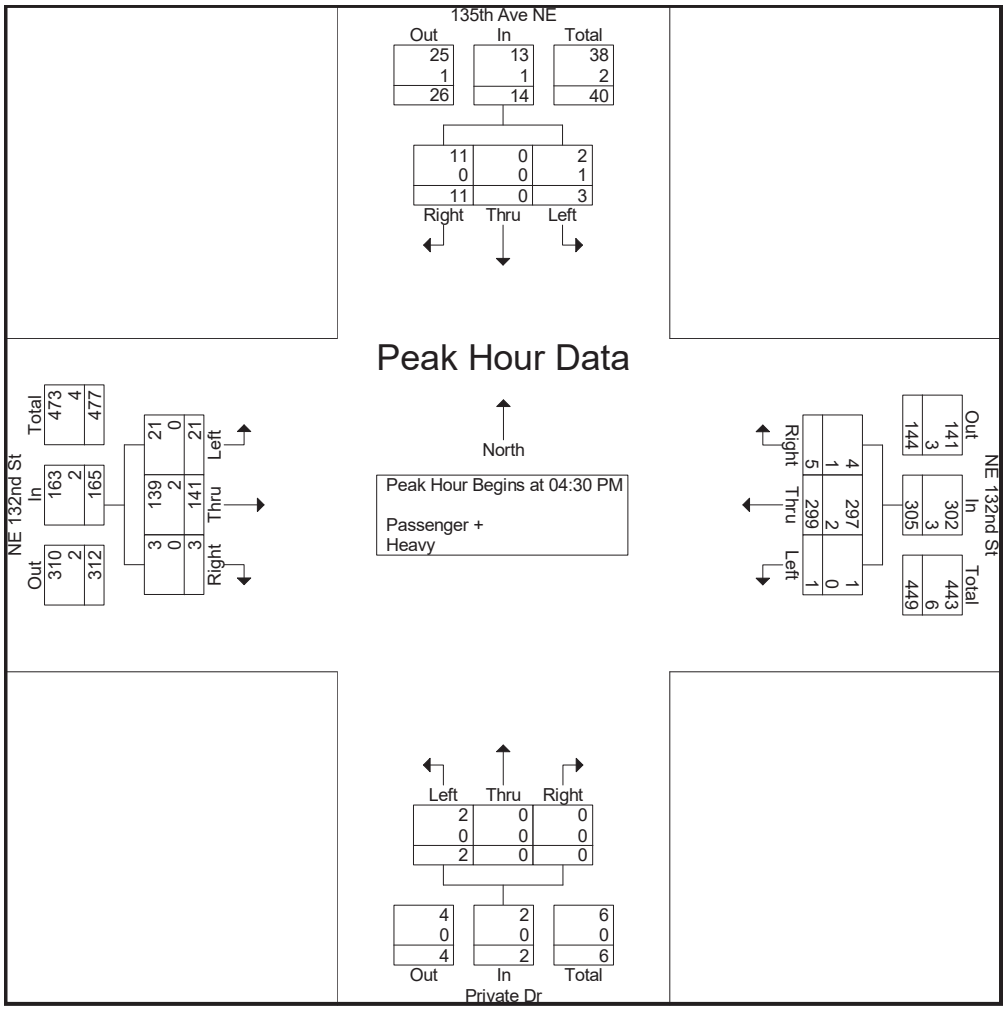
	135th Ave NE Southbound				NE 132nd St Westbound				Private Dr Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	2	0	0	2	2	60	0	62	0	0	0	0	1	47	7	55	119
04:15 PM	7	0	1	8	2	58	1	61	0	0	0	0	0	31	5	36	105
04:30 PM	2	0	1	3	2	85	1	88	0	0	0	0	0	42	5	47	138
04:45 PM	2	0	2	4	2	56	0	58	0	0	0	0	1	31	3	35	97
Total	13	0	4	17	8	259	2	269	0	0	0	0	2	151	20	173	459
05:00 PM	0	0	0	0	0	96	0	96	0	0	2	2	2	29	9	40	138
05:15 PM	7	0	0	7	1	62	0	63	0	0	0	0	0	39	4	43	113
05:30 PM	3	0	1	4	1	58	0	59	0	0	1	1	0	21	4	25	89
05:45 PM	6	0	1	7	1	67	1	69	0	0	0	0	0	19	6	25	101
Total	16	0	2	18	3	283	1	287	0	0	3	3	2	108	23	133	441
Grand Total	29	0	6	35	11	542	3	556	0	0	3	3	4	259	43	306	900
Apprch %	82.9	0	17.1		2	97.5	0.5		0	0	100		1.3	84.6	14.1		
Total %	3.2	0	0.7	3.9	1.2	60.2	0.3	61.8	0	0	0.3	0.3	0.4	28.8	4.8	34	
Passenger +	28	0	5	33	10	538	3	551	0	0	3	3	4	256	42	302	889
% Passenger +	96.6	0	83.3	94.3	90.9	99.3	100	99.1	0	0	100	100	100	98.8	97.7	98.7	98.8
Heavy	1	0	1	2	1	4	0	5	0	0	0	0	0	3	1	4	11
% Heavy	3.4	0	16.7	5.7	9.1	0.7	0	0.9	0	0	0	0	0	1.2	2.3	1.3	1.2

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000h
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	135th Ave NE Southbound				NE 132nd St Westbound				Private Dr Northbound				NE 132nd St Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	1	3	**2**	85	**1**	88	0	0	0	0	0	**42**	5	**47**	**138**
04:45 PM	2	0	**2**	4	2	56	0	58	0	0	0	0	1	31	3	35	97
05:00 PM	0	0	0	0	0	**96**	0	**96**	0	0	**2**	**2**	**2**	29	**9**	40	138
05:15 PM	**7**	0	0	**7**	1	62	0	63	0	0	0	0	0	39	4	43	113
Total Volume	11	0	3	14	5	299	1	305	0	0	2	2	3	141	21	165	486
% App. Total	78.6	0	21.4		1.6	98	0.3		0	0	100		1.8	85.5	12.7		
PHF	.393	.000	.375	.500	.625	.779	.250	.794	.000	.000	.250	.250	.375	.839	.583	.878	.880
Passenger +	11	0	2	13	4	297	1	302	0	0	2	2	3	139	21	163	480
% Passenger +	100	0	66.7	92.9	80.0	99.3	100	99.0	0	0	100	100	100	98.6	100	98.8	98.8
Heavy	0	0	1	1	1	2	0	3	0	0	0	0	0	2	0	2	6
% Heavy	0	0	33.3	7.1	20.0	0.7	0	1.0	0	0	0	0	0	1.4	0	1.2	1.2



Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000e
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

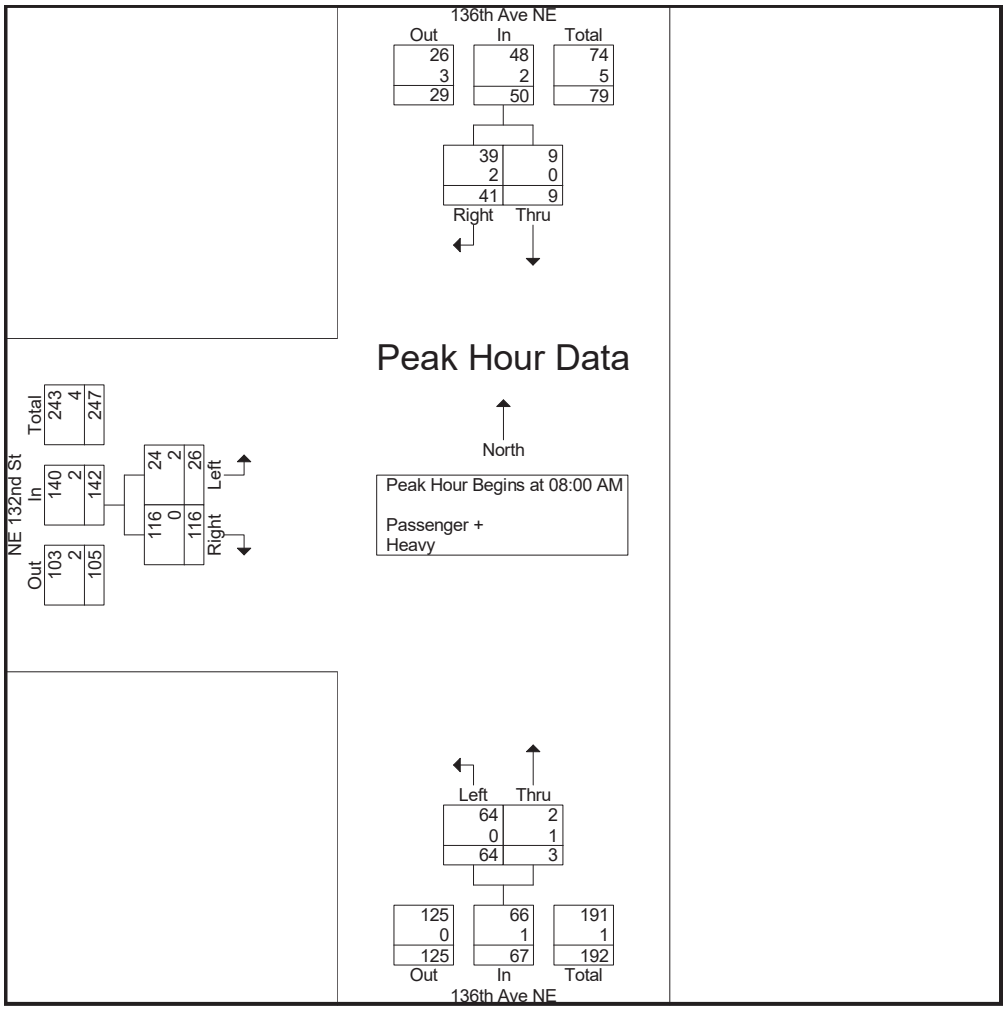
	136th Ave NE Southbound			136th Ave NE Northbound			NE 132nd St Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
07:00 AM	8	0	8	0	8	8	20	3	23	39
07:15 AM	7	2	9	1	8	9	17	2	19	37
07:30 AM	11	0	11	0	13	13	31	1	32	56
07:45 AM	6	2	8	2	7	9	24	6	30	47
Total	32	4	36	3	36	39	92	12	104	179
08:00 AM	11	3	14	1	18	19	24	5	29	62
08:15 AM	9	3	12	0	18	18	32	7	39	69
08:30 AM	10	1	11	1	11	12	35	6	41	64
08:45 AM	11	2	13	1	17	18	25	8	33	64
Total	41	9	50	3	64	67	116	26	142	259
Grand Total	73	13	86	6	100	106	208	38	246	438
Apprch %	84.9	15.1		5.7	94.3		84.6	15.4		
Total %	16.7	3	19.6	1.4	22.8	24.2	47.5	8.7	56.2	
Passenger +	70	12	82	5	100	105	207	33	240	427
% Passenger +	95.9	92.3	95.3	83.3	100	99.1	99.5	86.8	97.6	97.5
Heavy	3	1	4	1	0	1	1	5	6	11
% Heavy	4.1	7.7	4.7	16.7	0	0.9	0.5	13.2	2.4	2.5

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000e
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

	136th Ave NE Southbound			136th Ave NE Northbound			NE 132nd St Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**11**	**3**	**14**	**1**	**18**	**19**	24	5	29	62
08:15 AM	9	3	12	0	18	18	32	7	39	**69**
08:30 AM	10	1	11	1	11	12	**35**	6	**41**	64
08:45 AM	11	2	13	1	17	18	25	**8**	33	64
Total Volume	41	9	50	3	64	67	116	26	142	259
% App. Total	82	18		4.5	95.5		81.7	18.3		
PHF	.932	.750	.893	.750	.889	.882	.829	.813	.866	.938
Passenger +	39	9	48	2	64	66	116	24	140	254
% Passenger +	95.1	100	96.0	66.7	100	98.5	100	92.3	98.6	98.1
Heavy	2	0	2	1	0	1	0	2	2	5
% Heavy	4.9	0	4.0	33.3	0	1.5	0	7.7	1.4	1.9



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PO Box 397 Puyallup, WA 98371

File Name : 5000f
Site Code : 00005000
Start Date : 2/23/2023
Page No : 1

Groups Printed- Passenger + - Heavy

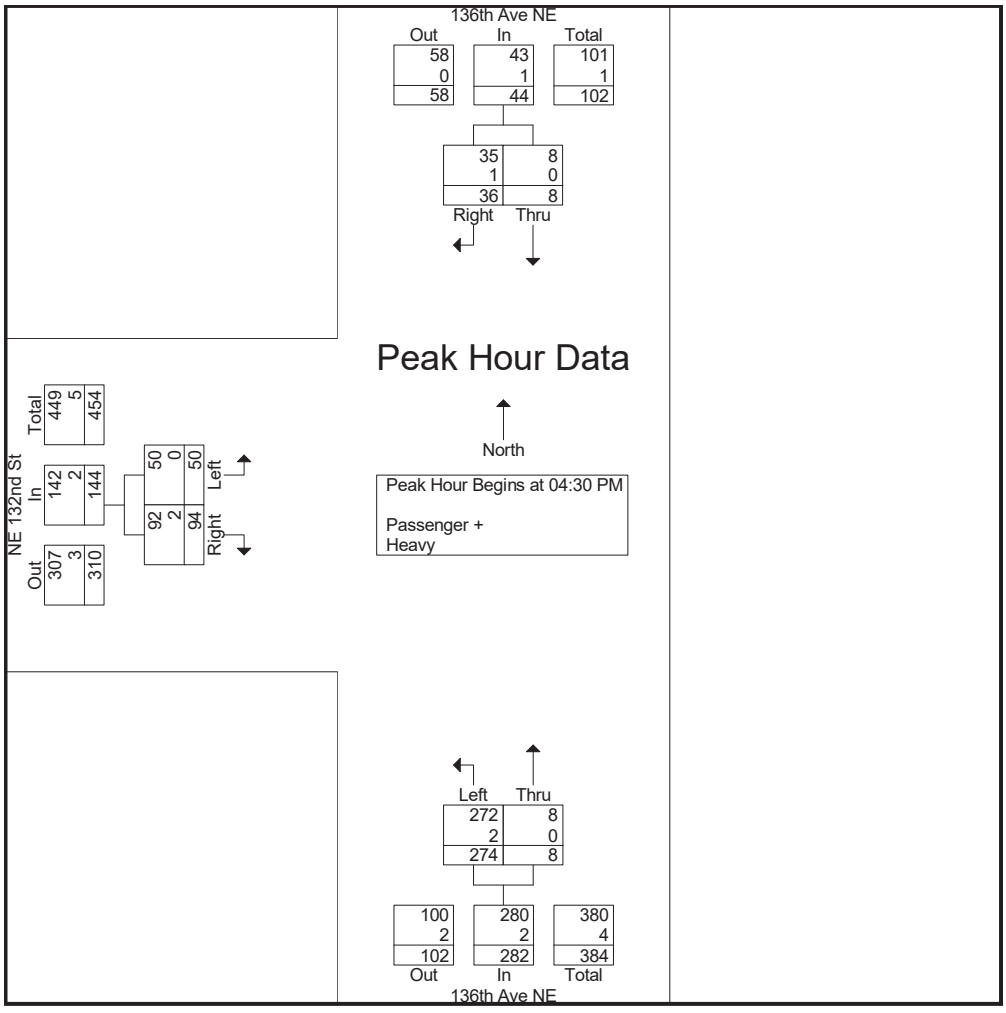
	136th Ave NE Southbound			136th Ave NE Northbound			NE 132nd St Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
04:00 PM	5	1	6	1	64	65	32	12	44	115
04:15 PM	12	2	14	1	51	52	22	8	30	96
04:30 PM	10	2	12	3	77	80	36	9	45	137
04:45 PM	3	1	4	1	54	55	19	11	30	89
Total	30	6	36	6	246	252	109	40	149	437
05:00 PM	15	2	17	2	87	89	17	14	31	137
05:15 PM	8	3	11	2	56	58	22	16	38	107
05:30 PM	9	2	11	4	51	55	15	9	24	90
05:45 PM	12	0	12	3	59	62	13	6	19	93
Total	44	7	51	11	253	264	67	45	112	427
Grand Total	74	13	87	17	499	516	176	85	261	864
Apprch %	85.1	14.9		3.3	96.7		67.4	32.6		
Total %	8.6	1.5	10.1	2	57.8	59.7	20.4	9.8	30.2	
Passenger +	73	13	86	17	496	513	173	85	258	857
% Passenger +	98.6	100	98.9	100	99.4	99.4	98.3	100	98.9	99.2
Heavy	1	0	1	0	3	3	3	0	3	7
% Heavy	1.4	0	1.1	0	0.6	0.6	1.7	0	1.1	0.8

Heath & Associates

PO Box 397 Puyallup, WA 98371

File Name : 5000f
Site Code : 00005000
Start Date : 2/23/2023
Page No : 2

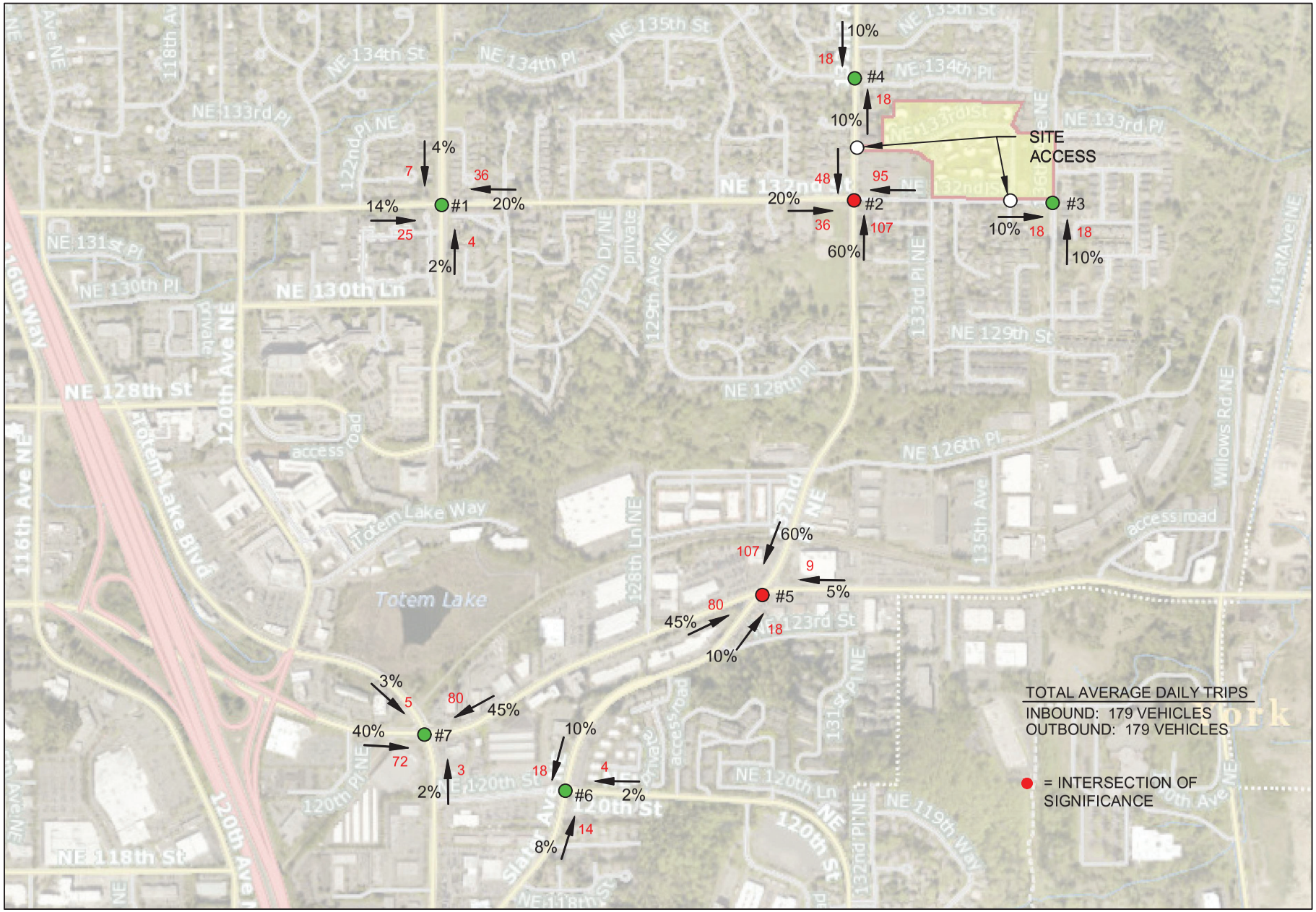
	136th Ave NE Southbound			136th Ave NE Northbound			NE 132nd St Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	10	2	12	**3**	77	80	**36**	9	**45**	**137**
04:45 PM	3	1	4	1	54	55	19	11	30	89
05:00 PM	**15**	2	**17**	2	**87**	**89**	17	14	31	137
05:15 PM	8	**3**	11	2	56	58	22	**16**	38	107
Total Volume	36	8	44	8	274	282	94	50	144	470
% App. Total	81.8	18.2		2.8	97.2		65.3	34.7		
PHF	.600	.667	.647	.667	.787	.792	.653	.781	.800	.858
Passenger +	35	8	43	8	272	280	92	50	142	465
% Passenger +	97.2	100	97.7	100	99.3	99.3	97.9	100	98.6	98.9
Heavy	1	0	1	0	2	2	2	0	2	5
% Heavy	2.8	0	2.3	0	0.7	0.7	2.1	0	1.4	1.1



KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

PROPORTIONAL SHARE IMPACT ANALYSIS



HEATH&ASSOCIATES
Transportation Planning & Engineering

KIRKLAND HEIGHTS

AVERAGE DAILY TRIP ASSIGNMENT & INTERSECTIONS OF SIGNIFICANCE

Proportional Share Impact Worksheet

[1] See "*Intersection Description*" worksheet for descriptions

Input appropriate information in green cells

			Through Lanes[1]
Project Name:	Kirkland Heights		
Intersection No.	304		
Major Street[1]	NE 132nd St	# of Lanes*=	1
Minor Street[1]	124th Ave NE	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:
1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	30.5	36	25	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	5.5	7	4	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
0.833	***1***	***0.833***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.37%
$P_2=V_2/(5{,}000 \times f_2)$ =	0.11%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.24%
$P_4=V_2/(2{,}500 \times f_4)$ =	0.22%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.24%
$S_2=(P_3+P_4)/2$=	0.23%

Intersection Proportional Share = Maximum of S1 and S2 = 0.24%

Significant Intersection? **no**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

Input appropriate information in green cells

[1] See "*Intersection Description*" worksheet for descriptions

			Through Lanes[1]
Project Name:	Kirkland Heights		
Intersection No.	510		
Major Street[1]	132nd Ave NE	# of Lanes*=	1
Minor Street[1]	NE 132nd St	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:
1/11/2023

Daily Project Traffic Entering the Intersection		**Daily Volumes**	***Entering Leg Volumes****		
(Total of both approaches divided by two)	Major Street Volume V_1 =	77.5	48	107	***Major***
(Total of both approaches divided by two)	Minor Street Volume V_2 =	65.5	95	36	***Minor***

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
0.833	***1***	***0.833***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.93%
$P_2=V_2/(5{,}000 \times f_2)$ =	1.31%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.62%
$P_4=V_2/(2{,}500 \times f_4)$ =	2.62%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	1.12%
$S_2=(P_3+P_4)/2$=	1.62%

Intersection Proportional Share = Maximum of S1 and S2 = 1.62%

Significant Intersection? **yes**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

Input appropriate information in green cells

[1] See "*Intersection Description*" worksheet for descriptions

		Through Lanes[1]	
Project Name:	Kirkland Heights		
Intersection No.	N/A		
Major Street[1]	136th Ave NE	# of Lanes*=	1
Minor Street[1]	NE 132nd St	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:
1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	9	0	18	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	9	0	18	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
0.833	***1***	***0.833***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.11%
$P_2=V_2/(5{,}000 \times f_2)$ =	0.18%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.07%
$P_4=V_2/(2{,}500 \times f_4)$ =	0.36%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.14%
$S_2=(P_3+P_4)/2$=	0.22%

Intersection Proportional Share = Maximum of S1 and S2 = 0.22%

Significant Intersection? **no**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

[1] See "*Intersection Description*" worksheet for descriptions

Input appropriate information in green cells

			Through Lanes[1]
Project Name:	Kirkland Heights		
Intersection No.	509		
Major Street[1]	132nd Ave NE	# of Lanes*=	1
Minor Street[1]	NE 134th Pl	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:

1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	18	18	18	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	0	0	0	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
0.833	***1***	***0.833***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.22%
$P_2=V_2/(5{,}000 \times f_2)$ =	0.00%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.14%
$P_4=V_2/(2{,}500 \times f_4)$ =	0.00%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.11%
$S_2=(P_3+P_4)/2$=	0.07%

Intersection Proportional Share = Maximum of S1 and S2 = 0.11%

Significant Intersection? **no**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

Input appropriate information in green cells

[1] See "*Intersection Description*" worksheet for descriptions

		Through Lanes[1]	
Project Name:	Kirkland Heights		
Intersection No.	306		
Major Street[1]	NE 124th St	# of Lanes*=	2
Minor Street[1]	Slater Ave NE/132nd Ave NE	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:
1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	44.5	9	80	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	62.5	107	18	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
1	***1***	***1***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.45%
$P_2=V_2/(5{,}000 \times f_2)$ =	1.25%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.30%
$P_4=V_2/(2{,}500 \times f_4)$ =	2.50%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.85%
$S_2=(P_3+P_4)/2$=	1.40%

Intersection Proportional Share = Maximum of S1 and S2 = 1.40%

Significant Intersection? **yes**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

[1] See "*Intersection Description*" worksheet for descriptions

Input appropriate information in green cells

		Through Lanes[1]	
Project Name:	Kirkland Heights		
Intersection No.	314		
Major Street[1]	Slater Ave NE	# of Lanes*=	1
Minor Street[1]	NE 120th St	# of Lanes*=	1

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE:
1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	16	18	14	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	2	4	0	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
0.833	***1***	***0.833***	***1***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.19%
$P_2=V_2/(5{,}000 \times f_2)$ =	0.04%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.13%
$P_4=V_2/(2{,}500 \times f_4)$ =	0.08%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.12%
$S_2=(P_3+P_4)/2$=	0.10%

Intersection Proportional Share = Maximum of S1 and S2 = 0.12%

Significant Intersection? **no**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

Proportional Share Impact Worksheet

[1] See "*Intersection Description*" worksheet for descriptions

Input appropriate information in green cells

			Through Lanes[1]
Project Name:	Kirkland Heights		
Intersection No.	315		
Major Street[1]	NE 124th St	# of Lanes*=	2
Minor Street[1]	Totem Lake Blvd/124th Ave NE	# of Lanes*=	2

1. May Change without notice, call Thang Nguyen 425-587-3869 with questions

DATE: 1/11/2023

Daily Project Traffic Entering the Intersection

		Daily Volumes	*Entering Leg Volumes* *		
(Total of both approaches divided by two)	Major Street Volume V_1 =	76	80	72	*Major*
(Total of both approaches divided by two)	Minor Street Volume V_2 =	4	5	3	*Minor*

***Do not leave cell empty for zero volume**

Determine Geometric Factors

Number of Lanes		Geometric Factors			
Major Street	Minor Street	f_1	f_2	f_3	f_4
2	2	1.000	1.330	1.000	1.330
2	1	1.000	1.000	1.000	1.000
1	2	0.833	1.330	0.833	1.330
1	1	0.833	1.000	0.833	1.000

f_1	f_2	f_3	f_4
1	***1.33***	***1***	***1.33***

Calculate Base Percentages

$P_1=V_1/(10{,}000 \times f_1)$ =	0.76%
$P_2=V_2/(5{,}000 \times f_2)$ =	0.06%
$P_3=V_1/(15{,}000 \times f_3)$ =	0.51%
$P_4=V_2/(2{,}500 \times f_4)$ =	0.12%

Calculate Proportional Share

$S_1=(P_1+P_2)/2$=	0.41%
$S_2=(P_3+P_4)/2$=	0.31%

Intersection Proportional Share = Maximum of S1 and S2 = 0.41%

Significant Intersection? **no**

1. Number of through lanes. Do not count exclusive turn lanes. Use the smaller number of lanes if the number of lanes is unequal on two legs. For Example, if one minor leg has two lanes and one minor leg has one lane, the number of lanes on the minor leg is one.

Computed By:	P.W.W
Company:	Heath & Associates

KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

ITE TRIP GENERATION SHEETS
LUC 223: AFFORABLE HOUSING – INCOME LIMITS

Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

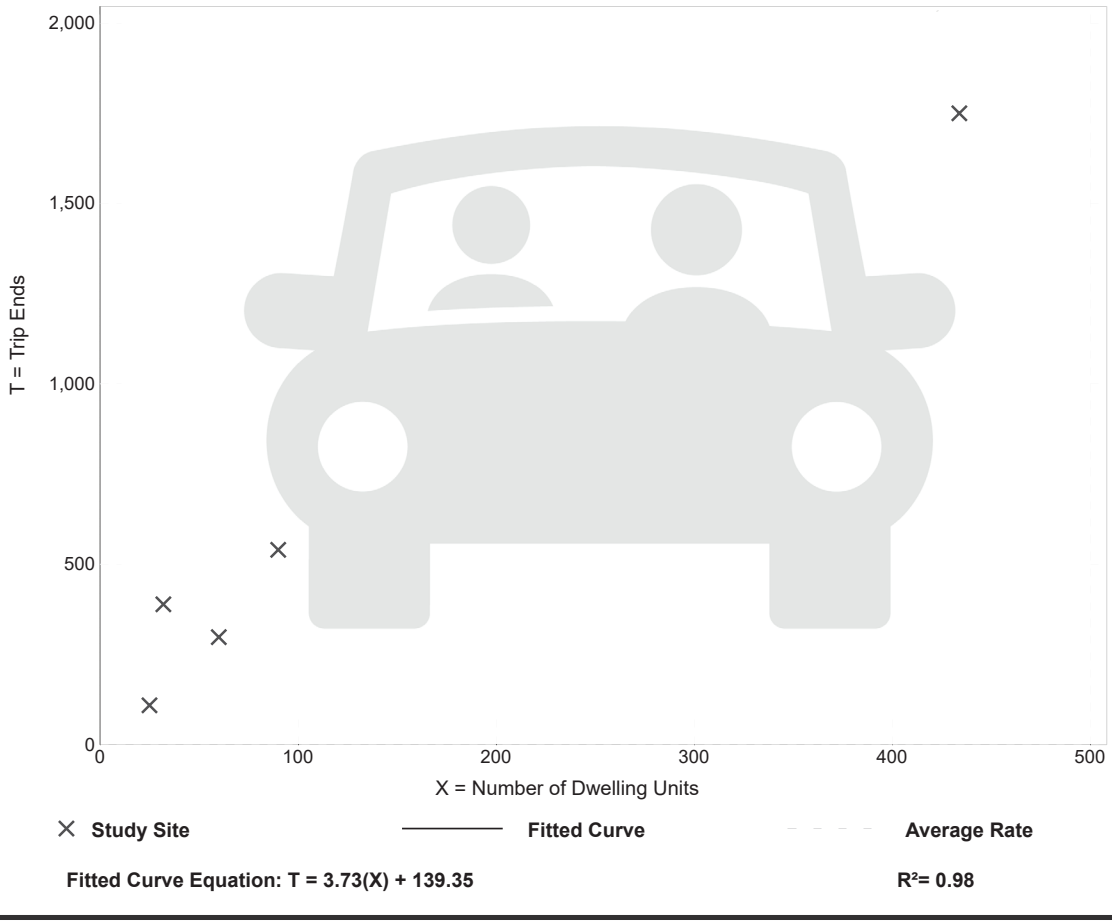
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Dwelling Units: 128
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.81	4.03 - 12.16	2.03

Data Plot and Equation

Caution – Small Sample Size



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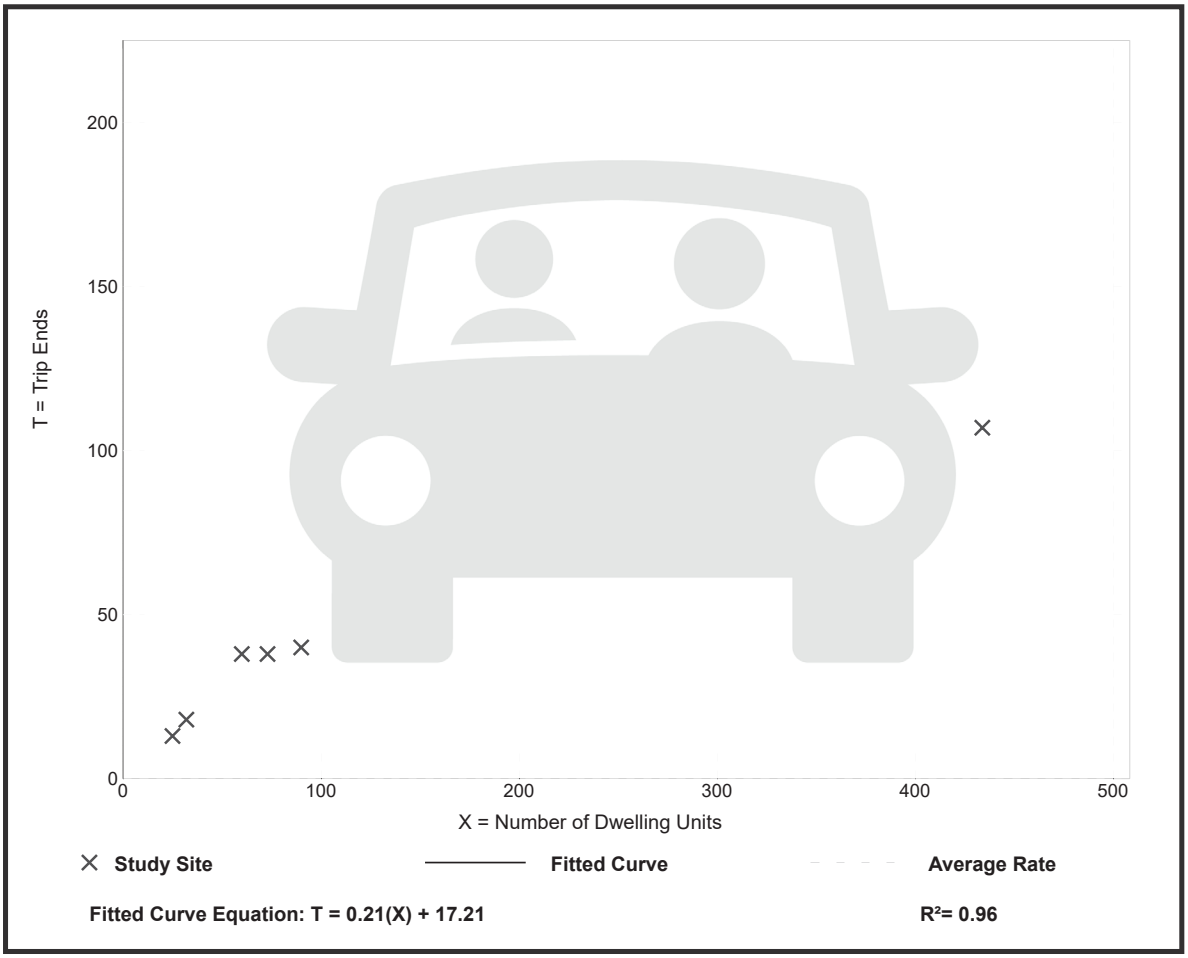
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 119
Directional Distribution: 29% entering, 71% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.25 - 0.63	0.16

Data Plot and Equation



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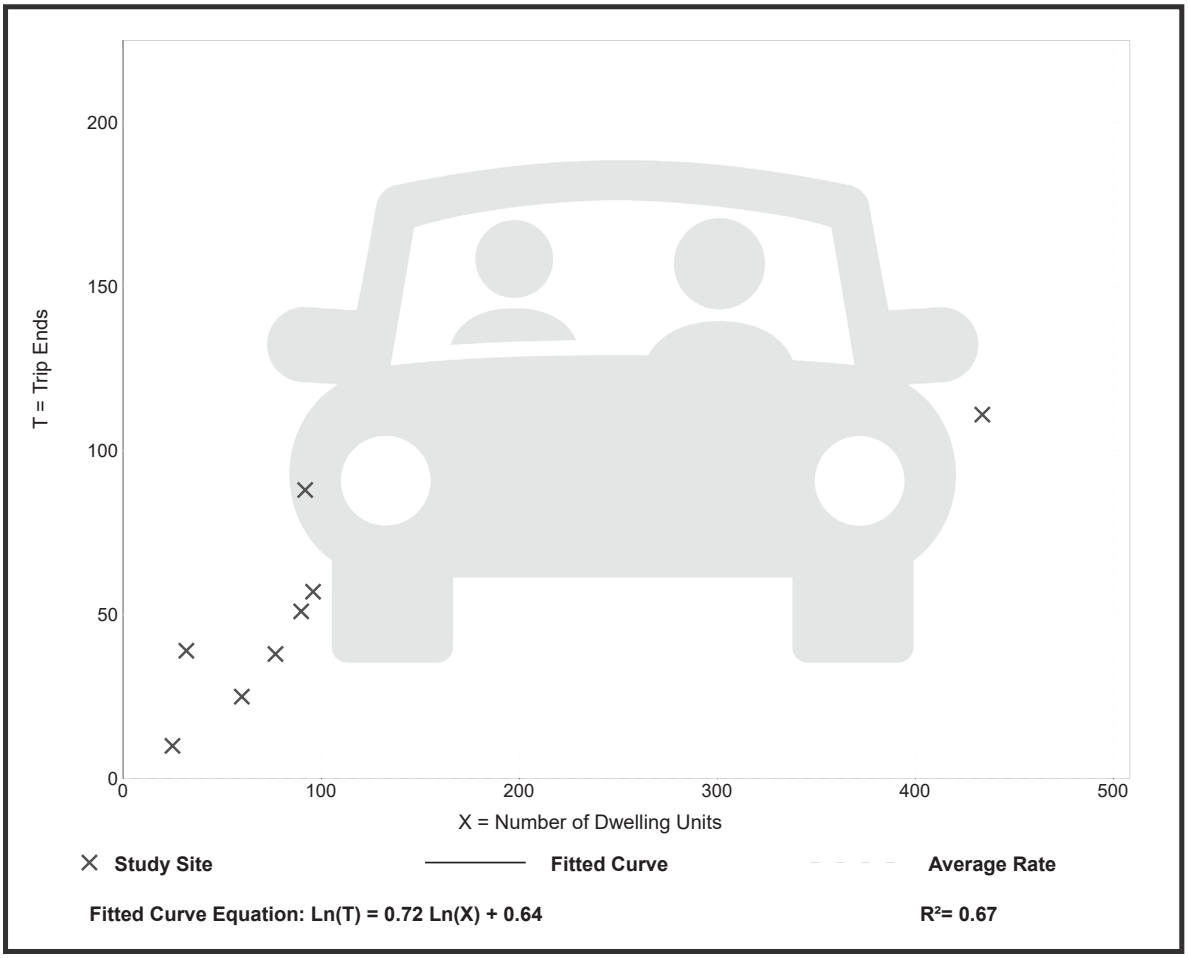
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. Num. of Dwelling Units: 113
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.26 - 1.22	0.28

Data Plot and Equation



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KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

EXISTING PEAK HOUR
LEVEL OF SERVICE

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	34	438	11	23	782
Future Vol, veh/h	12	34	438	11	23	782
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	9	4	1	1	1
Mvmt Flow	14	39	498	13	26	889

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1446	505	0	0	511	0
Stage 1	505	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Critical Hdwy	6.41	6.29	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.381	-	-	2.209	-
Pot Cap-1 Maneuver	146	553	-	-	1059	-
Stage 1	608	-	-	-	-	-
Stage 2	381	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	142	553	-	-	1059	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	434	1059	-
HCM Lane V/C Ratio	-	-	0.12	0.025	-
HCM Control Delay (s)	-	-	14.4	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	166	461	80	93	30	194	163	21	216	632	102
Future Volume (vph)	78	166	461	80	93	30	194	163	21	216	632	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99	0.99			1.00		0.99	0.99	
Frt			0.850		0.963			0.983			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1775	0	1736	1788	0	1770	1814	0
Flt Permitted	0.602			0.523			0.087			0.638		
Satd. Flow (perm)	1108	1863	1519	965	1775	0	159	1788	0	1175	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			327		12			8			9	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	80	171	475	82	96	31	200	168	22	223	652	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	171	475	82	127	0	200	190	0	223	757	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	10.1	31.6	31.6	9.6	31.1		18.0	64.4		14.4	60.8	
Total Split (%)	8.4%	26.3%	26.3%	8.0%	25.9%		15.0%	53.7%		12.0%	50.7%	
Maximum Green (s)	5.6	27.1	27.1	5.1	26.6		13.5	59.9		9.9	56.3	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	22.8	18.7	18.7	22.0	18.3		62.4	49.3		55.2	45.7	
Actuated g/C Ratio	0.23	0.19	0.19	0.22	0.18		0.63	0.50		0.56	0.46	
v/c Ratio	0.27	0.49	0.86	0.32	0.38		0.65	0.21		0.31	0.90	
Control Delay	33.0	43.9	30.3	34.3	38.6		31.4	15.5		10.4	41.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.0	43.9	30.3	34.3	38.6		31.4	15.5		10.4	41.1	
LOS	C	D	C	C	D		C	B		B	D	
Approach Delay		33.8			36.9			23.7			34.1	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 99.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 32.5		Intersection LOS: C	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: NE 132nd St & 132nd Ave NE

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	236	20	0	193	2	34	0	3	0	2	11
Future Vol, veh/h	3	236	20	0	193	2	34	0	3	0	2	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	2	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	251	21	0	205	2	36	0	3	0	2	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	272	0	0	481	475	262	475	484	206
Stage 1	-	-	-	-	-	-	268	268	-	206	206	-
Stage 2	-	-	-	-	-	-	213	207	-	269	278	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1370	-	-	1297	-	-	497	490	779	502	484	837
Stage 1	-	-	-	-	-	-	740	689	-	798	733	-
Stage 2	-	-	-	-	-	-	791	732	-	739	682	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1370	-	-	1297	-	-	487	489	779	499	483	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	487	489	-	499	483	-
Stage 1	-	-	-	-	-	-	738	687	-	796	733	-
Stage 2	-	-	-	-	-	-	778	732	-	734	680	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	12.8	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	1370	-	-	1297	-	-	752
HCM Lane V/C Ratio	0.078	0.002	-	-	-	-	-	0.018
HCM Control Delay (s)	12.8	7.6	0	-	0	-	-	9.9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	236	0	0	187	0	5	0	2	0	0	3
Future Vol, veh/h	3	236	0	0	187	0	5	0	2	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	251	0	0	199	0	5	0	2	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	199	0	0	251	0	0	458	456	251	457	456	199
Stage 1	-	-	-	-	-	-	257	257	-	199	199	-
Stage 2	-	-	-	-	-	-	201	199	-	258	257	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1379	-	-	1320	-	-	515	502	790	516	502	845
Stage 1	-	-	-	-	-	-	750	697	-	805	738	-
Stage 2	-	-	-	-	-	-	803	738	-	749	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1379	-	-	1320	-	-	512	500	790	513	500	845
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	500	-	513	500	-
Stage 1	-	-	-	-	-	-	748	695	-	803	738	-
Stage 2	-	-	-	-	-	-	800	738	-	745	695	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	11.4	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	569	1379	-	-	1320	-	-	845
HCM Lane V/C Ratio	0.013	0.002	-	-	-	-	-	0.004
HCM Control Delay (s)	11.4	7.6	0	-	0	-	-	9.3
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	221	0	0	158	3	3	0	0	5	0	23
Future Vol, veh/h	16	221	0	0	158	3	3	0	0	5	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	10	1	1	1	2	50	1	1	1	1	1	1
Mvmt Flow	17	230	0	0	165	3	3	0	0	5	0	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	168	0	0	230	0	0	443	432	230	431	431	167
Stage 1	-	-	-	-	-	-	264	264	-	167	167	-
Stage 2	-	-	-	-	-	-	179	168	-	264	264	-
Critical Hdwy	4.2	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.29	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1363	-	-	1344	-	-	527	518	812	536	519	880
Stage 1	-	-	-	-	-	-	743	692	-	837	762	-
Stage 2	-	-	-	-	-	-	825	761	-	743	692	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1363	-	-	1344	-	-	507	511	812	530	512	880
Mov Cap-2 Maneuver	-	-	-	-	-	-	507	511	-	530	512	-
Stage 1	-	-	-	-	-	-	733	682	-	825	762	-
Stage 2	-	-	-	-	-	-	803	761	-	733	682	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	12.1	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	507	1363	-	-	1344	-	-	787
HCM Lane V/C Ratio	0.006	0.012	-	-	-	-	-	0.037
HCM Control Delay (s)	12.1	7.7	0	-	0	-	-	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	64	40	180	99	5
Future Vol, veh/h	14	64	40	180	99	5
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	5	8	1	1	33
Mvmt Flow	15	68	43	191	105	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	385	108	110	0	-	0
Stage 1	108	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Critical Hdwy	6.41	6.25	4.18	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.345	2.272	-	-	-
Pot Cap-1 Maneuver	620	938	1443	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	601	938	1443	-	-	-
Mov Cap-2 Maneuver	601	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	1.4	0
HCM LOS	A		

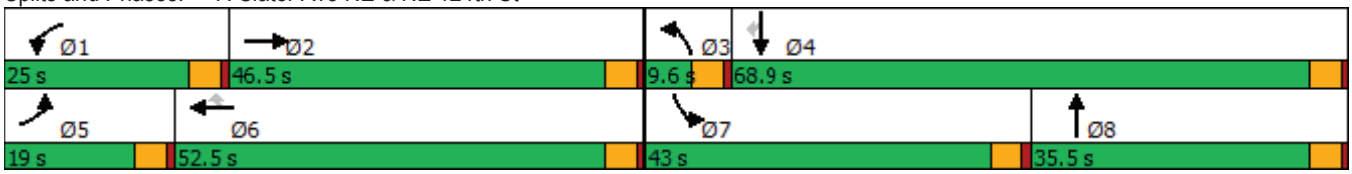
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1443	-	852	-	-
HCM Lane V/C Ratio	0.029	-	0.097	-	-
HCM Control Delay (s)	7.6	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	827	35	209	837	182	27	163	235	404	585	220
Future Volume (vph)	121	827	35	209	837	182	27	163	235	404	585	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.994				0.850		0.911				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3450	0	1752	3505	1568	1719	3132	0	1736	1827	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3450	0	1752	3505	1568	1719	3132	0	1736	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				117		220				224
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	123	844	36	213	854	186	28	166	240	412	597	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	123	880	0	213	854	186	28	406	0	412	597	224
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	19.0	46.5		25.0	52.5	52.5	9.6	35.5		43.0	68.9	68.9
Total Split (%)	12.7%	31.0%		16.7%	35.0%	35.0%	6.4%	23.7%		28.7%	45.9%	45.9%
Maximum Green (s)	14.5	42.0		20.5	48.0	48.0	5.1	31.0		38.5	64.4	64.4
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	13.1	38.3		19.6	44.8	44.8	5.2	17.5		35.2	52.1	52.1
Actuated g/C Ratio	0.10	0.30		0.15	0.35	0.35	0.04	0.14		0.27	0.40	0.40
v/c Ratio	0.70	0.86		0.80	0.70	0.30	0.41	0.66		0.87	0.81	0.29
Control Delay	80.7	53.5		78.3	41.9	15.0	84.5	29.3		66.2	45.2	4.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	80.7	53.5		78.3	41.9	15.0	84.5	29.3		66.2	45.2	4.2
LOS	F	D		E	D	B	F	C		E	D	A
Approach Delay		56.8			44.1			32.9			44.8	
Approach LOS		E			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 129.1			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 46.3		Intersection LOS: D	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Slater Ave NE & NE 124th St



Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	9	762	20	13	417
Future Vol, veh/h	23	9	762	20	13	417
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	1	2
Mvmt Flow	25	10	819	22	14	448

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1306	830	0	0	841	0
Stage 1	830	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	177	372	-	-	799	-
Stage 1	430	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	174	372	-	-	799	-
Mov Cap-2 Maneuver	307	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	616	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0.3
HCM LOS	C		

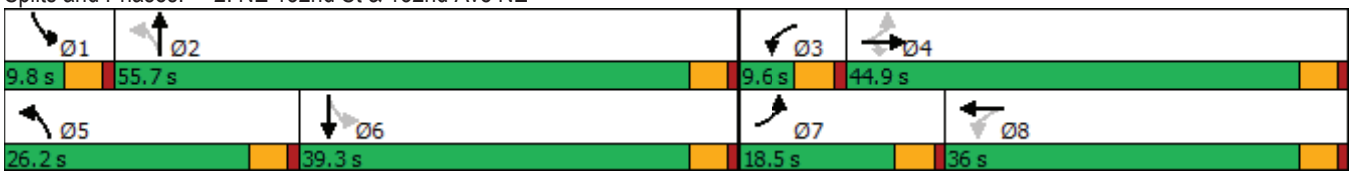
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	323	799	-
HCM Lane V/C Ratio	-	-	0.107	0.017	-
HCM Control Delay (s)	-	-	17.5	9.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	108	211	17	205	179	326	522	24	69	295	86
Future Volume (vph)	200	108	211	17	205	179	326	522	24	69	295	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96	0.99	0.98			1.00		0.99	0.99	
Frt			0.850		0.930			0.994			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1787	1715	0	1787	1867	0	1752	1765	0
Flt Permitted	0.185			0.686			0.173			0.302		
Satd. Flow (perm)	341	1845	1508	1276	1715	0	325	1867	0	554	1765	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			215		36			2			12	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	204	110	215	17	209	183	333	533	24	70	301	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	110	215	17	392	0	333	557	0	70	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	18.5	44.9	44.9	9.6	36.0		26.2	55.7		9.8	39.3	
Total Split (%)	15.4%	37.4%	37.4%	8.0%	30.0%		21.8%	46.4%		8.2%	32.8%	
Maximum Green (s)	14.0	40.4	40.4	5.1	31.5		21.7	51.2		5.3	34.8	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	43.8	40.5	40.5	31.0	25.7		50.2	42.9		32.2	26.7	
Actuated g/C Ratio	0.42	0.39	0.39	0.30	0.25		0.49	0.41		0.31	0.26	
v/c Ratio	0.62	0.15	0.30	0.04	0.87		0.79	0.72		0.30	0.84	
Control Delay	30.1	24.9	5.0	21.1	54.9		35.1	32.9		20.5	53.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.1	24.9	5.0	21.1	54.9		35.1	32.9		20.5	53.0	
LOS	C	C	A	C	D		D	C		C	D	
Approach Delay		18.8			53.5			33.7			48.0	
Approach LOS		B			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 103.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 36.7		Intersection LOS: D	
Intersection Capacity Utilization 87.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: NE 132nd St & 132nd Ave NE



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	3	152	27	2	315	0	22	0	0	0	0	0
Future Vol, veh/h	3	152	27	2	315	0	22	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	50	1	1	1	1	1	1	1	1
Mvmt Flow	3	167	30	2	346	0	24	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	197	0	0	538	538	182	538	553	346
Stage 1	-	-	-	-	-	-	188	188	-	350	350	-
Stage 2	-	-	-	-	-	-	350	350	-	188	203	-
Critical Hdwy	4.11	-	-	4.6	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.65	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1219	-	-	1135	-	-	456	451	863	456	442	699
Stage 1	-	-	-	-	-	-	816	746	-	669	635	-
Stage 2	-	-	-	-	-	-	669	635	-	816	735	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1219	-	-	1135	-	-	454	449	863	454	440	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	454	449	-	454	440	-
Stage 1	-	-	-	-	-	-	814	744	-	667	634	-
Stage 2	-	-	-	-	-	-	668	634	-	814	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	13.4	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	454	1219	-	-	1135	-	-	-
HCM Lane V/C Ratio	0.053	0.003	-	-	0.002	-	-	-
HCM Control Delay (s)	13.4	8	0	-	8.2	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	143	7	1	311	1	3	0	0	1	0	3
Future Vol, veh/h	2	143	7	1	311	1	3	0	0	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	157	8	1	342	1	3	0	0	1	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	343	0	0	165	0	0	511	510	161	510	514	343
Stage 1	-	-	-	-	-	-	165	165	-	345	345	-
Stage 2	-	-	-	-	-	-	346	345	-	165	169	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1222	-	-	1419	-	-	475	468	887	476	466	702
Stage 1	-	-	-	-	-	-	839	764	-	673	638	-
Stage 2	-	-	-	-	-	-	672	638	-	839	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1222	-	-	1419	-	-	472	467	887	475	465	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	472	467	-	475	465	-
Stage 1	-	-	-	-	-	-	837	762	-	672	637	-
Stage 2	-	-	-	-	-	-	668	637	-	837	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	12.7	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	1222	-	-	1419	-	-	627
HCM Lane V/C Ratio	0.007	0.002	-	-	0.001	-	-	0.007
HCM Control Delay (s)	12.7	8	0	-	7.5	0	-	10.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

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	24	163	3	1	345	6	2	0	0	3	0	13
Future Vol, veh/h	24	163	3	1	345	6	2	0	0	3	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	20	1	1	1	33	1	1
Mvmt Flow	27	185	3	1	392	7	2	0	0	3	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	399	0	0	188	0	0	646	642	187	639	640	396
Stage 1	-	-	-	-	-	-	241	241	-	398	398	-
Stage 2	-	-	-	-	-	-	405	401	-	241	242	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.43	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.797	4.009	3.309
Pot Cap-1 Maneuver	1165	-	-	1392	-	-	386	394	858	349	395	656
Stage 1	-	-	-	-	-	-	765	708	-	570	605	-
Stage 2	-	-	-	-	-	-	624	603	-	698	707	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1165	-	-	1392	-	-	369	383	858	342	384	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	369	383	-	342	384	-
Stage 1	-	-	-	-	-	-	745	690	-	555	604	-
Stage 2	-	-	-	-	-	-	609	602	-	680	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	14.8	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	369	1165	-	-	1392	-	-	560
HCM Lane V/C Ratio	0.006	0.023	-	-	0.001	-	-	0.032
HCM Control Delay (s)	14.8	8.2	0	-	7.6	0	-	11.6
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	42	58	108	316	9
Future Vol, veh/h	9	42	58	108	316	9
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	3	1	2	1	1
Mvmt Flow	10	49	67	126	367	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	632	372	377	0	-	0
Stage 1	372	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.41	6.23	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	446	672	1187	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	421	672	1187	-	-	-
Mov Cap-2 Maneuver	421	-	-	-	-	-
Stage 1	660	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	2.9	0
HCM LOS	B		

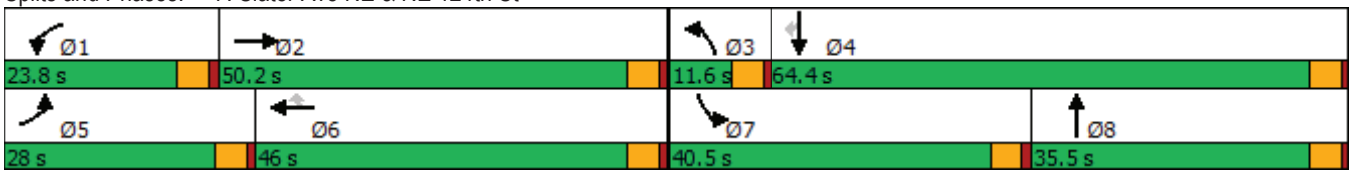
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1187	-	608	-	-
HCM Lane V/C Ratio	0.057	-	0.098	-	-
HCM Control Delay (s)	8.2	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	248	896	46	198	910	348	31	357	276	224	248	211
Future Volume (vph)	248	896	46	198	910	348	31	357	276	224	248	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.993				0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				193		117				222
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	261	943	48	208	958	366	33	376	291	236	261	222
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	991	0	208	958	366	33	667	0	236	261	222
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	28.0	50.2		23.8	46.0	46.0	11.6	35.5		40.5	64.4	64.4
Total Split (%)	18.7%	33.5%		15.9%	30.7%	30.7%	7.7%	23.7%		27.0%	42.9%	42.9%
Maximum Green (s)	23.5	45.7		19.3	41.5	41.5	7.1	31.0		36.0	59.9	59.9
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	23.2	45.6		18.7	41.1	41.1	6.7	27.7		23.7	49.4	49.4
Actuated g/C Ratio	0.17	0.34		0.14	0.31	0.31	0.05	0.21		0.18	0.37	0.37
v/c Ratio	0.87	0.84		0.84	0.88	0.59	0.38	0.87		0.75	0.38	0.31
Control Delay	82.4	49.8		85.6	55.8	23.6	78.3	55.4		68.1	33.6	4.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.4	49.8		85.6	55.8	23.6	78.3	55.4		68.1	33.6	4.7
LOS	F	D		F	E	C	E	E		E	C	A
Approach Delay		56.6			52.1			56.5			36.0	
Approach LOS		E			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 133.9			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 51.4		Intersection LOS: D	
Intersection Capacity Utilization 85.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Slater Ave NE & NE 124th St



KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR WITHOUT PROJECT
LEVEL OF SERVICE

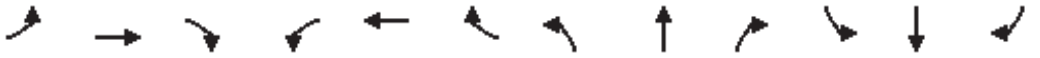
Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	36	465	12	24	830
Future Vol, veh/h	13	36	465	12	24	830
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	9	4	1	1	1
Mvmt Flow	15	41	528	14	27	943

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1532	535	0	0	542	0
Stage 1	535	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Critical Hdwy	6.41	6.29	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.381	-	-	2.209	-
Pot Cap-1 Maneuver	129	532	-	-	1032	-
Stage 1	589	-	-	-	-	-
Stage 2	359	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	126	532	-	-	1032	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	350	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	412	1032	-
HCM Lane V/C Ratio	-	-	0.135	0.026	-
HCM Control Delay (s)	-	-	15.1	8.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	176	489	85	99	32	206	173	22	229	671	108
Future Volume (vph)	83	176	489	85	99	32	206	173	22	229	671	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99	0.99			1.00		0.99	0.99	
Frt			0.850		0.963			0.983			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1775	0	1736	1788	0	1770	1814	0
Flt Permitted	0.571			0.493			0.075			0.632		
Satd. Flow (perm)	1052	1863	1518	910	1775	0	137	1788	0	1164	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			318		12			8			9	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	86	181	504	88	102	33	212	178	23	236	692	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	181	504	88	135	0	212	201	0	236	803	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	10.4	30.0	30.0	9.6	29.2		18.0	65.4		15.0	62.4	
Total Split (%)	8.7%	25.0%	25.0%	8.0%	24.3%		15.0%	54.5%		12.5%	52.0%	
Maximum Green (s)	5.9	25.5	25.5	5.1	24.7		13.5	60.9		10.5	57.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	25.2	20.9	20.9	24.0	20.3		68.8	55.4		62.1	52.0	
Actuated g/C Ratio	0.23	0.19	0.19	0.22	0.19		0.64	0.52		0.58	0.48	
v/c Ratio	0.30	0.50	0.91	0.36	0.39		0.74	0.22		0.32	0.91	
Control Delay	34.9	45.7	39.3	37.0	40.5		42.5	15.7		10.3	42.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.9	45.7	39.3	37.0	40.5		42.5	15.7		10.3	42.6	
LOS	C	D	D	D	D		D	B		B	D	
Approach Delay		40.3			39.1			29.5			35.3	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 107.5			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 36.2		Intersection LOS: D	
Intersection Capacity Utilization 88.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: NE 132nd St & 132nd Ave NE

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	250	21	0	205	2	36	0	3	0	2	12
Future Vol, veh/h	3	250	21	0	205	2	36	0	3	0	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	2	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	266	22	0	218	2	38	0	3	0	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	220	0	0	288	0	0	510	503	277	504	513	219
Stage 1	-	-	-	-	-	-	283	283	-	219	219	-
Stage 2	-	-	-	-	-	-	227	220	-	285	294	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1355	-	-	1280	-	-	476	472	764	480	466	823
Stage 1	-	-	-	-	-	-	726	679	-	786	724	-
Stage 2	-	-	-	-	-	-	778	723	-	724	671	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1355	-	-	1280	-	-	466	471	764	477	465	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	466	471	-	477	465	-
Stage 1	-	-	-	-	-	-	724	677	-	784	724	-
Stage 2	-	-	-	-	-	-	764	723	-	719	669	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.2	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	480	1355	-	-	1280	-	-	741
HCM Lane V/C Ratio	0.086	0.002	-	-	-	-	-	0.02
HCM Control Delay (s)	13.2	7.7	0	-	0	-	-	10
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	250	0	0	199	0	5	0	2	0	0	3
Future Vol, veh/h	3	250	0	0	199	0	5	0	2	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	266	0	0	212	0	5	0	2	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	212	0	0	266	0	0	486	484	266	485	484	212
Stage 1	-	-	-	-	-	-	272	272	-	212	212	-
Stage 2	-	-	-	-	-	-	214	212	-	273	272	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1364	-	-	1304	-	-	493	484	775	494	484	831
Stage 1	-	-	-	-	-	-	736	686	-	792	729	-
Stage 2	-	-	-	-	-	-	790	729	-	735	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1304	-	-	490	483	775	492	483	831
Mov Cap-2 Maneuver	-	-	-	-	-	-	490	483	-	492	483	-
Stage 1	-	-	-	-	-	-	734	684	-	790	729	-
Stage 2	-	-	-	-	-	-	787	729	-	731	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	11.7	9.3
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	548	1364	-	-	1304	-	-	831
HCM Lane V/C Ratio	0.014	0.002	-	-	-	-	-	0.004
HCM Control Delay (s)	11.7	7.6	0	-	0	-	-	9.3
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	235	0	0	168	3	3	0	0	5	0	24
Future Vol, veh/h	17	235	0	0	168	3	3	0	0	5	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	10	1	1	1	2	50	1	1	1	1	1	1
Mvmt Flow	18	245	0	0	175	3	3	0	0	5	0	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	178	0	0	245	0	0	470	459	245	458	458	177
Stage 1	-	-	-	-	-	-	281	281	-	177	177	-
Stage 2	-	-	-	-	-	-	189	178	-	281	281	-
Critical Hdwy	4.2	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.29	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1351	-	-	1327	-	-	505	500	796	515	501	869
Stage 1	-	-	-	-	-	-	728	680	-	827	755	-
Stage 2	-	-	-	-	-	-	815	754	-	728	680	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1351	-	-	1327	-	-	485	493	796	509	493	869
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	493	-	509	493	-
Stage 1	-	-	-	-	-	-	717	670	-	815	755	-
Stage 2	-	-	-	-	-	-	792	754	-	717	670	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	12.5	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1351	-	-	1327	-	-	775
HCM Lane V/C Ratio	0.006	0.013	-	-	-	-	-	0.039
HCM Control Delay (s)	12.5	7.7	0	-	0	-	-	9.8
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	68	42	191	105	5
Future Vol, veh/h	15	68	42	191	105	5
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	5	8	1	1	33
Mvmt Flow	16	72	45	203	112	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	408	115	117	0	-	0
Stage 1	115	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.41	6.25	4.18	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.345	2.272	-	-	-
Pot Cap-1 Maneuver	601	929	1435	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	582	929	1435	-	-	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	759	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.4	0
HCM LOS	A		

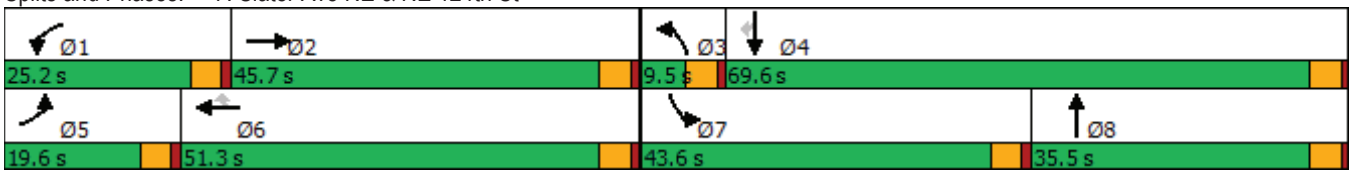
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1435	-	839	-	-
HCM Lane V/C Ratio	0.031	-	0.105	-	-
HCM Control Delay (s)	7.6	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	878	37	222	888	193	29	173	249	429	621	233
Future Volume (vph)	128	878	37	222	888	193	29	173	249	429	621	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.994				0.850		0.912				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3450	0	1752	3505	1568	1719	3136	0	1736	1827	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3450	0	1752	3505	1568	1719	3136	0	1736	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				115		220				238
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	131	896	38	227	906	197	30	177	254	438	634	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	934	0	227	906	197	30	431	0	438	634	238
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	19.6	45.7		25.2	51.3	51.3	9.5	35.5		43.6	69.6	69.6
Total Split (%)	13.1%	30.5%		16.8%	34.2%	34.2%	6.3%	23.7%		29.1%	46.4%	46.4%
Maximum Green (s)	15.1	41.2		20.7	46.8	46.8	5.0	31.0		39.1	65.1	65.1
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	13.8	40.9		20.4	47.5	47.5	5.0	19.9		38.0	57.0	57.0
Actuated g/C Ratio	0.10	0.30		0.15	0.35	0.35	0.04	0.14		0.28	0.42	0.42
v/c Ratio	0.76	0.91		0.88	0.75	0.32	0.48	0.67		0.91	0.84	0.30
Control Delay	88.1	60.2		89.8	46.1	17.0	93.2	31.6		73.5	47.7	4.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	88.1	60.2		89.8	46.1	17.0	93.2	31.6		73.5	47.7	4.0
LOS	F	E		F	D	B	F	C		E	D	A
Approach Delay		63.7			49.2			35.6			48.4	
Approach LOS		E			D			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 137.3	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 51.1	Intersection LOS: D
Intersection Capacity Utilization 89.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Slater Ave NE & NE 124th St



Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	10	809	21	14	443
Future Vol, veh/h	24	10	809	21	14	443
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	1	2
Mvmt Flow	26	11	870	23	15	476

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1388	882	0	0	893	0
Stage 1	882	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	158	347	-	-	764	-
Stage 1	406	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	155	347	-	-	764	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	0.3
HCM LOS	C		

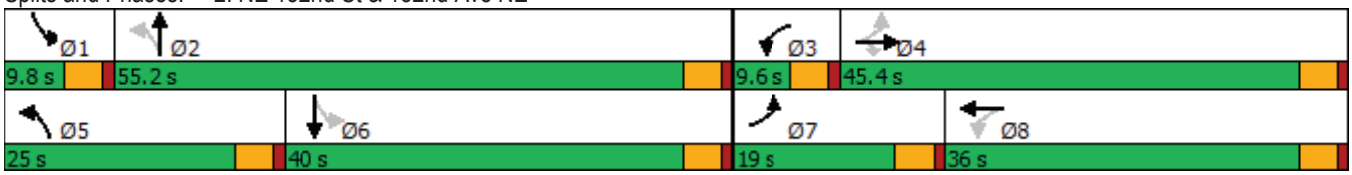
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	302	764	-
HCM Lane V/C Ratio	-	-	0.121	0.02	-
HCM Control Delay (s)	-	-	18.6	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	115	224	18	218	190	346	554	25	73	313	91
Future Volume (vph)	212	115	224	18	218	190	346	554	25	73	313	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96	0.99	0.98			1.00		1.00	0.99	
Frt			0.850		0.930			0.993			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1787	1716	0	1787	1865	0	1752	1766	0
Flt Permitted	0.157			0.682			0.152			0.256		
Satd. Flow (perm)	290	1845	1508	1269	1716	0	286	1865	0	470	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229		36			2			12	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	216	117	229	18	222	194	353	565	26	74	319	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	216	117	229	18	416	0	353	591	0	74	412	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	19.0	45.4	45.4	9.6	36.0		25.0	55.2		9.8	40.0	
Total Split (%)	15.8%	37.8%	37.8%	8.0%	30.0%		20.8%	46.0%		8.2%	33.3%	
Maximum Green (s)	14.5	40.9	40.9	5.1	31.5		20.5	50.7		5.3	35.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	46.3	42.8	42.8	32.9	27.7		52.8	45.4		34.2	28.7	
Actuated g/C Ratio	0.43	0.40	0.40	0.30	0.26		0.49	0.42		0.32	0.27	
v/c Ratio	0.69	0.16	0.31	0.04	0.89		0.86	0.75		0.35	0.86	
Control Delay	34.4	25.0	4.9	21.1	59.5		46.4	35.3		22.2	56.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.4	25.0	4.9	21.1	59.5		46.4	35.3		22.2	56.2	
LOS	C	C	A	C	E		D	D		C	E	
Approach Delay		20.4			58.0			39.5			51.1	
Approach LOS		C			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 108.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 40.7		Intersection LOS: D	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: NE 132nd St & 132nd Ave NE



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	161	29	2	334	0	23	0	0	0	0	0
Future Vol, veh/h	3	161	29	2	334	0	23	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	50	1	1	1	1	1	1	1	1
Mvmt Flow	3	177	32	2	367	0	25	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	367	0	0	209	0	0	570	570	193	570	586	367
Stage 1	-	-	-	-	-	-	199	199	-	371	371	-
Stage 2	-	-	-	-	-	-	371	371	-	199	215	-
Critical Hdwy	4.11	-	-	4.6	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.65	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1197	-	-	1122	-	-	434	433	851	434	424	681
Stage 1	-	-	-	-	-	-	805	738	-	651	621	-
Stage 2	-	-	-	-	-	-	651	621	-	805	727	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1197	-	-	1122	-	-	432	431	851	432	422	681
Mov Cap-2 Maneuver	-	-	-	-	-	-	432	431	-	432	422	-
Stage 1	-	-	-	-	-	-	803	736	-	649	620	-
Stage 2	-	-	-	-	-	-	650	620	-	803	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.9	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	1197	-	-	1122	-	-	-
HCM Lane V/C Ratio	0.059	0.003	-	-	0.002	-	-	-
HCM Control Delay (s)	13.9	8	0	-	8.2	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	152	7	1	330	1	3	0	0	1	0	3
Future Vol, veh/h	2	152	7	1	330	1	3	0	0	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	167	8	1	363	1	3	0	0	1	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	364	0	0	175	0	0	542	541	171	541	545	364
Stage 1	-	-	-	-	-	-	175	175	-	366	366	-
Stage 2	-	-	-	-	-	-	367	366	-	175	179	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1200	-	-	1407	-	-	453	449	875	453	447	683
Stage 1	-	-	-	-	-	-	829	756	-	655	624	-
Stage 2	-	-	-	-	-	-	655	624	-	829	753	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1200	-	-	1407	-	-	450	448	875	452	446	683
Mov Cap-2 Maneuver	-	-	-	-	-	-	450	448	-	452	446	-
Stage 1	-	-	-	-	-	-	827	754	-	654	623	-
Stage 2	-	-	-	-	-	-	651	623	-	827	751	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.1	11
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	450	1200	-	-	1407	-	-	606
HCM Lane V/C Ratio	0.007	0.002	-	-	0.001	-	-	0.007
HCM Control Delay (s)	13.1	8	0	-	7.6	0	-	11
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

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	25	173	3	1	366	6	2	0	0	3	0	14
Future Vol, veh/h	25	173	3	1	366	6	2	0	0	3	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	20	1	1	1	33	1	1
Mvmt Flow	28	197	3	1	416	7	2	0	0	3	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	423	0	0	200	0	0	685	680	199	677	678	420
Stage 1	-	-	-	-	-	-	255	255	-	422	422	-
Stage 2	-	-	-	-	-	-	430	425	-	255	256	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.43	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.797	4.009	3.309
Pot Cap-1 Maneuver	1142	-	-	1378	-	-	364	374	845	328	375	635
Stage 1	-	-	-	-	-	-	752	698	-	553	590	-
Stage 2	-	-	-	-	-	-	605	588	-	686	697	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1142	-	-	1378	-	-	347	363	845	321	364	635
Mov Cap-2 Maneuver	-	-	-	-	-	-	347	363	-	321	364	-
Stage 1	-	-	-	-	-	-	731	678	-	538	589	-
Stage 2	-	-	-	-	-	-	589	587	-	667	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0	15.4	11.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1142	-	-	1378	-	-	542
HCM Lane V/C Ratio	0.007	0.025	-	-	0.001	-	-	0.036
HCM Control Delay (s)	15.4	8.2	0	-	7.6	0	-	11.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	45	62	115	335	10
Future Vol, veh/h	10	45	62	115	335	10
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	3	1	2	1	1
Mvmt Flow	12	52	72	134	390	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	674	396	402	0	-	0
Stage 1	396	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Critical Hdwy	6.41	6.23	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	422	651	1162	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	396	651	1162	-	-	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	2.9	0
HCM LOS	B		

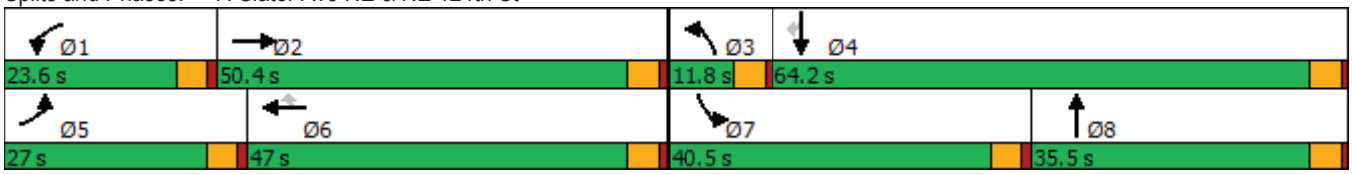
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1162	-	583	-	-
HCM Lane V/C Ratio	0.062	-	0.11	-	-
HCM Control Delay (s)	8.3	-	11.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	263	951	49	210	966	369	33	379	293	238	263	224
Future Volume (vph)	263	951	49	210	966	369	33	379	293	238	263	224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.993				0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				194		118				236
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	277	1001	52	221	1017	388	35	399	308	251	277	236
Shared Lane Traffic (%)												
Lane Group Flow (vph)	277	1053	0	221	1017	388	35	707	0	251	277	236
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	27.0	50.4		23.6	47.0	47.0	11.8	35.5		40.5	64.2	64.2
Total Split (%)	18.0%	33.6%		15.7%	31.3%	31.3%	7.9%	23.7%		27.0%	42.8%	42.8%
Maximum Green (s)	22.5	45.9		19.1	42.5	42.5	7.3	31.0		36.0	59.7	59.7
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	22.6	46.1		19.2	42.7	42.7	6.9	29.3		24.9	49.6	49.6
Actuated g/C Ratio	0.16	0.34		0.14	0.31	0.31	0.05	0.21		0.18	0.36	0.36
v/c Ratio	0.97	0.91		0.90	0.93	0.62	0.40	0.89		0.78	0.41	0.33
Control Delay	104.2	56.6		95.0	61.1	25.5	80.2	58.8		71.1	35.5	4.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	104.2	56.6		95.0	61.1	25.5	80.2	58.8		71.1	35.5	4.6
LOS	F	E		F	E	C	F	E		E	D	A
Approach Delay		66.5			57.2			59.8			37.6	
Approach LOS		E			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 137.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Slater Ave NE & NE 124th St



KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

FORECAST 2026 PEAK HOUR WITH PROJECT
LEVEL OF SERVICE

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	39	465	15	25	830
Future Vol, veh/h	21	39	465	15	25	830
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	9	4	1	1	1
Mvmt Flow	24	44	528	17	28	943

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1536	537	0	0	545	0
Stage 1	537	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Critical Hdwy	6.41	6.29	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.381	-	-	2.209	-
Pot Cap-1 Maneuver	128	531	-	-	1029	-
Stage 1	588	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	531	-	-	1029	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	348	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	382	1029	-
HCM Lane V/C Ratio	-	-	0.178	0.028	-
HCM Control Delay (s)	-	-	16.5	8.6	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	178	489	99	104	32	206	175	28	229	677	110
Future Volume (vph)	84	178	489	99	104	32	206	175	28	229	677	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.96	0.99	0.99			0.99		0.99	0.99	
Frt			0.850		0.965			0.979			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1779	0	1736	1779	0	1770	1814	0
Flt Permitted	0.610			0.459			0.072			0.627		
Satd. Flow (perm)	1124	1863	1518	847	1779	0	132	1779	0	1155	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			312		12			10			9	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
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 (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	87	184	504	102	107	33	212	180	29	236	698	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	184	504	102	140	0	212	209	0	236	811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	10.4	30.0	30.0	9.8	29.4		18.0	65.1		15.1	62.2	
Total Split (%)	8.7%	25.0%	25.0%	8.2%	24.5%		15.0%	54.3%		12.6%	51.8%	
Maximum Green (s)	5.9	25.5	25.5	5.3	24.9		13.5	60.6		10.6	57.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	27.3	21.2	21.2	27.4	23.4		69.1	55.7		62.4	52.4	
Actuated g/C Ratio	0.25	0.19	0.19	0.25	0.21		0.62	0.50		0.56	0.47	
v/c Ratio	0.28	0.52	0.93	0.40	0.36		0.77	0.23		0.33	0.94	
Control Delay	34.4	46.6	42.0	37.9	39.7		46.5	16.1		10.7	47.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.4	46.6	42.0	37.9	39.7		46.5	16.1		10.7	47.8	
LOS	C	D	D	D	D		D	B		B	D	
Approach Delay		42.2			39.0			31.4			39.5	
Approach LOS		D			D			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 110.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 38.9	Intersection LOS: D
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: NE 132nd St & 132nd Ave NE

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	258	21	0	224	2	36	0	3	0	2	12
Future Vol, veh/h	3	258	21	0	224	2	36	0	3	0	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	2	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	274	22	0	238	2	38	0	3	0	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	296	0	0	538	531	285	532	541	239
Stage 1	-	-	-	-	-	-	291	291	-	239	239	-
Stage 2	-	-	-	-	-	-	247	240	-	293	302	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1333	-	-	1271	-	-	456	455	756	460	449	802
Stage 1	-	-	-	-	-	-	719	673	-	767	709	-
Stage 2	-	-	-	-	-	-	759	709	-	717	666	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1271	-	-	446	454	756	457	448	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	446	454	-	457	448	-
Stage 1	-	-	-	-	-	-	717	671	-	765	709	-
Stage 2	-	-	-	-	-	-	745	709	-	712	664	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.6	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	461	1333	-	-	1271	-	-	721
HCM Lane V/C Ratio	0.09	0.002	-	-	-	-	-	0.021
HCM Control Delay (s)	13.6	7.7	0	-	0	-	-	10.1
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	258	0	0	218	0	5	0	2	0	0	3
Future Vol, veh/h	3	258	0	0	218	0	5	0	2	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	3	274	0	0	232	0	5	0	2	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	274	0	0	514	512	274	513	512	232
Stage 1	-	-	-	-	-	-	280	280	-	232	232	-
Stage 2	-	-	-	-	-	-	234	232	-	281	280	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1342	-	-	1295	-	-	473	467	767	473	467	810
Stage 1	-	-	-	-	-	-	729	681	-	773	714	-
Stage 2	-	-	-	-	-	-	771	714	-	728	681	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1342	-	-	1295	-	-	470	466	767	471	466	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	470	466	-	471	466	-
Stage 1	-	-	-	-	-	-	727	679	-	771	714	-
Stage 2	-	-	-	-	-	-	768	714	-	724	679	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	11.9	9.5
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1342	-	-	1295	-	-	810
HCM Lane V/C Ratio	0.014	0.002	-	-	-	-	-	0.004
HCM Control Delay (s)	11.9	7.7	0	-	0	-	-	9.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	25	235	0	0	168	5	3	0	0	9	0	43
Future Vol, veh/h	25	235	0	0	168	5	3	0	0	9	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	10	1	1	1	2	50	1	1	1	1	1	1
Mvmt Flow	26	245	0	0	175	5	3	0	0	9	0	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	180	0	0	245	0	0	497	477	245	475	475	178
Stage 1	-	-	-	-	-	-	297	297	-	178	178	-
Stage 2	-	-	-	-	-	-	200	180	-	297	297	-
Critical Hdwy	4.2	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.29	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1349	-	-	1327	-	-	485	489	796	502	490	868
Stage 1	-	-	-	-	-	-	714	669	-	826	754	-
Stage 2	-	-	-	-	-	-	804	752	-	714	669	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1327	-	-	452	478	796	493	479	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	452	478	-	493	479	-
Stage 1	-	-	-	-	-	-	698	654	-	808	754	-
Stage 2	-	-	-	-	-	-	763	752	-	698	654	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	13	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	452	1349	-	-	1327	-	-	767
HCM Lane V/C Ratio	0.007	0.019	-	-	-	-	-	0.071
HCM Control Delay (s)	13	7.7	0	-	0	-	-	10.1
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	68	42	195	107	5
Future Vol, veh/h	15	68	42	195	107	5
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	1	5	8	1	1	33
Mvmt Flow	16	72	45	207	114	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	414	117	119	0	-	0
Stage 1	117	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Critical Hdwy	6.41	6.25	4.18	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.345	2.272	-	-	-
Pot Cap-1 Maneuver	597	927	1432	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	756	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	578	927	1432	-	-	-
Mov Cap-2 Maneuver	578	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	756	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	1.3	0
HCM LOS	A		

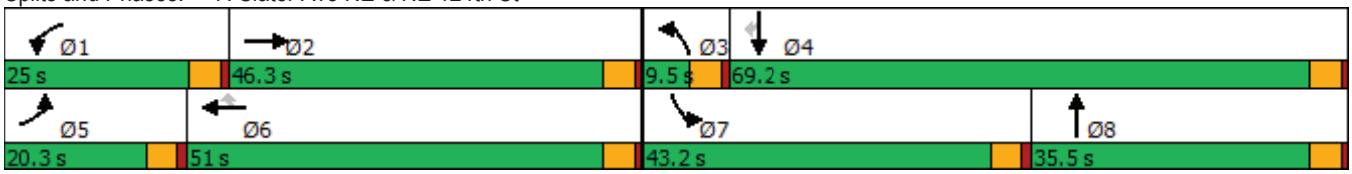
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1432	-	836	-	-
HCM Lane V/C Ratio	0.031	-	0.106	-	-
HCM Control Delay (s)	7.6	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	878	37	222	888	194	29	174	249	431	624	248
Future Volume (vph)	134	878	37	222	888	194	29	174	249	431	624	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.994				0.850		0.912				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3450	0	1752	3505	1568	1719	3136	0	1736	1827	1553
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3450	0	1752	3505	1568	1719	3136	0	1736	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				116		220				253
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Adj. Flow (vph)	137	896	38	227	906	198	30	178	254	440	637	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	137	934	0	227	906	198	30	432	0	440	637	253
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	20.3	46.3		25.0	51.0	51.0	9.5	35.5		43.2	69.2	69.2
Total Split (%)	13.5%	30.9%		16.7%	34.0%	34.0%	6.3%	23.7%		28.8%	46.1%	46.1%
Maximum Green (s)	15.8	41.8		20.5	46.5	46.5	5.0	31.0		38.7	64.7	64.7
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	14.3	40.9		20.3	46.9	46.9	5.0	20.4		38.4	58.0	58.0
Actuated g/C Ratio	0.10	0.30		0.15	0.34	0.34	0.04	0.15		0.28	0.42	0.42
v/c Ratio	0.76	0.91		0.88	0.76	0.33	0.48	0.66		0.91	0.83	0.32
Control Delay	88.1	61.2		91.9	47.3	17.2	93.9	31.4		73.7	47.3	4.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	88.1	61.2		91.9	47.3	17.2	93.9	31.4		73.7	47.3	4.0
LOS	F	E		F	D	B	F	C		E	D	A
Approach Delay		64.7			50.4			35.4			47.8	
Approach LOS		E			D			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 138.2	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 51.6	Intersection LOS: D
Intersection Capacity Utilization 89.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 7: Slater Ave NE & NE 124th St



Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	12	809	29	17	443
Future Vol, veh/h	29	12	809	29	17	443
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	1	2
Mvmt Flow	31	13	870	31	18	476

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1398	886	0	0	901	0
Stage 1	886	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	156	345	-	-	758	-
Stage 1	405	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	345	-	-	758	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.1	0	0.4
HCM LOS	C		

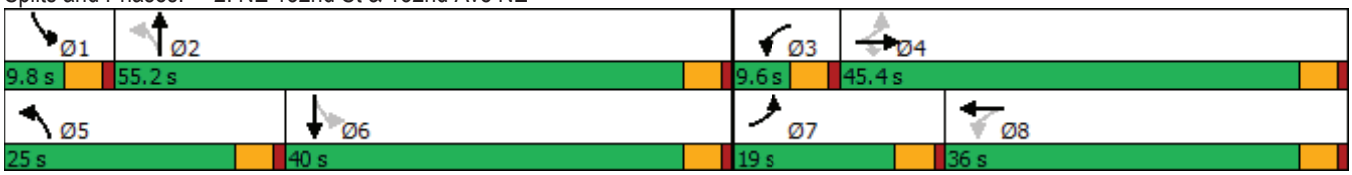
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	300	758	-
HCM Lane V/C Ratio	-	-	0.147	0.024	-
HCM Control Delay (s)	-	-	19.1	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	119	224	25	220	190	346	560	38	73	317	92
Future Volume (vph)	214	119	224	25	220	190	346	560	38	73	317	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		300	65		0	0		0	95		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.96	0.99	0.98			1.00		1.00	0.99	
Frt			0.850		0.930			0.990			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1787	1716	0	1787	1858	0	1752	1766	0
Flt Permitted	0.146			0.679			0.151			0.234		
Satd. Flow (perm)	269	1845	1508	1263	1716	0	284	1858	0	430	1766	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			229		35			4			12	
Link Speed (mph)		35			25			35			25	
Link Distance (ft)		739			516			901			340	
Travel Time (s)		14.4			14.1			17.6			9.3	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			5			5			5			5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	3%	3%	3%
Adj. Flow (vph)	218	121	229	26	224	194	353	571	39	74	323	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	121	229	26	418	0	353	610	0	74	417	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	27.5	27.5	9.5	24.5		9.5	24.5		9.5	24.5	
Total Split (s)	19.0	45.4	45.4	9.6	36.0		25.0	55.2		9.8	40.0	
Total Split (%)	15.8%	37.8%	37.8%	8.0%	30.0%		20.8%	46.0%		8.2%	33.3%	
Maximum Green (s)	14.5	40.9	40.9	5.1	31.5		20.5	50.7		5.3	35.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		16.0	16.0		13.0			13.0			13.0	
Pedestrian Calls (#/hr)		5	5		5			5			5	
Act Effct Green (s)	46.6	41.3	41.3	33.1	27.9		53.2	45.7		34.5	29.1	
Actuated g/C Ratio	0.43	0.38	0.38	0.30	0.26		0.49	0.42		0.32	0.27	
v/c Ratio	0.71	0.17	0.32	0.06	0.90		0.87	0.78		0.37	0.87	
Control Delay	36.6	26.5	4.9	21.3	60.3		47.2	36.6		22.9	56.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.6	26.5	4.9	21.3	60.3		47.2	36.6		22.9	56.9	
LOS	D	C	A	C	E		D	D		C	E	
Approach Delay		21.7			58.0			40.5			51.7	
Approach LOS		C			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 108.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: NE 132nd St & 132nd Ave NE



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	178	29	2	343	0	23	0	0	0	0	0
Future Vol, veh/h	3	178	29	2	343	0	23	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	50	1	1	1	1	1	1	1	1
Mvmt Flow	3	196	32	2	377	0	25	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	228	0	0	599	599	212	599	615	377
Stage 1	-	-	-	-	-	-	218	218	-	381	381	-
Stage 2	-	-	-	-	-	-	381	381	-	218	234	-
Critical Hdwy	4.11	-	-	4.6	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.65	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1187	-	-	1103	-	-	415	417	831	415	408	672
Stage 1	-	-	-	-	-	-	787	724	-	643	615	-
Stage 2	-	-	-	-	-	-	643	615	-	787	713	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1187	-	-	1103	-	-	413	415	831	413	406	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	413	415	-	413	406	-
Stage 1	-	-	-	-	-	-	785	722	-	641	614	-
Stage 2	-	-	-	-	-	-	642	614	-	785	711	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	14.3	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	413	1187	-	-	1103	-	-	-
HCM Lane V/C Ratio	0.061	0.003	-	-	0.002	-	-	-
HCM Control Delay (s)	14.3	8	0	-	8.3	0	-	0
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	169	7	1	339	1	3	0	0	1	0	3
Future Vol, veh/h	2	169	7	1	339	1	3	0	0	1	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	2	186	8	1	373	1	3	0	0	1	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	194	0	0	571	570	190	570	574	374
Stage 1	-	-	-	-	-	-	194	194	-	376	376	-
Stage 2	-	-	-	-	-	-	377	376	-	194	198	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1190	-	-	1385	-	-	433	433	854	434	430	674
Stage 1	-	-	-	-	-	-	810	742	-	647	618	-
Stage 2	-	-	-	-	-	-	647	618	-	810	739	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1190	-	-	1385	-	-	430	432	854	433	429	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	430	432	-	433	429	-
Stage 1	-	-	-	-	-	-	808	741	-	646	617	-
Stage 2	-	-	-	-	-	-	643	617	-	808	738	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	13.4	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	430	1190	-	-	1385	-	-	592
HCM Lane V/C Ratio	0.008	0.002	-	-	0.001	-	-	0.007
HCM Control Delay (s)	13.4	8	0	-	7.6	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	173	3	1	366	9	2	0	0	5	0	23
Future Vol, veh/h	42	173	3	1	366	9	2	0	0	5	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	20	1	1	1	33	1	1
Mvmt Flow	48	197	3	1	416	10	2	0	0	6	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	426	0	0	200	0	0	731	723	199	718	719	421
Stage 1	-	-	-	-	-	-	295	295	-	423	423	-
Stage 2	-	-	-	-	-	-	436	428	-	295	296	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.43	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.43	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.797	4.009	3.309
Pot Cap-1 Maneuver	1139	-	-	1378	-	-	339	354	845	307	356	635
Stage 1	-	-	-	-	-	-	716	671	-	552	589	-
Stage 2	-	-	-	-	-	-	601	586	-	651	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1139	-	-	1378	-	-	313	337	845	296	339	635
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	337	-	296	339	-
Stage 1	-	-	-	-	-	-	682	639	-	526	588	-
Stage 2	-	-	-	-	-	-	576	585	-	620	639	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	16.6	12.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	313	1139	-	-	1378	-	-	527
HCM Lane V/C Ratio	0.007	0.042	-	-	0.001	-	-	0.06
HCM Control Delay (s)	16.6	8.3	0	-	7.6	0	-	12.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	45	62	117	338	10
Future Vol, veh/h	10	45	62	117	338	10
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	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	3	1	2	1	1
Mvmt Flow	12	52	72	136	393	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	679	399	405	0	-	0
Stage 1	399	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.41	6.23	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	419	649	1159	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	393	649	1159	-	-	-
Mov Cap-2 Maneuver	393	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	2.9	0
HCM LOS	B		

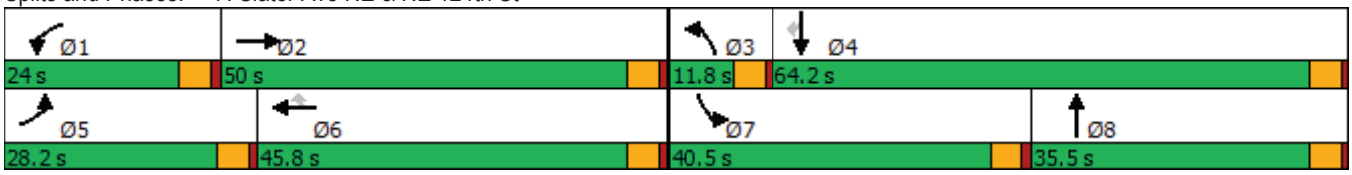
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1159	-	580	-	-
HCM Lane V/C Ratio	0.062	-	0.11	-	-
HCM Control Delay (s)	8.3	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	951	49	210	966	371	33	382	293	239	265	232
Future Volume (vph)	277	951	49	210	966	371	33	382	293	239	265	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	285		0	500		175	150		0	500		500
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	225			200			70			200		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.993				0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	3447	0	1770	3539	1583	1752	3277	0	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				194		116				244
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		742			715			526			757	
Travel Time (s)		14.5			13.9			10.2			14.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	292	1001	52	221	1017	391	35	402	308	252	279	244
Shared Lane Traffic (%)												
Lane Group Flow (vph)	292	1053	0	221	1017	391	35	710	0	252	279	244
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						4
Detector Phase	5	2		1	6	6	3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	36.5		9.5	40.5	40.5	9.5	35.5		40.5	40.5	40.5
Total Split (s)	28.2	50.0		24.0	45.8	45.8	11.8	35.5		40.5	64.2	64.2
Total Split (%)	18.8%	33.3%		16.0%	30.5%	30.5%	7.9%	23.7%		27.0%	42.8%	42.8%
Maximum Green (s)	23.7	45.5		19.5	41.3	41.3	7.3	31.0		36.0	59.7	59.7
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)		7.0			7.0	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)		24.0			29.0	29.0		24.0		29.0	29.0	29.0
Pedestrian Calls (#/hr)		5			5	5		5		5	5	5
Act Effct Green (s)	23.8	45.8		19.5	41.5	41.5	6.9	29.5		25.0	49.8	49.8
Actuated g/C Ratio	0.17	0.33		0.14	0.30	0.30	0.05	0.21		0.18	0.36	0.36
v/c Ratio	0.98	0.92		0.88	0.96	0.64	0.40	0.90		0.79	0.41	0.34
Control Delay	103.2	57.9		92.2	66.4	26.7	80.3	59.4		71.4	35.5	4.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	103.2	57.9		92.2	66.4	26.7	80.3	59.4		71.4	35.5	4.6
LOS	F	E		F	E	C	F	E		E	D	A
Approach Delay		67.8			60.4			60.4			37.4	
Approach LOS		E			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 137.8			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 58.6		Intersection LOS: E	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Slater Ave NE & NE 124th St



KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

LEFT TURN LANE WARRANTS

Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

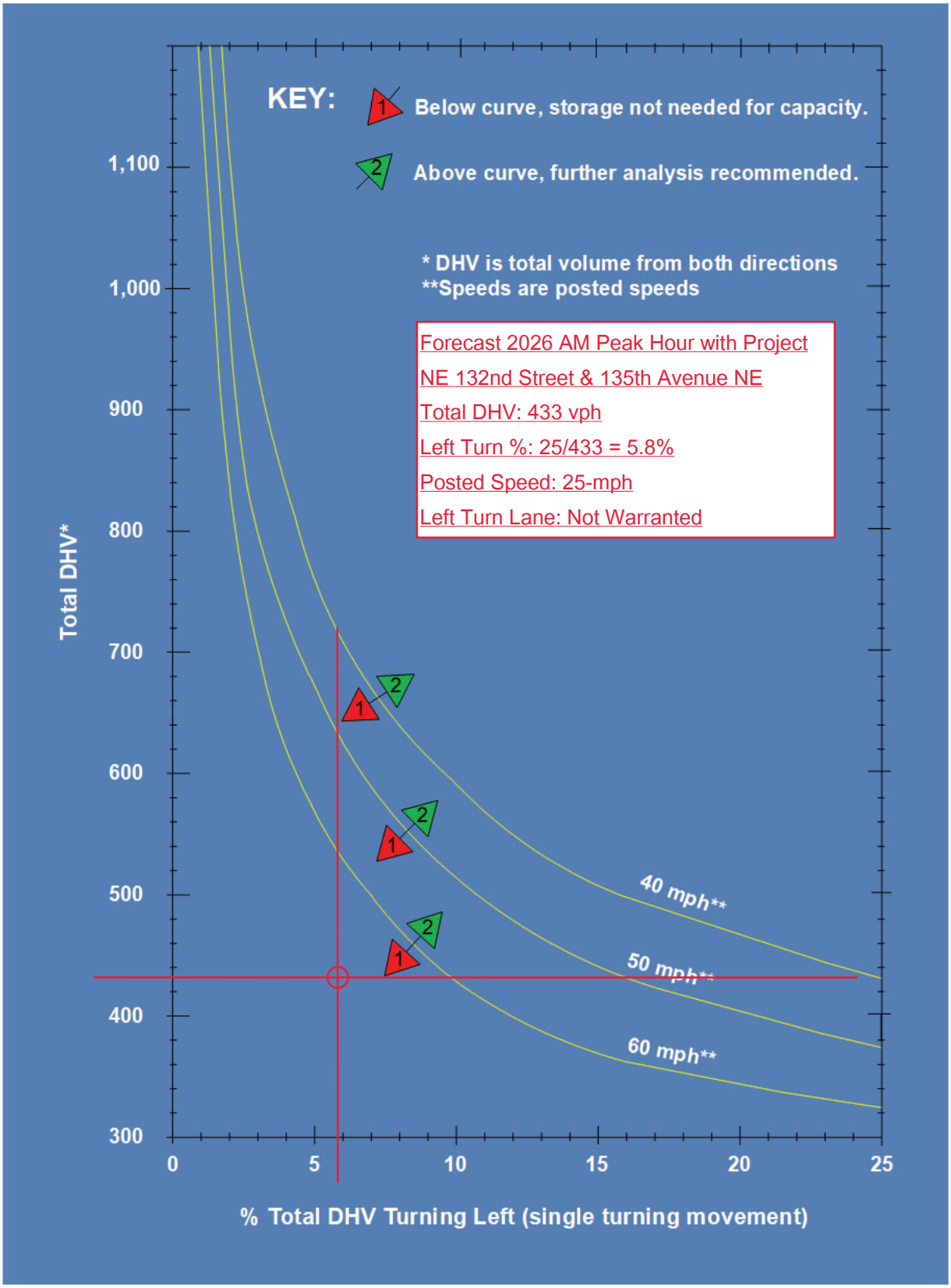
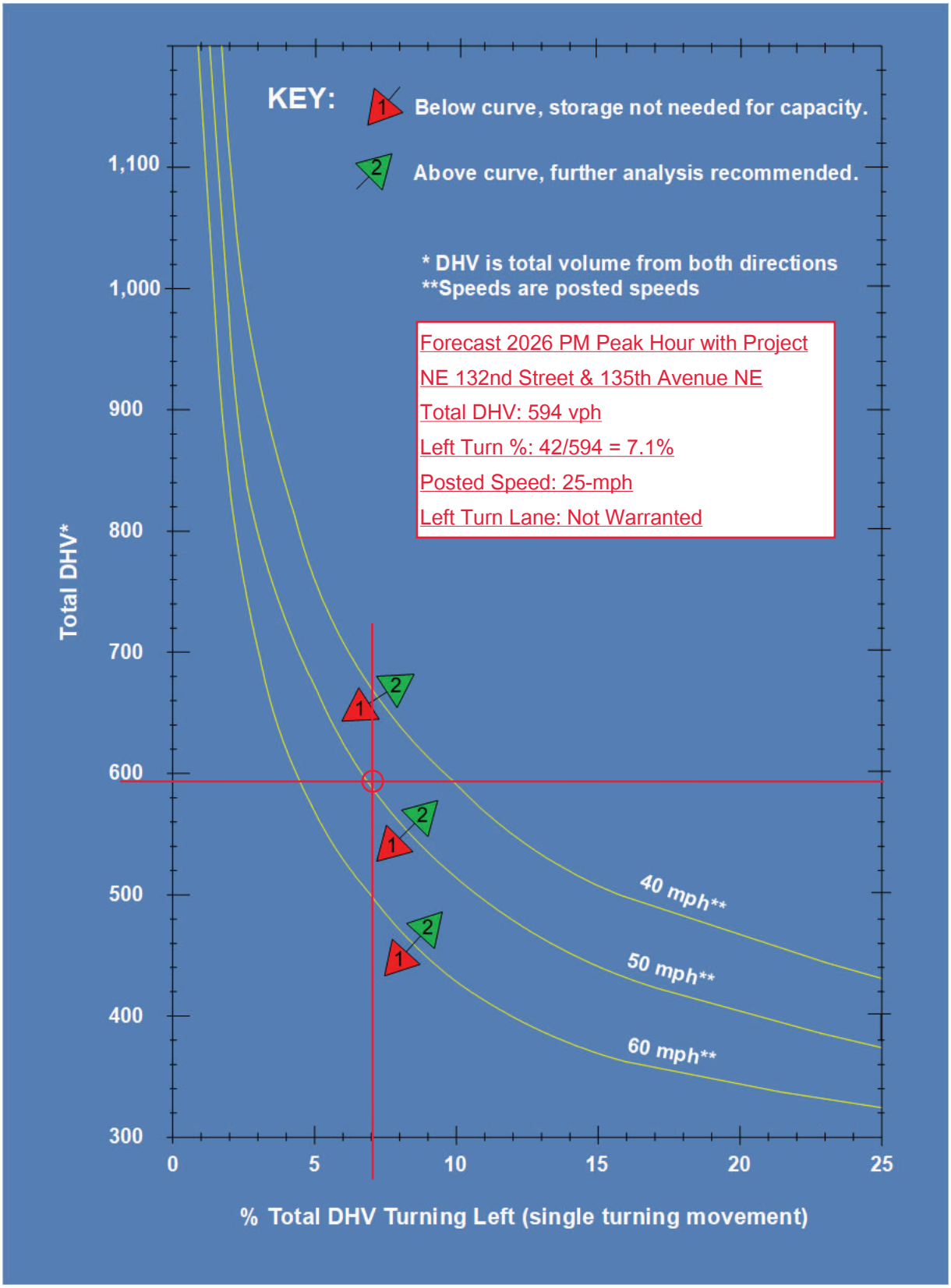


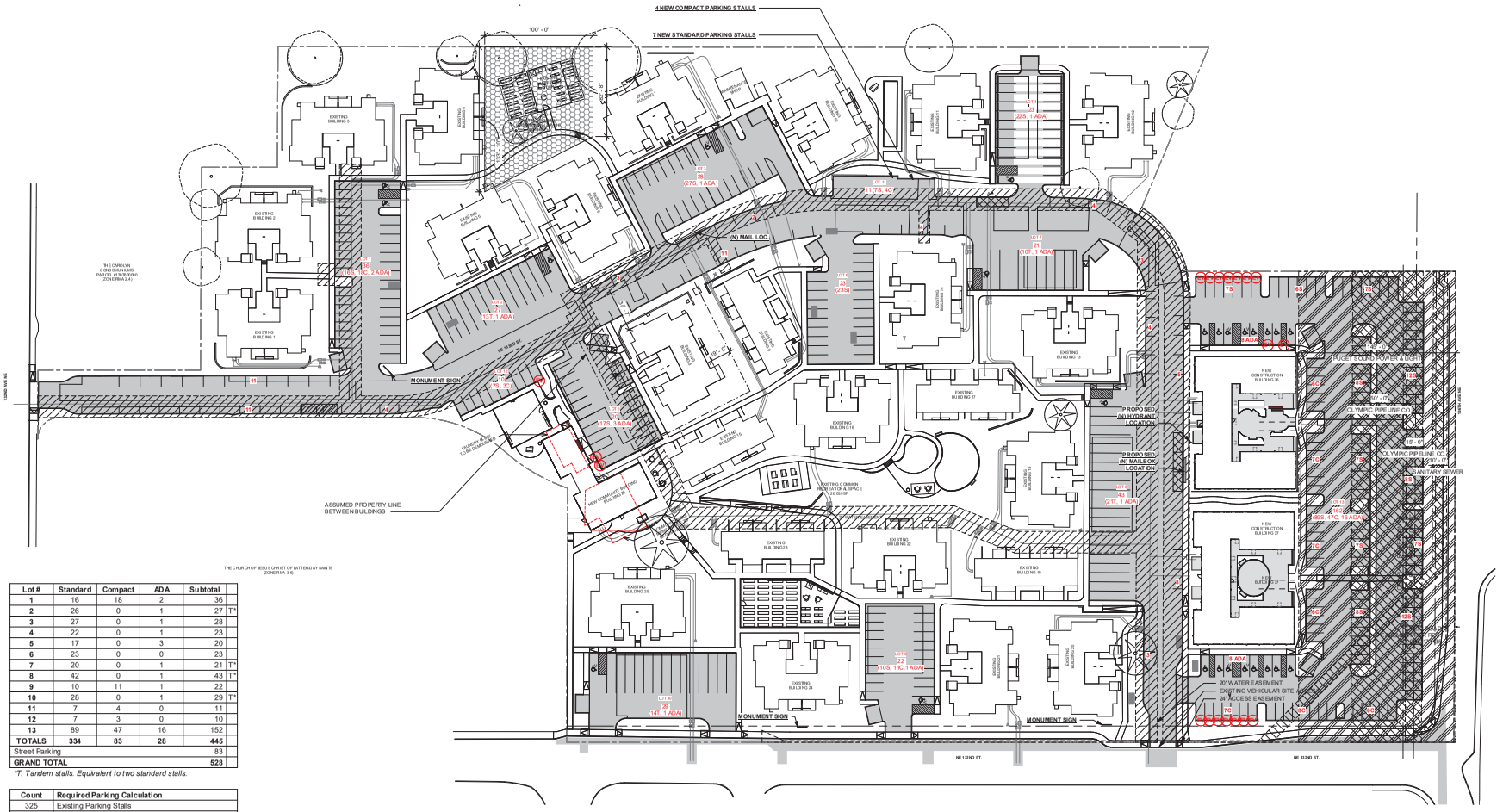
Exhibit 1310-7 Left-Turn Storage Guidelines: Two-Lane, Unsignalized



KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

SITE PLAN



Lot #	Standard	Compact	ADA	Subtotal	
1	16	18	2	36	
2	26	0	1	27	T*
3	27	0	1	28	
4	22	0	1	23	
5	17	0	3	20	
6	23	0	0	23	
7	20	0	1	21	T*
8	42	0	1	43	T*
9	10	11	1	22	
10	28	0	1	29	T*
11	7	4	0	11	
12	7	3	0	10	
13	89	47	16	152	
TOTALS	**334**	**83**	**28**	**445**	
Street Parking				83	
GRAND TOTAL				**528**	

**T: Tandem stalls. Equivalent to two standard stalls.*

Count	Required Parking Calculation
325	Existing Parking Stalls
465	Required Parking Stalls per Unit Mix
47	10% Guest Parking Requirement (465 x 10%)
512	**Total Parking Required with 10% Guest Parking**
528	**Total Parking Stalls Provided**

1 NEW CONSTRUCTION w/ PARKING LAYOUT
SCALE: 1" = 40'-0"

0 20' 40' 80'

01/17/2023 1:42:39 PM

SMR ARCHITECTS
SMR Architects
117 S. Main St., Suite 400
Seattle, WA 98104
PH: 206.623.1104
FX: 206.623.5285
King County Housing Authority

Kirkland Heights New Construction

13324 NE 133rd St., Kirkland, WA 98034

50% CONSTRUCTION DOCUMENTS

9337 REGISTERED ARCHITECT DEAN A. KRALIOS STATE OF WASHINGTON

REVISIONS / NOTES
NO DATE DESCRIPTION

DPD STAMP

TITLE
PLAN - SITE

PERMIT #	
DRAWN	JJ/GD/MD
CHECKED	DK
ISSUE DATE	01/13/2023
JOB NO.	22011
SHEET NO.:	

A001

KIRKLAND HEIGHTS
TRAFFIC IMPACT ANALYSIS

APPENDIX

CITY OF KIRKLAND SCOPING COMMENTS

TRIP GENERATION & SCOPE OF ANALYSIS

Trip Generation:

The most applicable land use code for the proposed affordable housing development was found to be Affordable Housing (Income Limits) – LUC 223. Average rates with the input variable of dwelling units were utilized to derive trip generation. See appendix for applicable reference sheets.

Table 1: Proposed Project Trip Generation Rates

Development	Quantity	Land Use Code	Description	ADT Rate	AM P-H Rate	PM P-H Rate
Proposed Use	96 dwelling units	223	Affordable Housing (Income Limits)	4.81	0.36	0.46

Daily Trip = 356

should be using the fitted curve equation.

Analysis Parameters:

Total Daily Trips	462
Total AM Peak Hour Trips:	35 (10 Enter / 25 Exit)
Total PM Peak Hour Trips:	44 (26 Enter / 18 Exit)
Time Period to Evaluate:	Weekday: 7:00-9:00 AM and 4:00-6:00 PM
Horizon Year:	2026
Background Growth:	2%
Pipeline Projects:	To be determined by the City – please provide pipeline volumes at the study intersections
Left Turn Warrant:	NE 132nd Street & 135th Avenue NE (Access)

138-90= 48

Intersections to Study:

1. 132nd Avenue NE & NE 133rd Street (Access)
2. 132nd Avenue NE & NE 132nd Street
3. 132nd Place NE/Sleater Avenue NE & NE 124th Street
4. 135th Avenue NE (Access) & NE 132nd Street

Trip Distribution:

See attached Figures 3 and 4 for AM and PM peak hour trip distribution & assignment. Figure 5 illustrates average daily trip distribution.

Additional Comments:

- All Level One and Two TIA requirements will be included in the traffic study.
- The project's proportional share impacts were calculated, which indicated that two outlying intersections (132nd Avenue NE & NE 132nd Street; 132nd Place NE/Sleater Avenue NE & NE 124th Street) and the proposed accesses are required for analysis. Figure 5 illustrates project ADT distribution and significantly impacted intersections. The proportional share impact worksheets have been attached.
- The buildout year for the proposed development is 2025. As such, a 3-year horizon of 2026 is to be used for future traffic delay analysis with a 2% compound annual growth rate. Please provide pipeline data for the significantly impacted intersections.
- A crash analysis will be conducted at all significantly impacted intersections.

Please let us know if any additional analysis components are required.

on-street parking impact shall be evaluated. There have been many complaints about residents at the project site parking on NE 132nd Street and in the neighborhood to the south.

The city only have traffic counts at NE 124th Street/132nd Avenue NE/Slater Avenue NE and at NE 13nd St/132nd Avenue NE. consultant shall collect counts at other analyzed intersections.

5 years of collision data shall be analyzed, crash analysis shall be done along the frontage of the project site and at all intersections on NE 132nd Street between and including 132nd Avenue NE and 136th Avenue NE

evaluate all intersections on NE 132nd Street between and including 132nd Avenue NE and 136th Avenue NE