



DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

Clark County, WA



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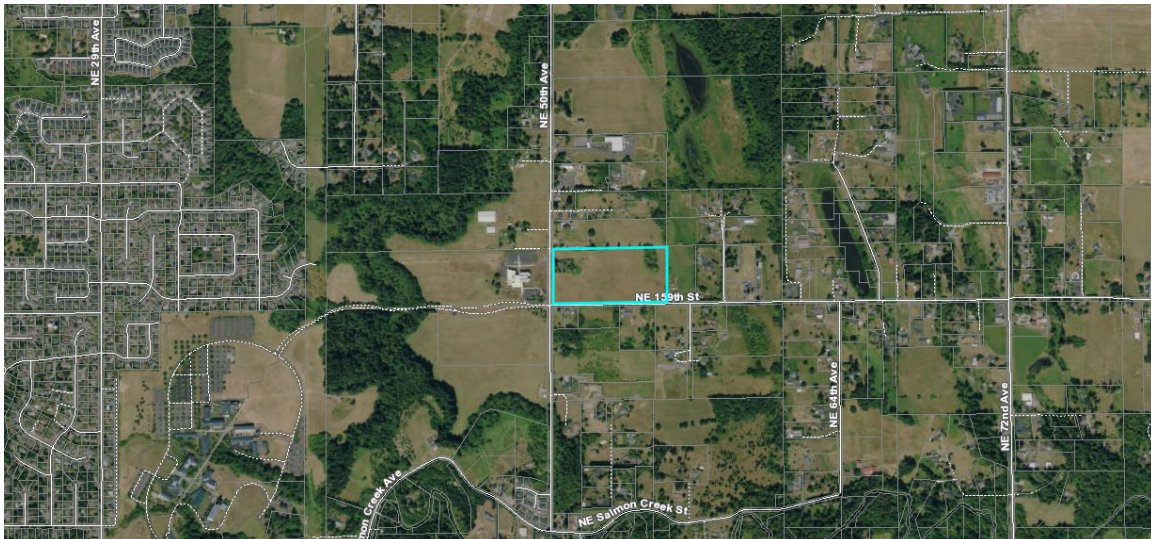
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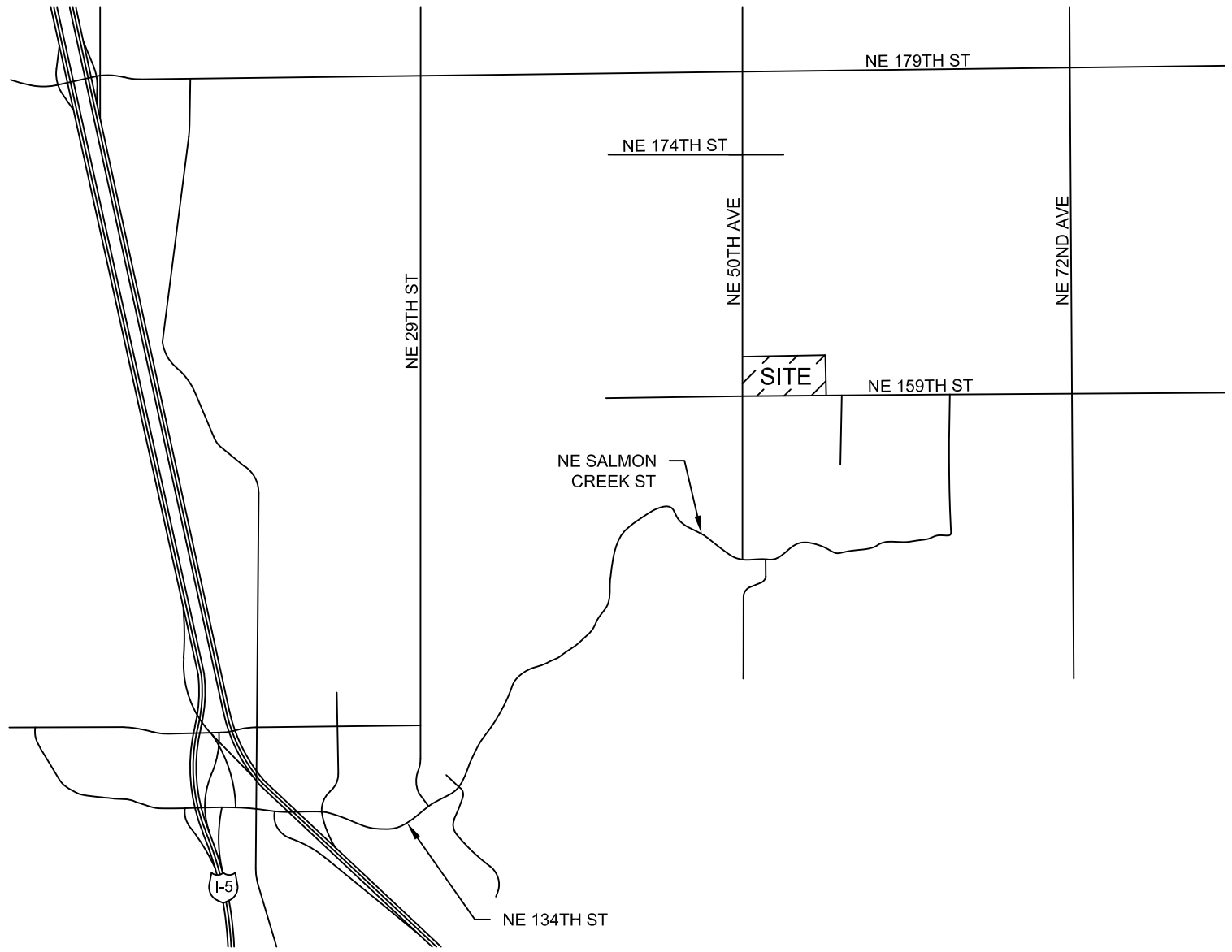
1. INTRODUCTION

The main goals of this study focus on the analysis 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, baseline vehicular volumes, and entering sight distance data. 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.

2. PROJECT DESCRIPTION

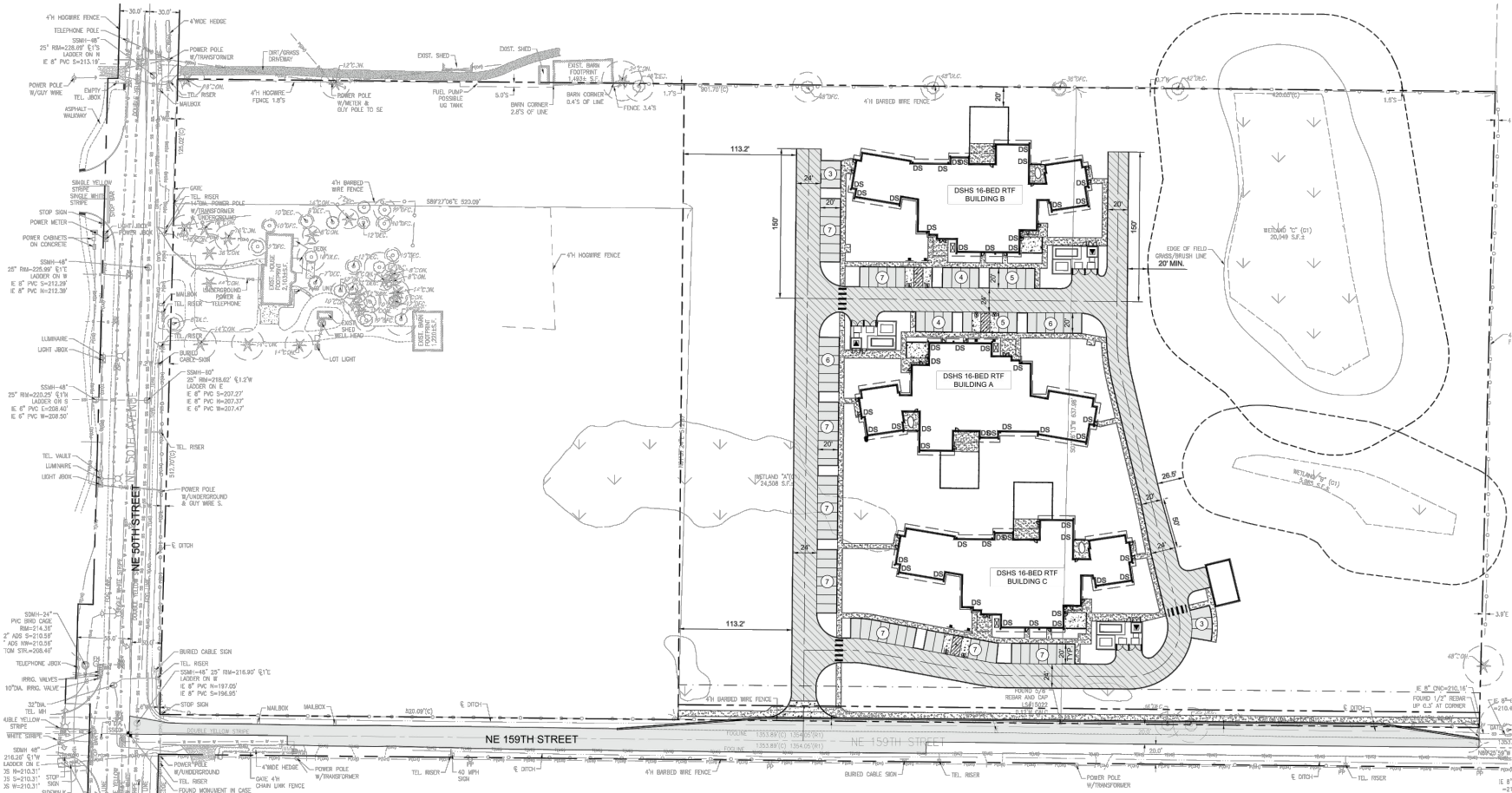
The DSHS NE 50th Clark County Behavioral Health project proposes to construct a new behavioral health facility comprising three buildings providing a total of 48 beds and an auxiliary 1,444 square foot garage maintenance building. The project is located in the Vancouver Urban Growth Area of unincorporated Clark County and will provide 90 to 180 day behavioral health services. Each of the three proposed building is to encompass approximately 16,600 square feet and will comprise 16-beds. A total on-site parking supply of 92 spaces is proposed. The subject site is currently located within 20.0-acre tax parcel #: 195925000. Site development will entail a boundary line adjustment, partitioning the proposed facility to the eastern portion of the existing parcel. The subject site is bordered to the west by NE 50th Avenue and to the south by NE 159th Street. Access to the facility is proposed via one new driveway extending north from NE 159th Street. Figure 1 shows the site location and roadway map while Figure 2 shows the site plan and access configuration for the project.





HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DSHS NE 50TH CLARK COUNTY
VICINITY MAP & ROADWAY SYSTEM
FIGURE 1



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

DSHS NE 50TH CLARK COUNTY

SITE PLAN
FIGURE 2

3. EXISTING CONDITIONS

3.1 Existing Roadway Characteristics

Adjacent streets to the site are listed and described below:

NE 159th Street: is an east-west, two-lane urban collector bordering the subject site to the south. Travel lanes are approximately 10- to 11-feet in width. Non-motorist facilities are not present and no formal shoulder treatment is available. The posted speed limit in the subject site vicinity is 40-mph.

NE 50th Avenue is a north-south, two-lane urban minor arterial bordering the subject site to the west. Travel lanes are approximately 10- to 12-feet in width, with additional turn-lanes provided at major intersections. Non-motorist facilities are generally not provided in the vicinity of the subject site. Paved shoulders varying in width are occasionally provided. Grass/gravel is provided along the edge of the roadway elsewhere. The posted speed limit in the subject site vicinity is 40-mph.

3.2 Roadway Improvement Projects

A review of the current Clark County Transportation Improvement Program (2021-2026) indicates that projects are currently planned in the vicinity. Summaries of the identified projects are provided below:

NE 179th Street at NE 50th Avenue – Intersection (Priority H): This project intends to install a roundabout at the intersection of NE 179th Street at NE 50th Avenue. Construction is anticipated to occur from 2023-2025 and the total estimated cost is approximately \$14,732,000.

NE 179th Street– NE 29th Avenue to NE 50th Avenue (Priority 2): This project will entail roadway improvements along NE 179th Street. The project is currently in the preliminary engineering stages and total funding has not been secured.

NE Salmon Creek Avenue Realignment - WSUV Entrance & NE Salmon Creek Street (Priority 5): This project intends to realign the WSUV Entrance with the NE Salmon Creek Street roadway to form a 4-way intersection. The project is currently unfunded.

NE 134th Corridor Adaptive Traffic Signals - NE 136th Street to NE Salmon Creek Avenue: This project intends to upgrade existing traffic signals to provide adaptive signal timing. The project is encompassed within the Transportation Safety Improvements Program and the total estimated project cost is \$618,000.

3.3 Transit Service

A review of the C-Tran regional bus schedule indicates that transit services are not readily available in the vicinity of the subject site. Refer to the C-Tran Routes for detailed route information.

3.4 Non-Motorist Traffic

Observations for pedestrian and bicycle activity were made on NE 159th Street and NE 50th Avenue along the project frontage during routine peak hour counts. During the AM and PM peak hours, no notable non-motorist activity was observed. The rural nature of the area with limited pedestrian infrastructure is not shown to generate a significant non-motorist demand. As part of site development, the project would construct frontage improvements along NE 159th Street which would subsequently provide approximately 800 lineal feet of sidewalk.

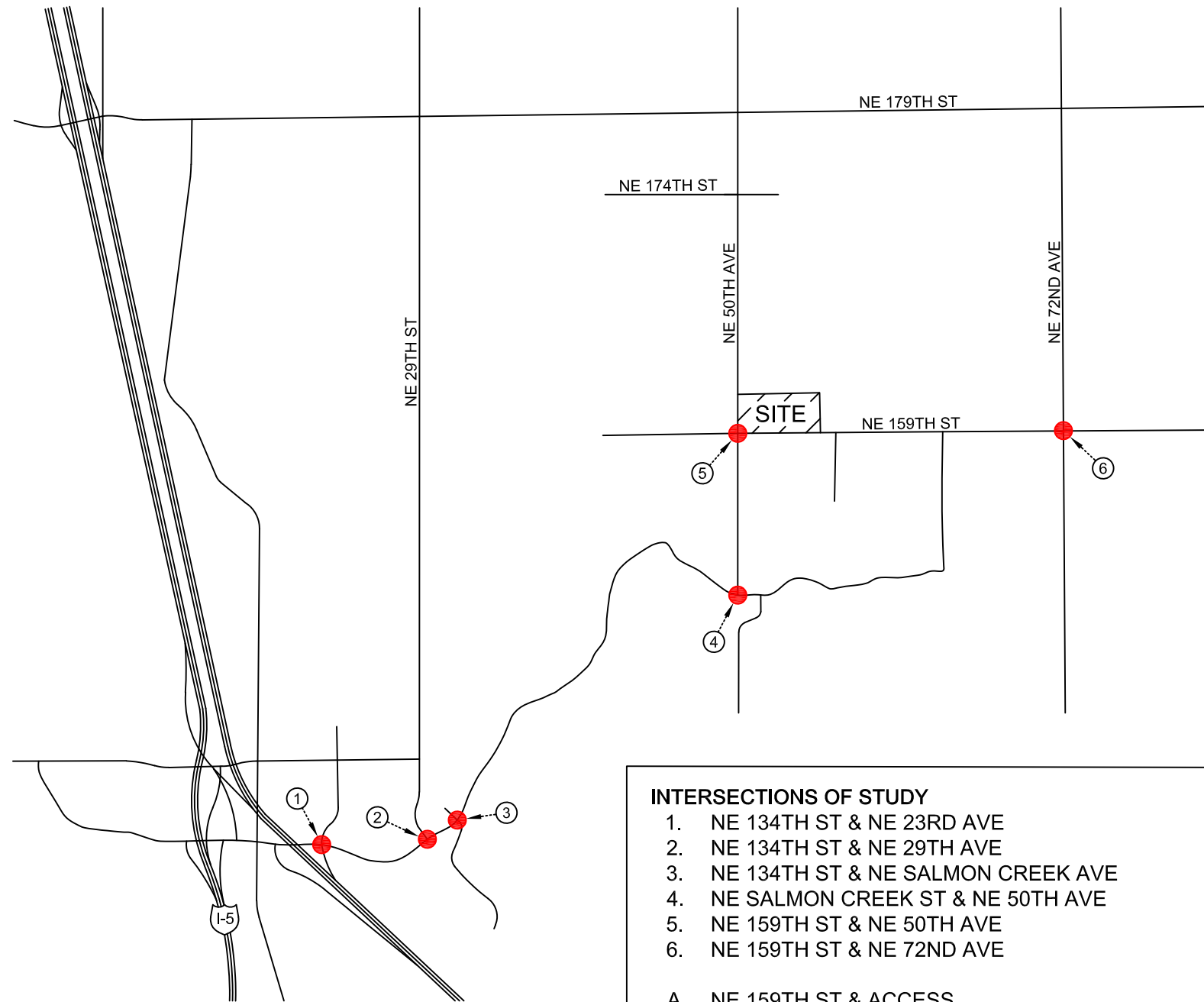
3.5 Existing Peak Hour Volumes

Baseline traffic volume conditions were discussed and established with the County during the project scoping process. Due to ongoing impacts of the COVID-19 pandemic, the County has developed a Management Decision outlining guidance for traffic count data, collection and processing. Where available, historic turning movement counts were utilized and adjusted up via a 1.26 percent compound annual growth rate to reflect baseline non-COVID conditions. Where data were unavailable, current counts were collected and an adjustment factor was applied based on volume comparisons from the County’s nearby historic tube counts. Summarized below are the study intersections required for evaluation per County direction. Included in the appendix is an action plan summarizing data collection methods and count type. The AM and PM peak hour were both required for evaluation.

Table 1: Intersections of Study

Ref.	Intersection	Control Type	Date Collected
1	NE 134th Street & NE 23rd Avenue	Signal	March 2017 (County)
2	NE 134th Street & NE 29th Avenue	Signal	March 2017 (County)
3	NE 134th Street & NE Salmon Creek Avenue	Signal	March 2017 (County)
4	NE Salmon Creek Street & NE 50th Avenue	All-Way Stop	April 2021 (Heath)
5	NE 159th Street & NE 50th Avenue	Minor Road Stop	April 2021 (Heath)
6	NE 159th Street & NE 72nd Avenue	Minor Road Stop	Sept. 2019 (County)

Figures 3 & 4 on the following pages shows the adjusted baseline AM and PM peak hour traffic volumes, respectively.

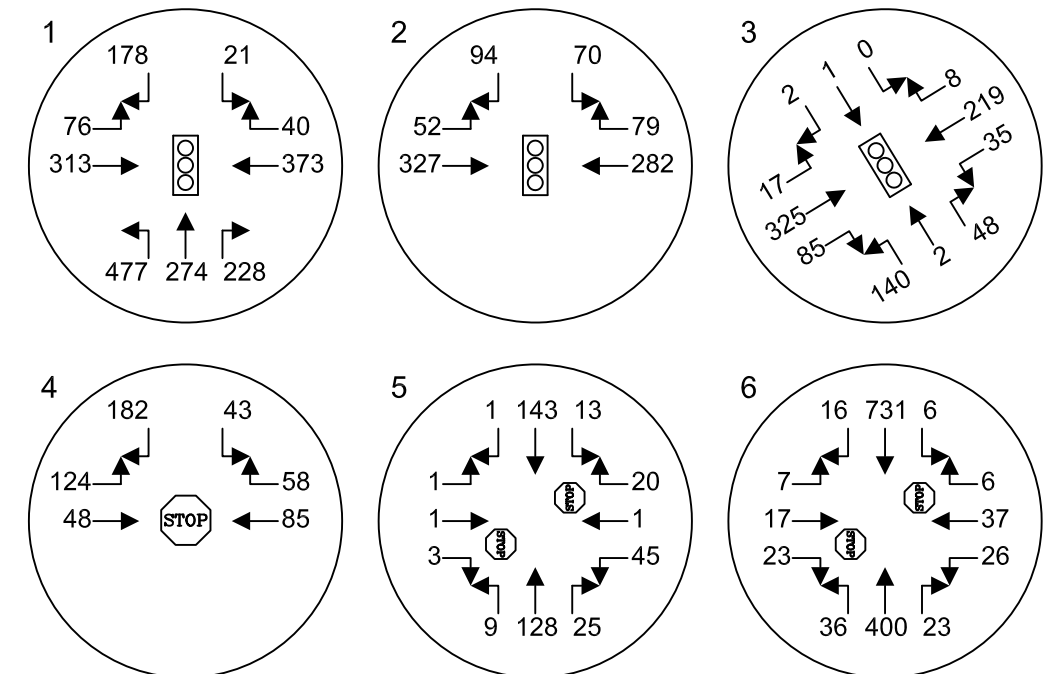


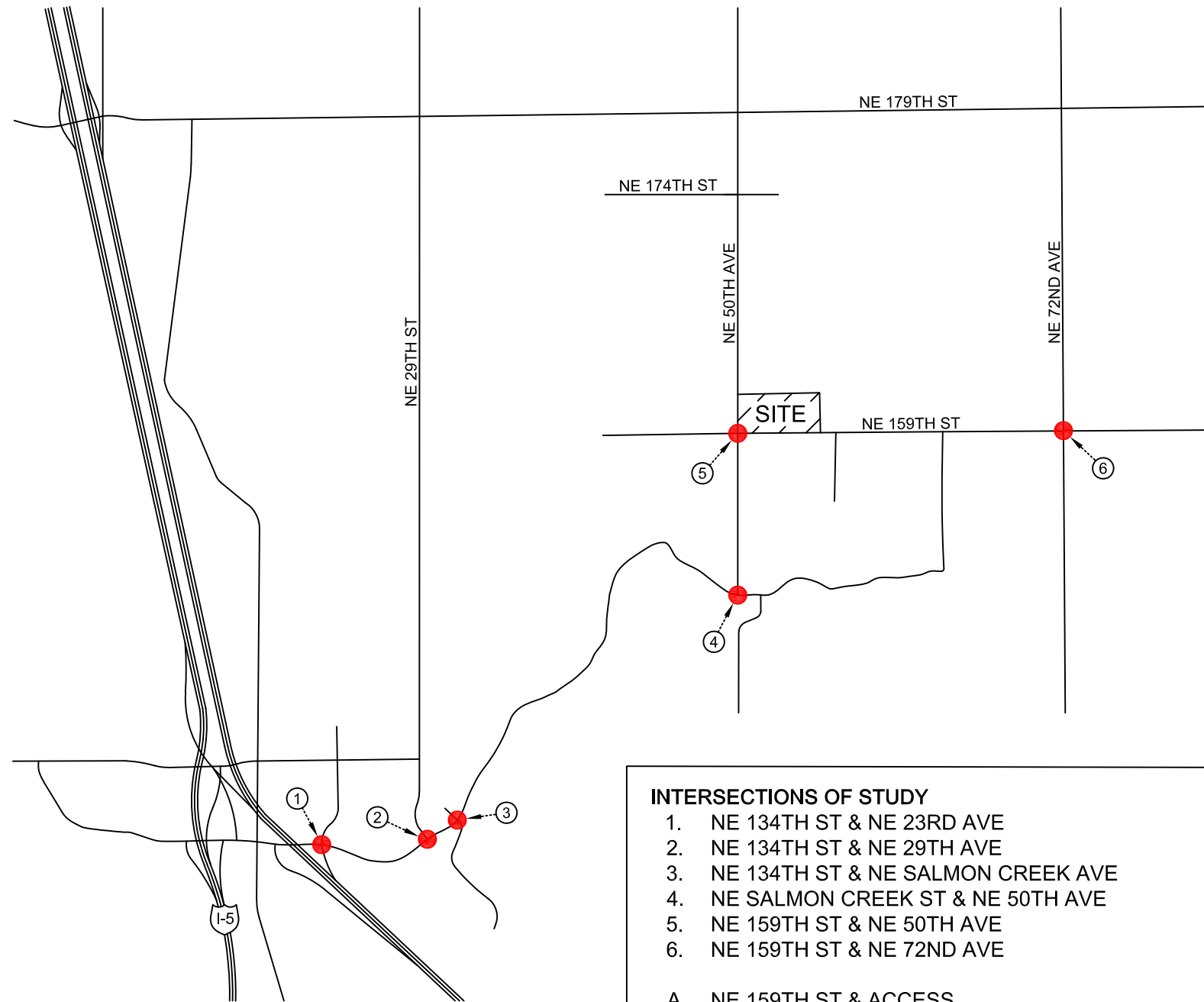
INTERSECTIONS OF STUDY

- 1. NE 134TH ST & NE 23RD AVE
- 2. NE 134TH ST & NE 29TH AVE
- 3. NE 134TH ST & NE SALMON CREEK AVE
- 4. NE SALMON CREEK ST & NE 50TH AVE
- 5. NE 159TH ST & NE 50TH AVE
- 6. NE 159TH ST & NE 72ND AVE

A. NE 159TH ST & ACCESS

● = STUDY INTERSECTION



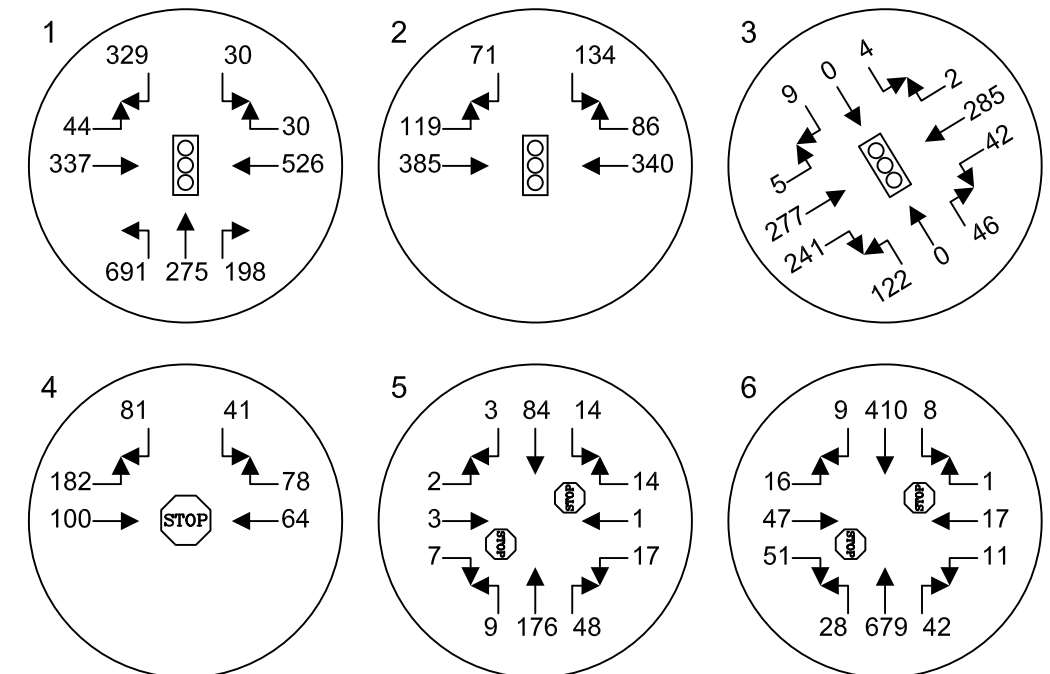


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- 4. NE SALMON CREEK ST & NE 50TH AVE
- 5. NE 159TH ST & NE 50TH AVE
- 6. NE 159TH ST & NE 72ND AVE

A. NE 159TH ST & ACCESS

● = STUDY INTERSECTION



3.6 Existing Level of Service

Peak hour 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 range¹ 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 saturated 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 10* analysis program. Signalized and all-way stop (AWSC) LOS is reported as the intersection's overall average delay. For side-street stop-controlled intersections, LOS is determined by the approach with the highest delay. Table 2 below summarizes baseline 2021 LOS delays for the outlying study intersections.

Table 2: Baseline 2021 Peak Hour Level of Service

Delays given in seconds per vehicle

Ref.	Intersection	Control	Peak Hour	Critical Movement	LOS	Delay
1	NE 134th Street & NE 23rd Avenue	Signal	AM	Overall	C	25.2
			PM		D	44.2
2	NE 134th Street & NE 29th Avenue	Signal	AM	Overall	B	17.3
			PM		B	14.8
3	NE 134th Street & NE Salmon Creek Avenue	Signal	AM	Overall	B	14.9
			PM		B	13.2
4	NE Salmon Creek Street & NE 50th Avenue	AWSC	AM	Overall	A	8.9
			PM		A	9.9
5	NE 159th Street & NE 50th Avenue	Stop	AM	WB	B	11.2
			PM	WB	B	10.7
6	NE 159th Street & NE 72nd Avenue	Stop	AM	WB	F	70.6
			PM	WB	E	49.6

AWSC: All-Way Stop Control

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

Level of Service Standards: Per CCC 40.350.020, Clark County has established minimum LOS standards as follows:

Signalized intersections of regional significance: individual movements shall not exceed an average of two cycle lengths or 240 seconds of delays (whichever is less).

Unsignalized intersections of regional significance: shall achieve LOS E standards or better (if signal warrants are not met). If warrants are met, LOS D standards or better apply.

A performance summary of the deficient intersection location is described below

NE 159th Street & NE 72nd Avenue: is shown to currently operate with LOS F conditions for the AM peak hour and LOS E for the PM peak hour. The controlling movement is the westbound approach.

All other intersections are shown to meet County LOS standards. Traffic volumes from the two collected intersections (#4 & #5) were shown to be up to 40% lower in the AM peak hour and 19% lower in the PM peak hour based on volume comparisons with County tube counts. Traffic volumes have been adjusted accordingly. See appendix for further details.

4. FUTURE TRAFFIC DEMAND

4.1 Trip Generation

Trip generation is typically derived using the Institute of Transportation Engineering Manual, Trip Generation, however; no applicable Land Use Code (LUC) in the 10th Edition manual was identified as representative for a behavioral health facility. For the proposed development, a site-specific trip generation analysis was performed to provide a more accurate forecast. The proposed trip generation methodology was established in coordination with the County. It includes sample data from three existing sites sampled by our firm and two existing sites sampled by H. Lee & Associates that were considered similar in nature and operation to that of the proposed site. All existing sites were sampled in terms of their daily, AM peak hour and PM peak hour vehicular demands. Full-count sheets at each location sampled by our firm have been attached in the appendix for reference.

The County requested that the trip rates collected by our firm and H. Lee & Associates be averaged to establish a trip rate for proposed analysis. As such, the table below calculates the average trip generation rates for the study timeframes as reported by our firm and H. Lee & Associates. Rates are based on trips per bed.

Table 3: Average Weekday Trip Generation Rates

Sample Set	ADT Rate (trips per Bed)	AM Peak Hour (trips per Bed)	PM Peak Hour (trips per Bed)
Heath & Assoc.	8.98	1.12	0.62
H. Lee & Assoc.	8.76	0.69	0.71
Average Trip Rate	8.87	0.91	0.67

The above local trip generation rates can be applied to the proposed DSHS Behavioral Health facility for estimating vehicular demands. Table 4 below summarizes the project’s trip generation forecast using the averaged trip generation rates. Inbound and outbound percentages were derived via the observed Heath & Associates sample site counts.

Table 4: Project Trip Generation

Land Use	Size beds	ADT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In (46%)	Out (54%)	Total	In (27%)	Out (73%)	Total
Behavioral Health Facility	48	426	20	24	44	9	23	32

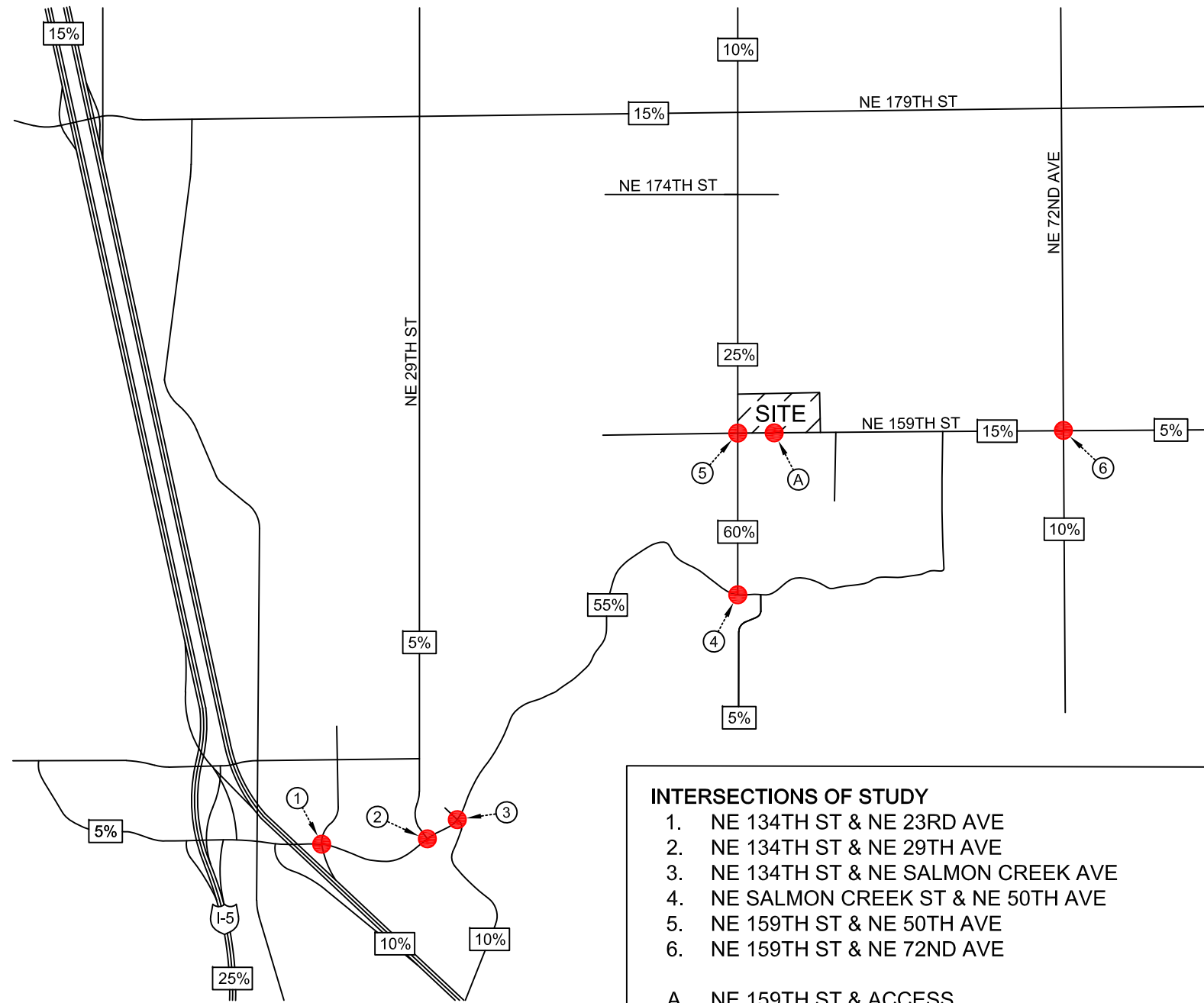
Based on the derived trip generation rates, the project can be expected to generate 426 new average daily trips, 44 new AM peak hour trips (20 inbound/24 outbound) and 32 new PM peak hour trips (9 inbound/23 outbound).

4.2 Trip Distribution Pattern

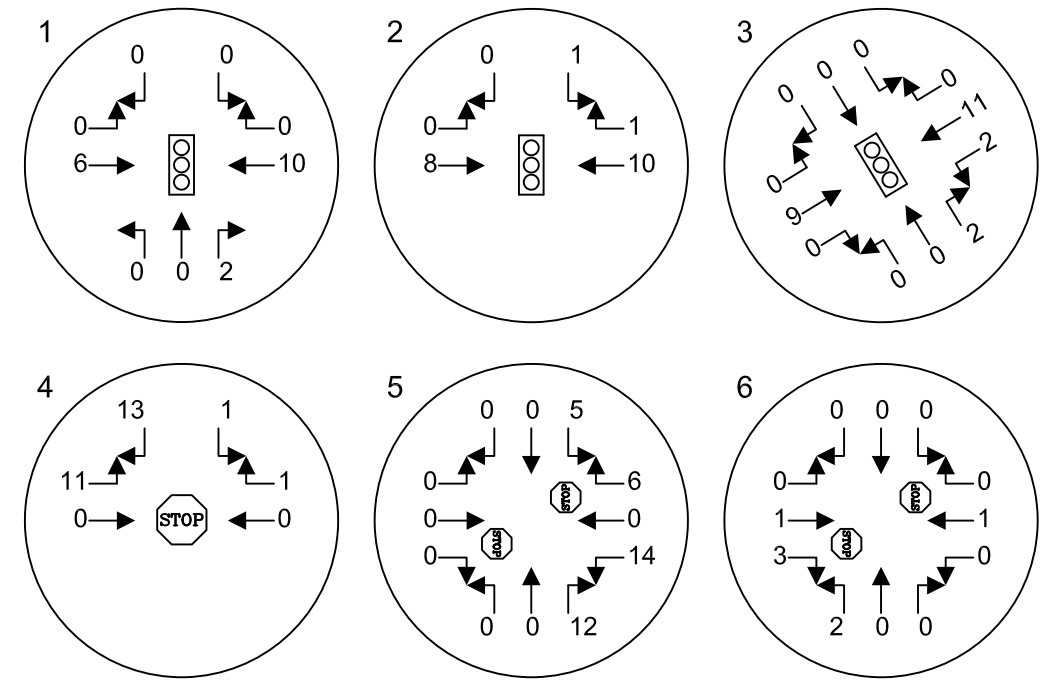
Trip distribution describes the anticipated travel routes for inbound and outbound project traffic relative to the adjacent street system. Trip distribution percentages were established in coordination with the County and are based on the location of nearby major arterials. The trips generated by the project are expected to follow the general pattern shown in Figures 5 and 6 for the AM and PM peak hours of travel, respectively.

4.3 Peak Hour Volumes With and Without the Project

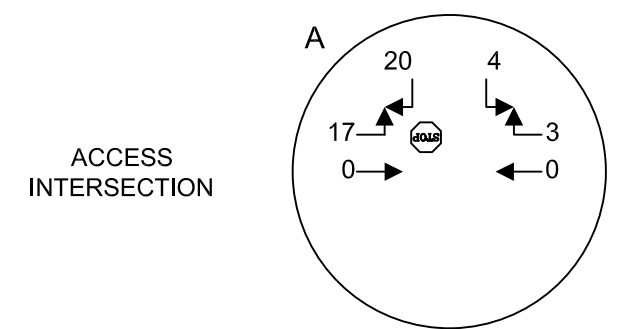
A 3-year horizon of 2024 was used for future traffic delay analysis. Forecast 2024 background traffic volumes were derived by applying a 2.0 percent compound annual growth rate to the baseline 2021 AM and PM peak hour volumes shown in Figures 3 and 4. Figures 7 and 8 show forecast 2024 AM and PM peak hour volumes without the project, respectively. Figures 9 and 10 illustrate forecast AM and PM peak hour volumes with the proposed project trips added to the study intersections.

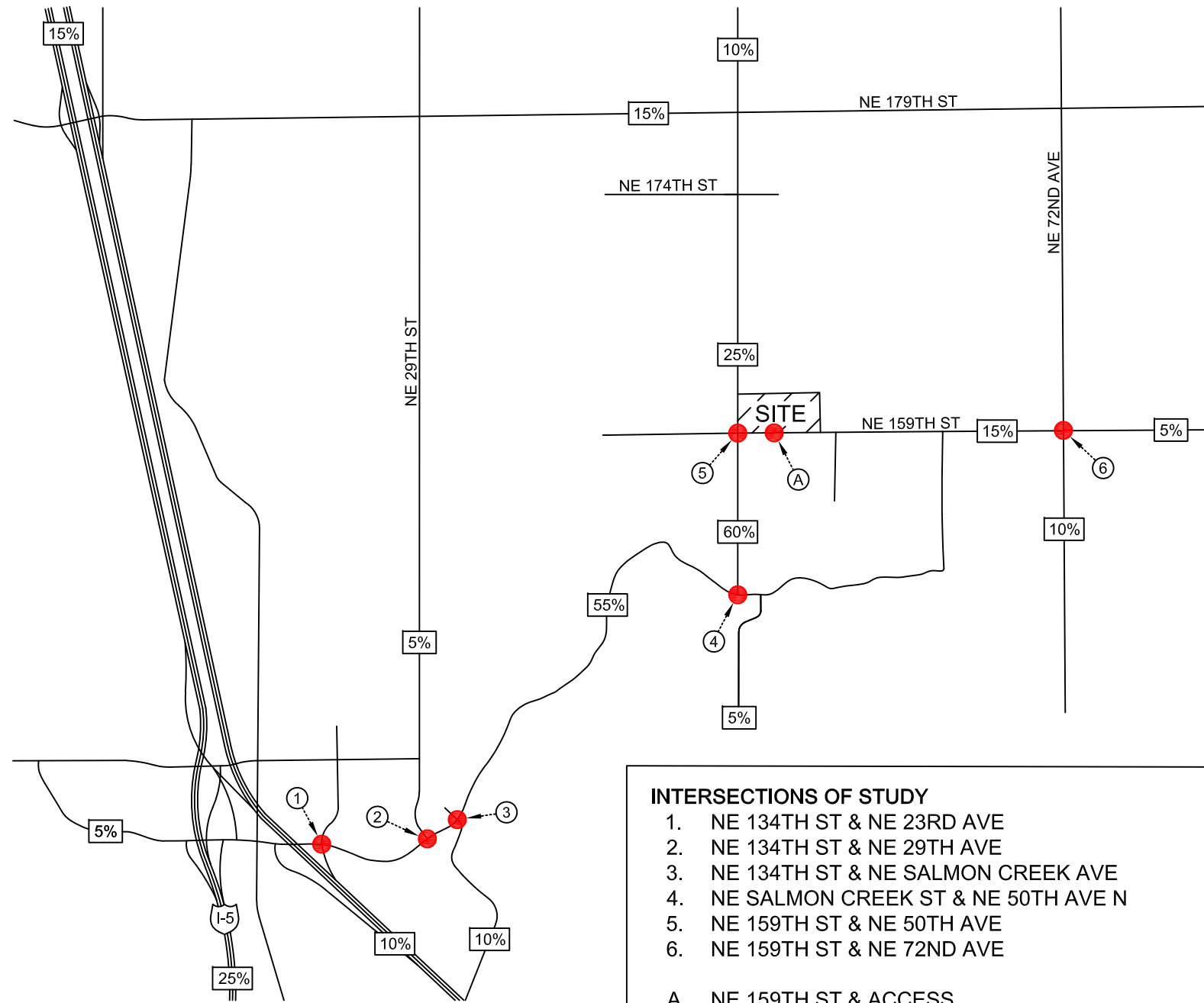


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 4. NE SALMON CREEK ST & NE 50TH AVE
 5. NE 159TH ST & NE 50TH AVE
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- A. NE 159TH ST & ACCESS
- = STUDY INTERSECTION



NEW AM PEAK HOUR TRIPS
 INBOUND: 20 VPH
 OUTBOUND: 24 VPH



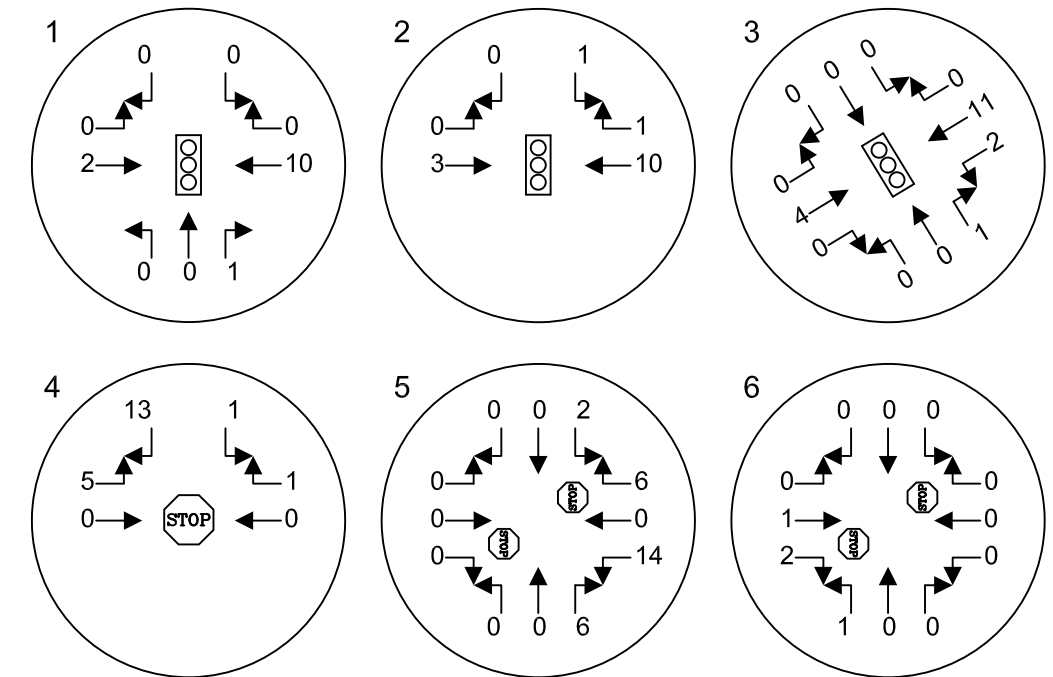


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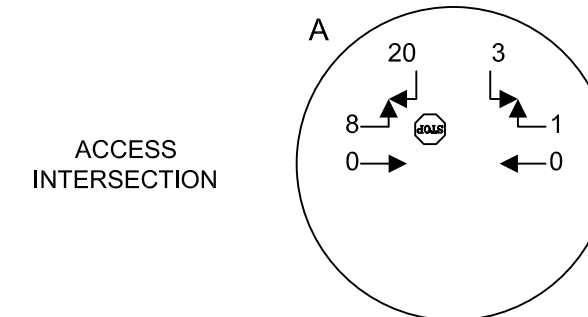
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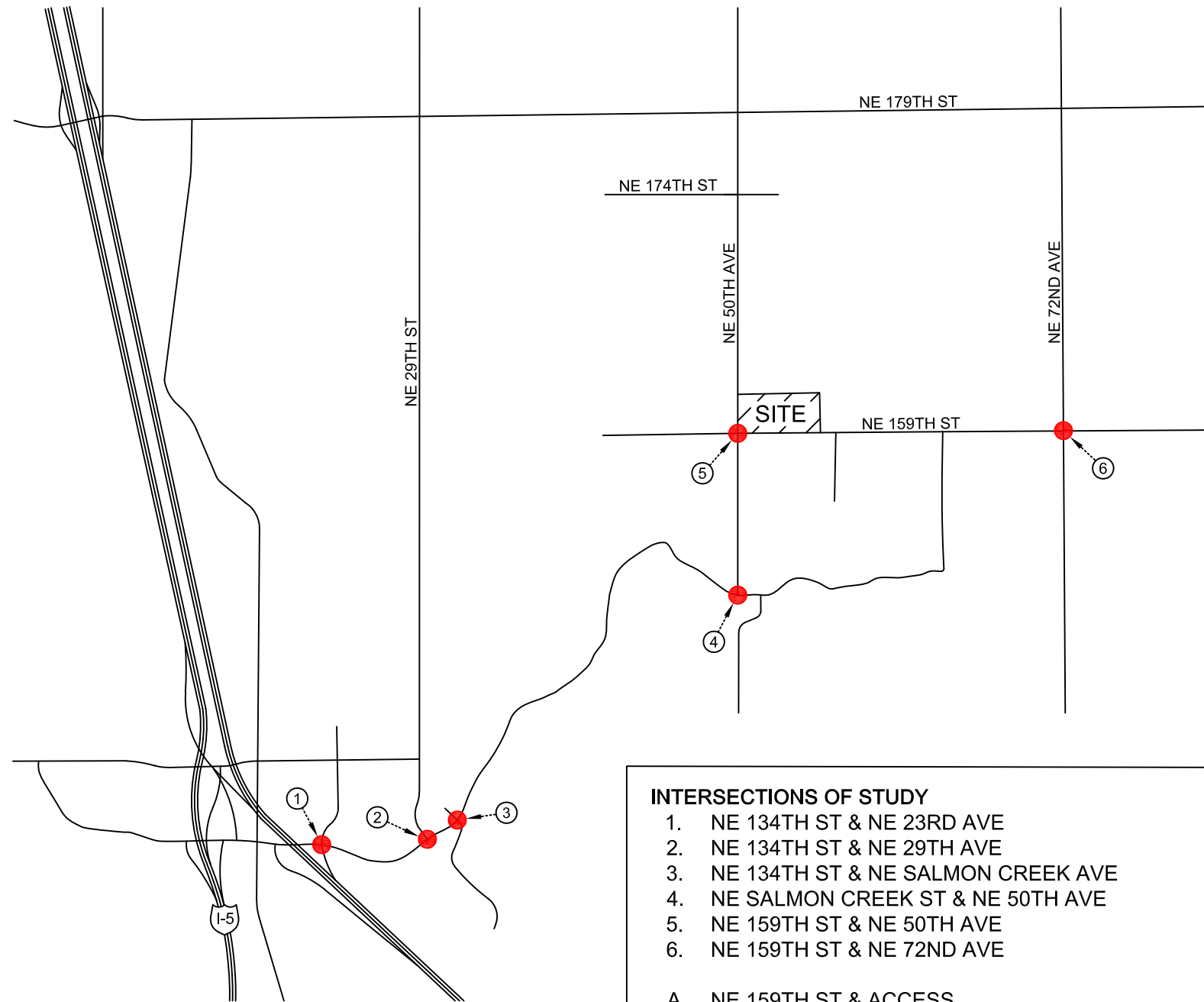
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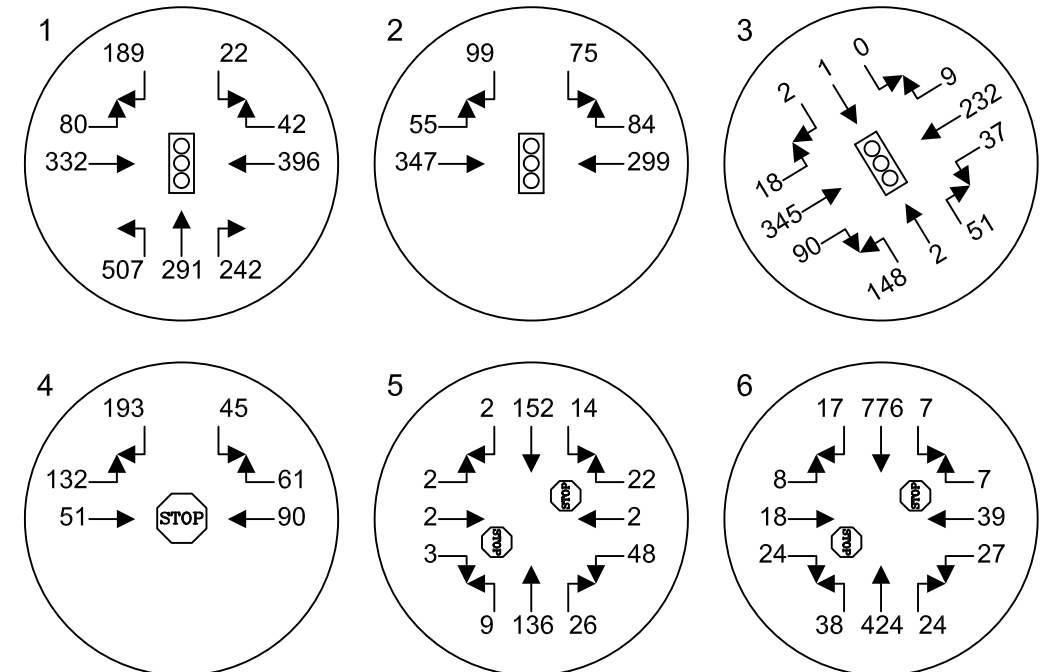


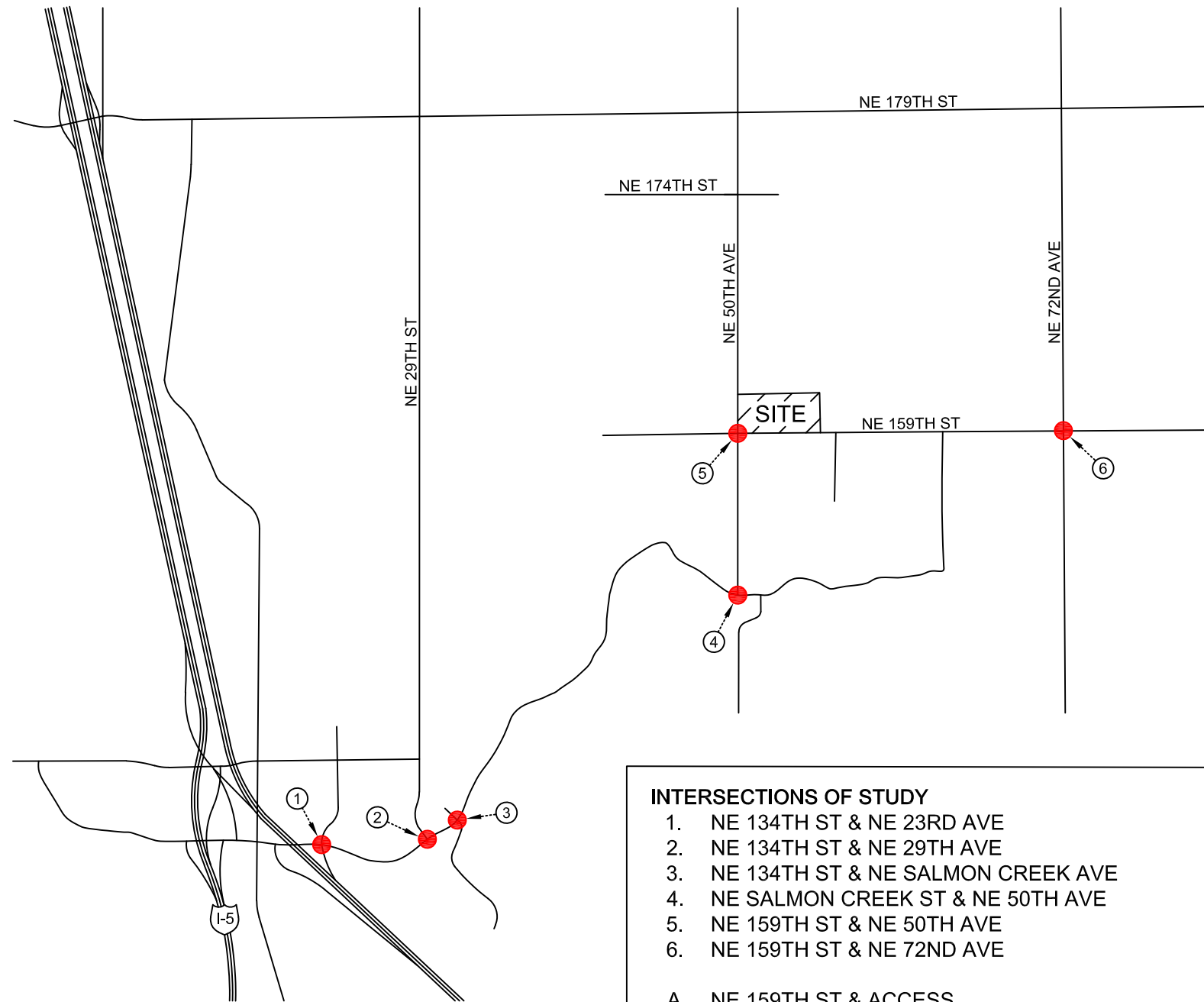
NEW PM PEAK HOUR TRIPS
 INBOUND: 9 VPH
 OUTBOUND: 23 VPH





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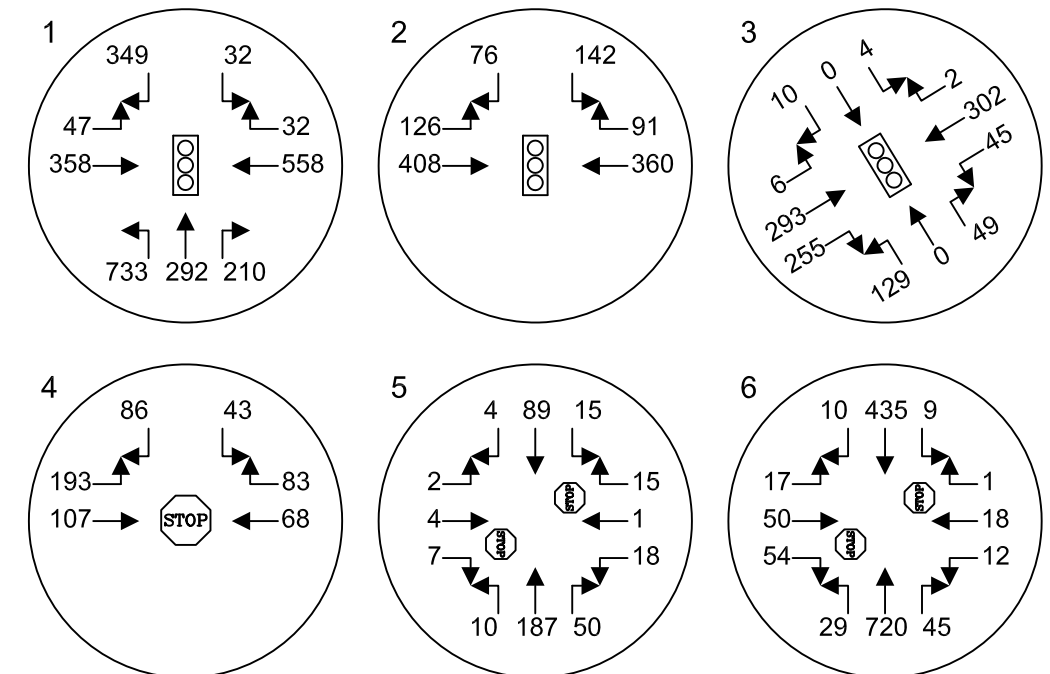


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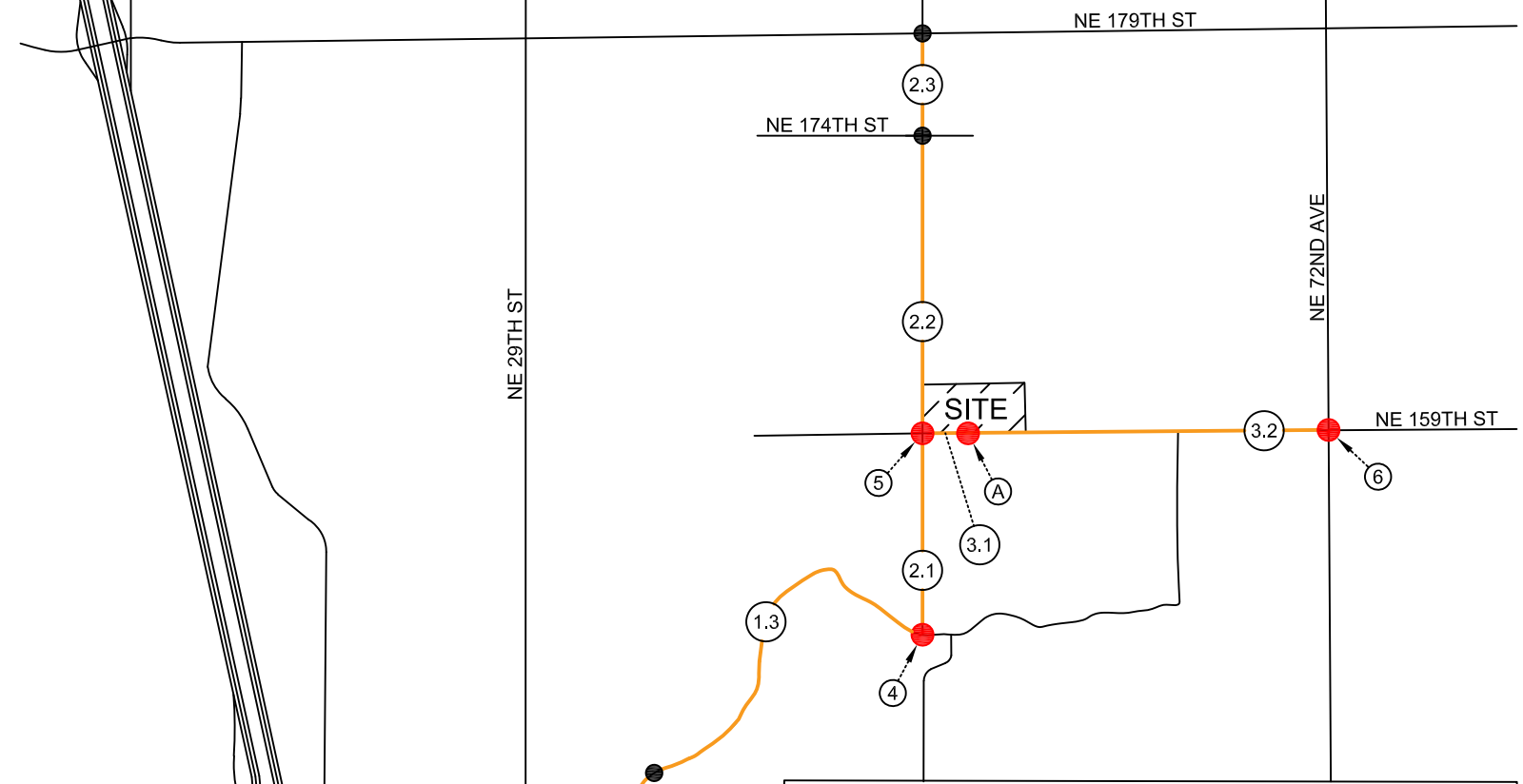
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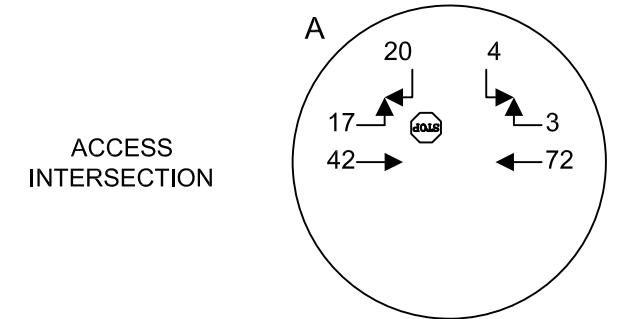
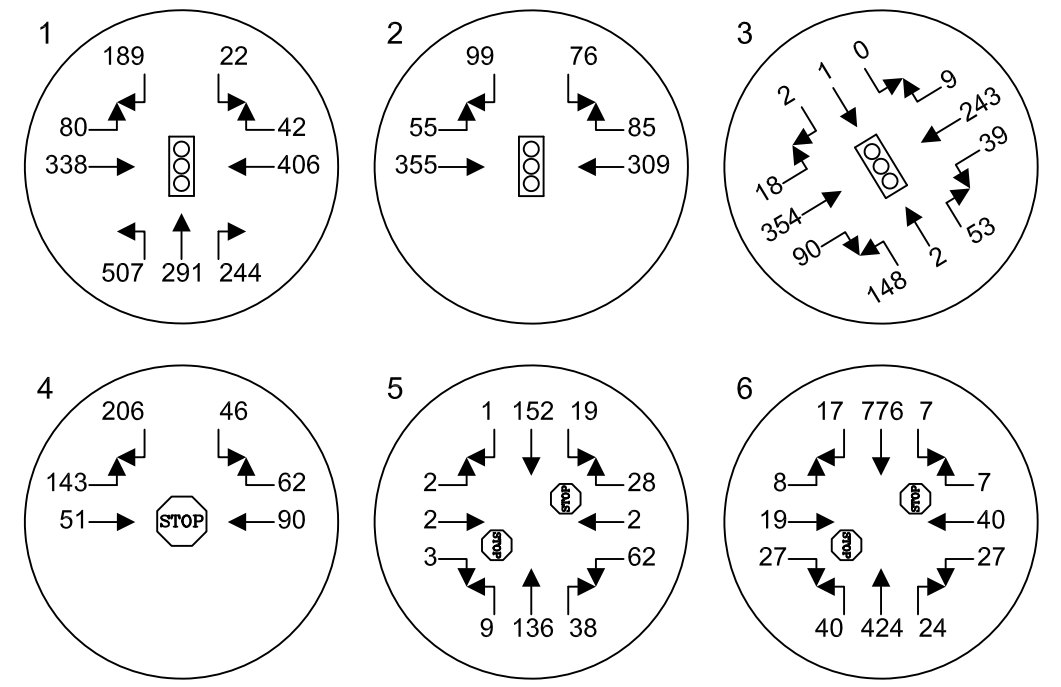




COUNTY DESIGNATION; CAPACITY PER HR	(1.1) M-4cb: 1800	(1.2) C-2cb: 900	(1.3) M-2cb: 900	(2.1) M-2cb: 900	(2.2) M-2cb: 900	(2.3) M-2cb: 900	(3.1) C-2cb: 900	(3.2) C-2cb: 900
SINGLE DIRECTION VOLUME/ CAPACITY PER HR	WB V/C = 0.22 ← 39A 431 → EB V/C = 0.24	SB V/C = 0.32 291 ↓ 407 ↑ NB V/C = 0.45	SB V/C = 0.33 296 ↓ 194 ↑ NB V/C = 0.22	SB V/C = 0.28 252 ↓ 205 ↑ NB V/C = 0.23	SB V/C = 0.19 172 ↓ 166 ↑ NB V/C = 0.18	SB V/C = 0.21 188 ↓ 97 ↑ NB V/C = 0.11	WB V/C = 0.10 ← 92 59 → EB V/C = 0.07	WB V/C = 0.11 ← 97 54 → EB V/C = 0.06

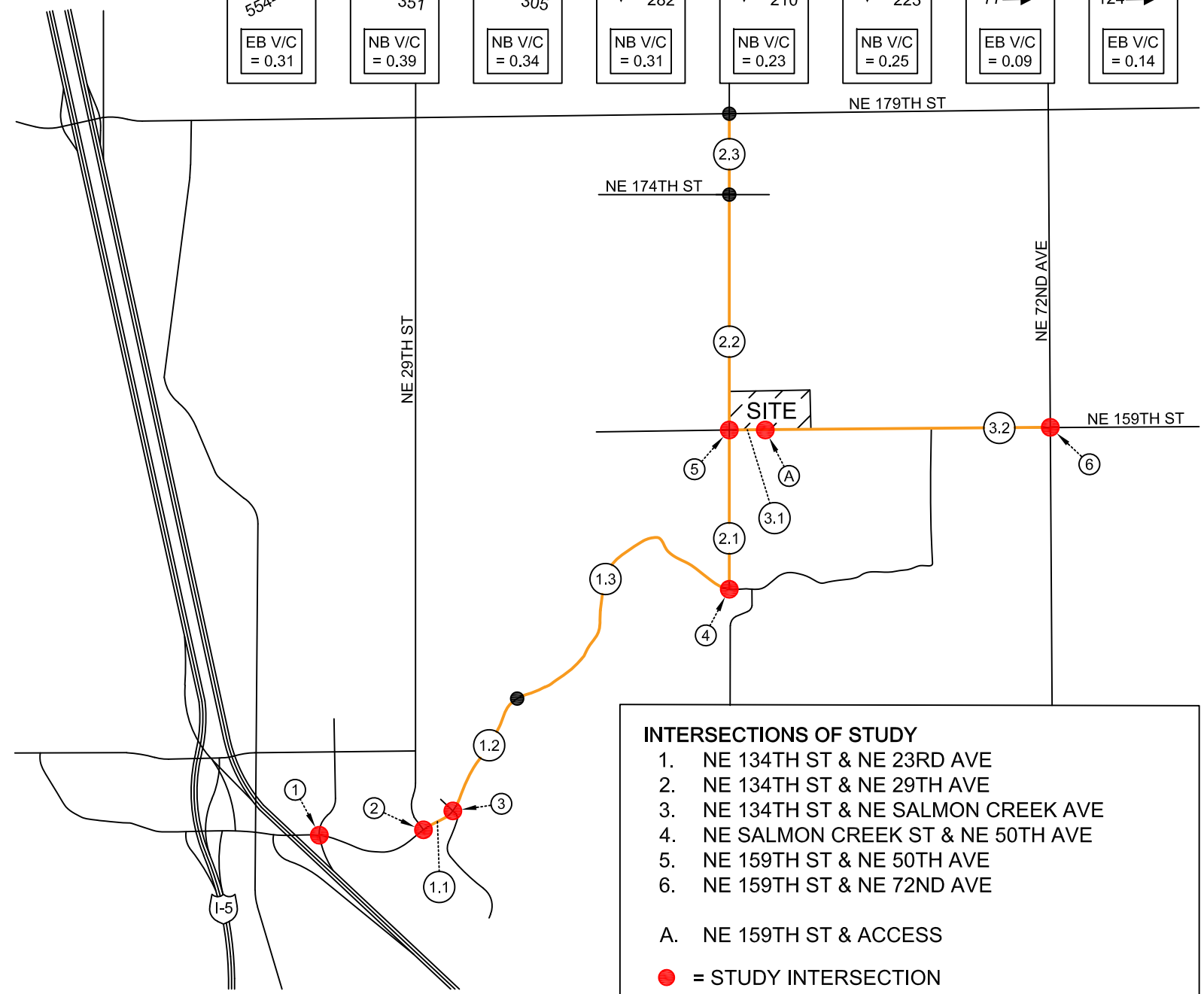


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— = CORRIDOR SEGMENT ANALYSIS

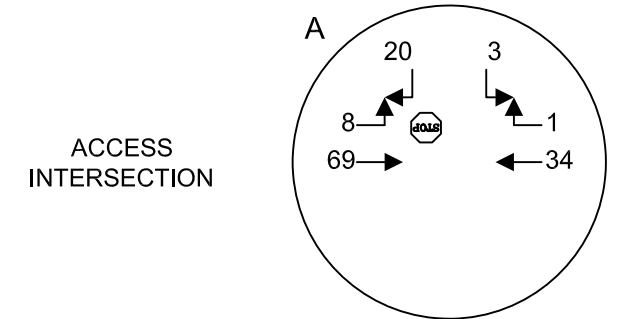
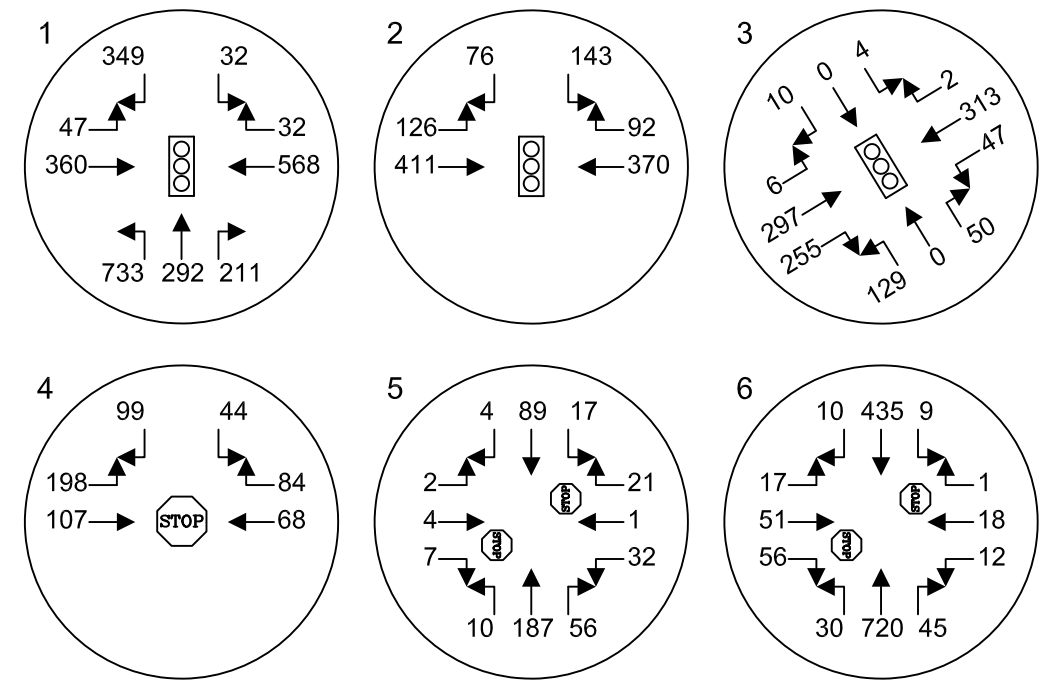




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SINGLE DIRECTION VOLUME/ CAPACITY PER HR	WB V/C = 0.26 ← 462 554 → EB V/C = 0.31	SB V/C = 0.40 362 ↓ 351 ↑ NB V/C = 0.39	SB V/C = 0.19 167 ↓ 305 ↑ NB V/C = 0.34	SB V/C = 0.16 143 ↓ 282 ↑ NB V/C = 0.31	SB V/C = 0.12 110 ↓ 210 ↑ NB V/C = 0.23	SB V/C = 0.11 99 ↓ 223 ↑ NB V/C = 0.25	WB V/C = 0.06 ← 54 77 → EB V/C = 0.09	WB V/C = 0.06 ← 58 124 → EB V/C = 0.14



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- = STUDY INTERSECTION
— = CORRIDOR SEGMENT ANALYSIS



4.4 Future Level of Service

Level of service analyses were made of the PM peak hour conditions at the study intersections under the three-year horizon. Delays for the key intersections without and with DSHS Behavioral Health site-generated traffic are summarized below.

Table 5: Forecast 2024 Peak Hour Level of Service

Delays given in seconds per vehicle

#	Intersection	Control	Peak Hour	Crit. Mvmt	<u>Without</u>		<u>With Project</u>	
					LOS	Delay	LOS	Delay
1	NE 134th St & NE 23rd Ave	Signal	AM	Overall	C	25.4	C	25.4
			PM		D	44.6	D	44.6
2	NE 134th St & NE 29th Ave	Signal	AM	Overall	B	17.5	B	17.6
			PM		B	14.9	B	17.5
3	NE 134th St & NE Salmon Creek Ave	Signal	AM	Overall	B	14.9	B	14.9
			PM		B	13.3	B	13.3
4	NE Salmon Creek St & NE 50th Ave	AWSC	AM	Overall	A	9.2	A	9.3
			PM		B	10.3	B	10.4
5	NE 159th St & NE 50th Ave	TWSC	AM	WB	B	11.5	B	11.9
			PM	WB	B	11.0	B	11.4
6	NE 159th St & NE 72nd Ave	TWSC	AM	WB	F	98.9	F	104.7
			PM	WB	F	64.9	F	66.9
A	Access & NE 50th Ave	TWSC	AM	SB	-	-	A	8.9
			PM	SB	-	-	A	8.7

All intersections with the exception of NE 159th Street & NE 72nd Avenue are shown to continue meeting County standards. The County's current Six-Year TIP also indicates that the NE 134th Street corridor is planned for signals to update to Adaptive technology which may increase capacity and reduce corridor and intersection delays.

NE 159th Street & NE 72nd Avenue: is shown to continue operating at LOS F without or with the proposed development. It should be noted that project-generated traffic accounts for less than 0.5% of total peak hour volumes. Furthermore, the project is estimated to generate less than 5 vehicle trips on the minor stop-controlled approach. *SimTraffic* modeling software was utilized to determine peak hour intersection queuing.

Table 6: Forecast 2024 Intersection Queuing – NE 159th St & NE 72nd Ave

Queues in Feet

Movement	AM Peak Hour		PM Peak Hour	
	Average	95th %-tile	Average	95th %-tile
Eastbound	46	79	64	115
Westbound	65	129	26	61

The queuing analysis indicates that, on average, 2-3 vehicles may be queued on the controlling minor approach during the peak travel hours waiting to enter NE 72nd Avenue. The 95th percentile estimates up to approximately 5 vehicles would be stored.

Traffic Signal Warrants

Traffic signal warrants in accordance with MUTCD were evaluated, as applicable, to the intersection of NE 159th Street & NE 72nd Avenue given the failing LOS. However, with only two-hour counts from the AM and PM periods, only Warrant 2 – Four-Hour Vehicular Volume & Warrant 3 – Peak Hour could be evaluated.

Warrant 2 – Four-Hour Volumes – Warranted under present conditions

Warrant 3 – Peak Hour – Warranted under present PM peak hour conditions

Based on the traffic signal warrant analysis, both Warrant 2 and Warrant 3 are met under present (pre-COVID) conditions and would continue to be warranted under forecast conditions with or without the project. The County may want to further evaluate the intersection to determine if a traffic signal is suitable for this location. Traffic volumes are currently considerably lower in the County which may result in unwarranted conditions for some time. Extended counts (e.g., 12 hour/ 24 hour) would also determine whether additional warrants such as Warrant 1 – 8-Hour Volumes are met.

The project is shown to be a small contributor of traffic to this intersection. Project-generated traffic is anticipated to be primarily destined to and from the west by way of NE 159th Street. Given the low contributing volumes and minor impact, no mitigation from the project is recommended other than the payment of traffic impact fees.

Corridor Level of Service

Clark County also has an adopted Level of Service standard for roadway segments that shall not exceed a volume to capacity ratio (v/c) of 0.9. The roadway corridor capacity is based on the County’s roadway type and designation. See Figures 9 & 10 for requested corridor LOS analysis. All segments are shown to achieve the County’s standards operating at a v/c of 0.45 or below.

4.5 Driveway Sight Distance

The project proposes a single access driveway extending north from NE 159th Street. Pursuant with CCC 40.350.030 stopping sight distance and intersection sight distance shall achieve a minimum of 305 feet and 400 feet, respectively, based on the 40-mph speed limit of NE 159th Street. Based on preliminary measurements of the approximate driveway location, sight lines are shown to exceed 500 feet in both the east and west directions. The roadway is relatively flat in grade with no horizontal curvature that would obstruct the necessary sight lines.

5. CONCLUSIONS AND MITIGATION

The DSHS NE 50th Clark County Behavioral Health project proposes to construct a new behavioral health facility comprising 3 buildings (each building sizing ~16,600 square feet) for a total of 48 beds. The proposed development is located in the Vancouver Urban Growth Area of Clark County. The site (20.0-acre tax parcel #: 195925000) will undergo a boundary lot adjustment, partitioning the proposed development to the eastern portion of the existing parcel. Proposed access to the site consists of one new driveway extending north from NE 159th Street. See Figure 2 for the proposed site design schematic.

Local trip generation data on similar health behavior facilities conducted by Heath & Associates and H. Lee & Associates were utilized in determining estimated vehicular activity for the project. In total, the project is estimated to generate 426 average weekday daily trips with 44 trips occurring in the AM peak hour and 32 trips in the PM peak hour. Six outlying intersections were evaluated in terms of Level of Service based on County direction. All intersections were shown to operate satisfactorily with the exceptions of NE 159th Street & NE 72nd Avenue which was shown to operate with LOS F conditions.

A three-year horizon of 2024 was evaluated with and without the proposed development at the six study intersections and requested roadway segments. All roadway segments were shown to meet the County's volumes to capacity ratio of 0.9 or better and all intersections with the exception of NE 159th Street & NE 72nd Avenue were shown to meet County standards. For the deficient intersection, additional analysis was performed which indicated an approximately 5 vehicle queue for the minor approaches during peak commute travel times. Moreover, traffic signals warrants (Warrants 2 & 3) are met under existing (pre-COVID) conditions; however, traffic volumes are presently considerably lower throughout the County given the ongoing pandemic. The project is shown to account for

less than 0.5 percent of total entering volumes and generates less than 5 trips to a minor approach and therefore no off-site mitigation is identified. The County may want to further examine and evaluate this intersection as traffic volumes increase to pre-pandemic levels and additional analysis can be achieved.

Based on the findings of this report the following mitigation is proposed for the DSHS NE 50th Clark County Behavioral Health facility:

1. Pay Traffic Impact Fees (TIF) as required by Clark County. Exact fees would be calculated and assessed by the County at the time of building permit issuance.

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

COUNT DATA COLLECTION
ACTION PLAN

Action Plan for DSHS Clark Count Data Collection

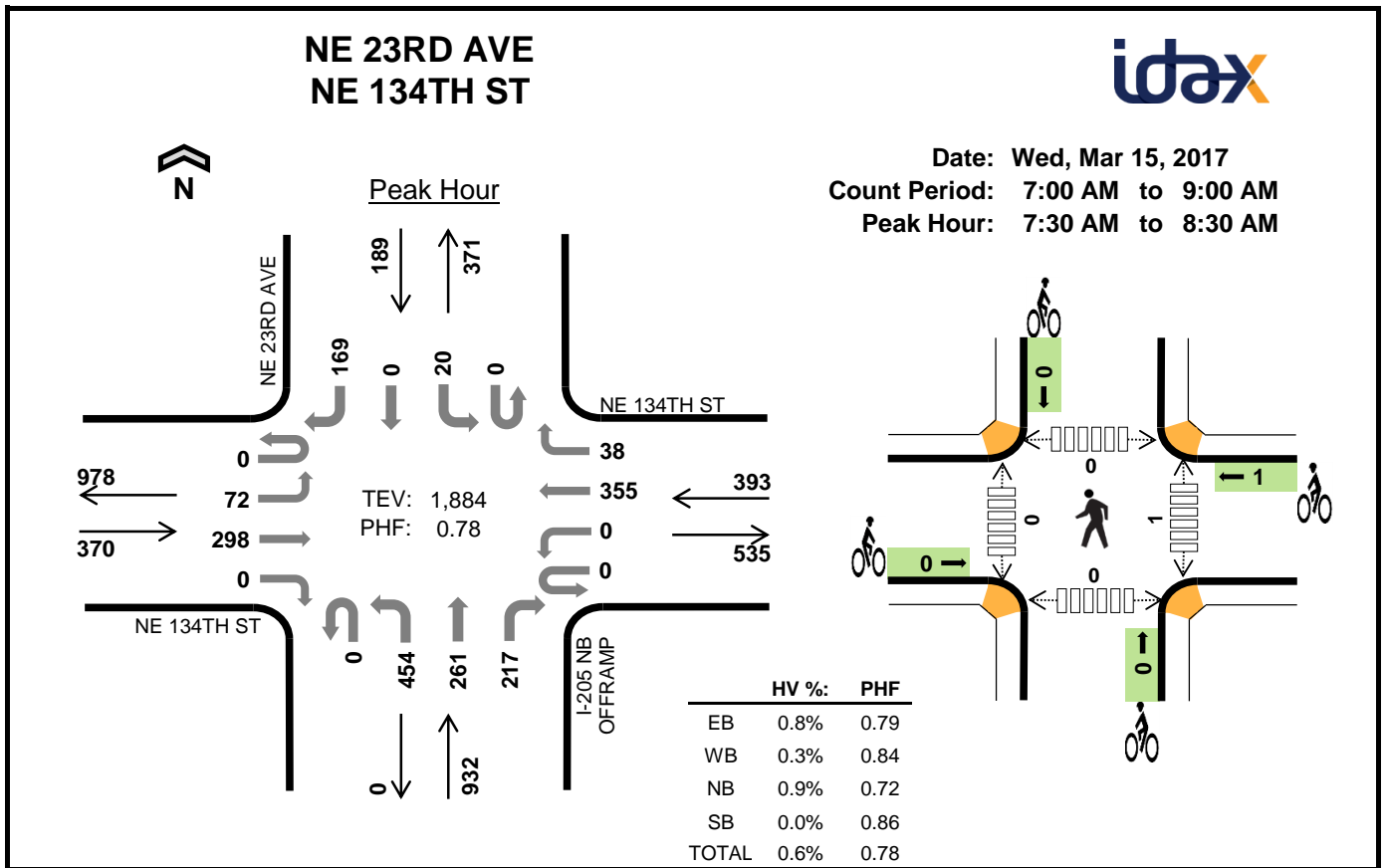
Heath & Associates – 3-31-2021

#	Intersection	Count Date	Count Type
1.	NE 134th St / NE 23rd Ave	Mar. 2017 AM/PM	Turning Movement
Use 2017 turning movement counts and apply 1.26% growth to 2021;			
2.	NE 134 St / NE 29th Ave	Mar. 2017 AM/PM	Turning Movement
Use 2017 turning movement counts and apply 1.26% growth to 2021			
3.	NE 134th St / NE Salmon Creek Ave	Mar. 2017 AM/PM Sept. 2019 Daily	Turning Movement Tube
Use 2017 turning movement counts and apply 1.26% growth to 2021;			
4.	NE Salmon Creek St / NE 50th Ave	Oct. 2018	Tube
Collect current counts and use 2018 tube counts for an adjustment factor			
5.	NE 159th St / NE 50th Ave	Oct. 2018	Tube
Collect current counts and use 2018 tube counts for an adjustment factor			
6.	NE 159th St / NE 72nd Ave	Sept. 2019 AM/PM	Turning Movement
Use 2019 turning movement count with a 1.26% adjustment factor to 2021			

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

2017 CLARK COUNTY
TURNING MOVEMENT COUNTS

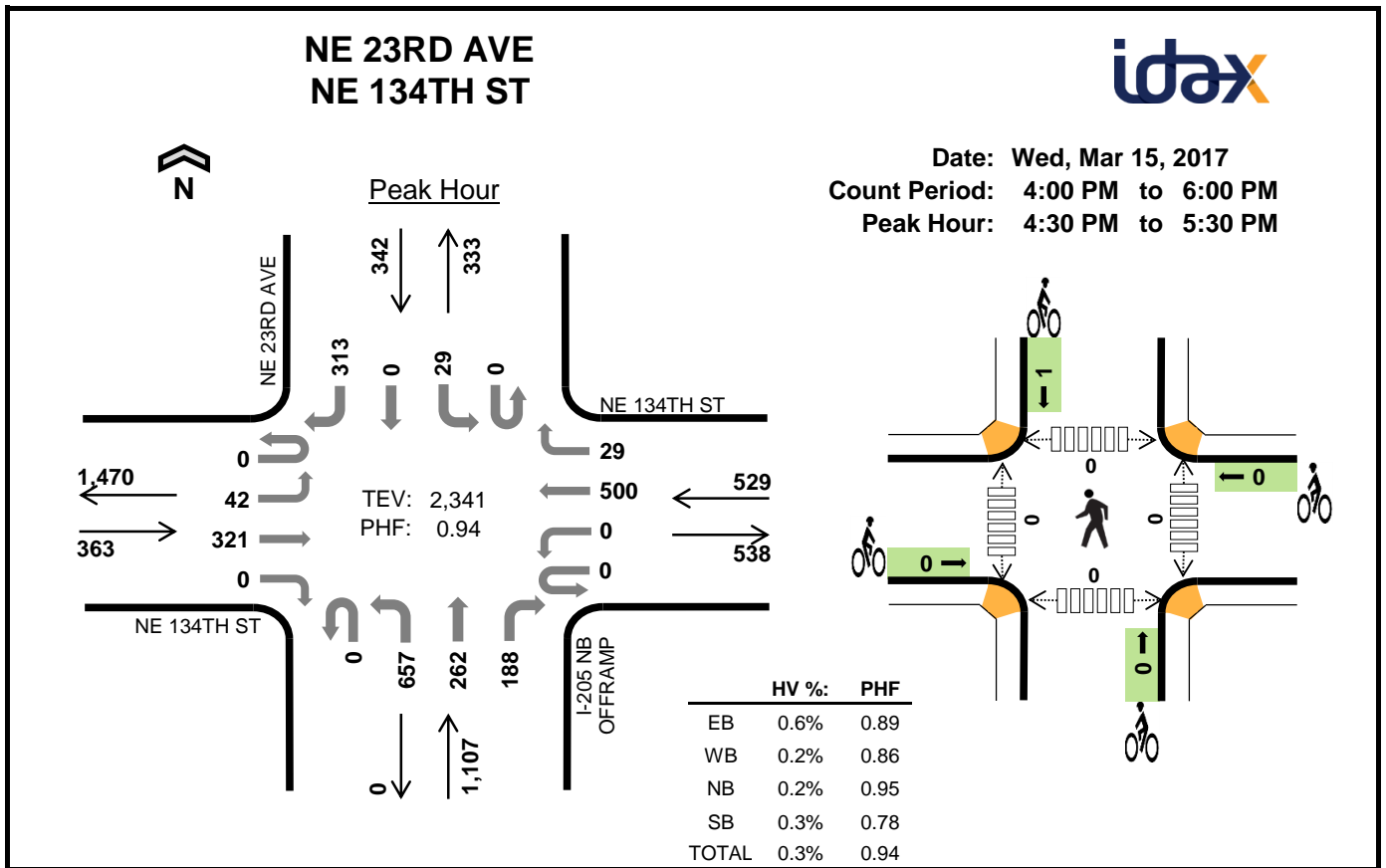


Two-Hour Count Summaries

Interval Start	NE 134TH ST Eastbound				NE 134TH ST Westbound				I-205 NB OFFRAMP Northbound				NE 23RD AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	19	34	0	0	0	53	9	0	99	46	23	0	1	0	29	313	0
7:15 AM	0	19	47	0	0	0	75	7	0	110	63	39	0	5	0	37	402	0
7:30 AM	0	15	66	0	0	0	76	11	0	101	78	54	0	4	0	51	456	0
7:45 AM	0	21	96	0	0	0	103	14	0	168	81	75	0	6	0	41	605	1,776
8:00 AM	0	18	69	0	0	0	96	4	0	91	52	38	0	6	0	34	408	1,871
8:15 AM	0	18	67	0	0	0	80	9	0	94	50	50	0	4	0	43	415	1,884
8:30 AM	0	24	53	0	0	0	106	9	0	112	68	33	0	4	0	36	445	1,873
8:45 AM	0	21	63	0	0	0	110	9	0	137	63	36	0	2	0	45	486	1,754
Count Total	0	155	495	0	0	0	699	72	0	912	501	348	0	32	0	316	3,530	0
Peak Hour	0	72	298	0	0	0	355	38	0	454	261	217	0	20	0	169	1,884	0

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

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

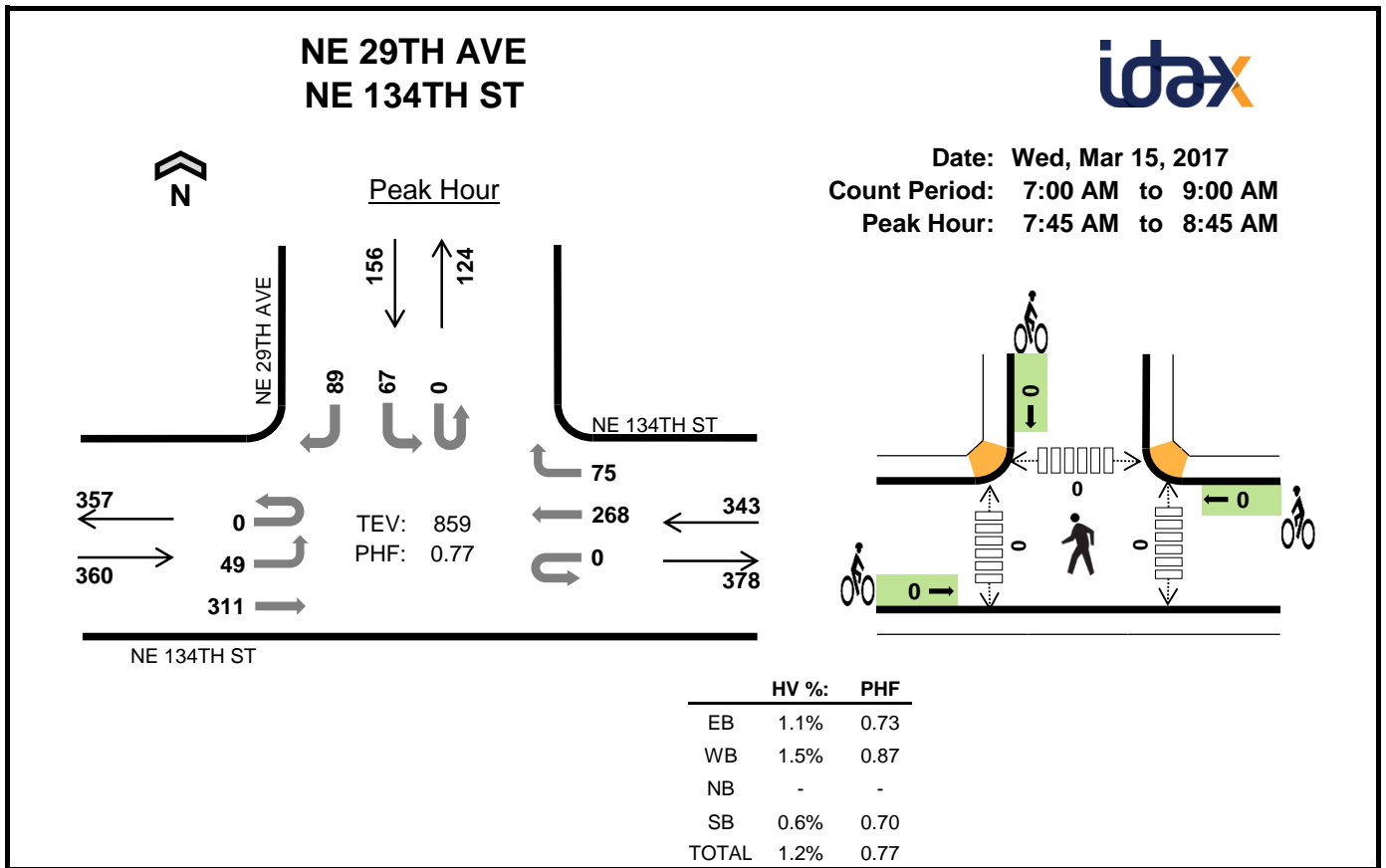


Two-Hour Count Summaries

Interval Start	NE 134TH ST Eastbound				NE 134TH ST Westbound				I-205 NB OFFRAMP Northbound				NE 23RD AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	13	67	0	0	0	123	3	0	190	65	46	0	10	0	69	586	0
4:15 PM	1	9	65	0	0	0	94	7	0	184	66	44	0	7	0	56	533	0
4:30 PM	0	11	77	0	0	0	96	7	0	164	67	53	0	2	0	83	560	0
4:45 PM	0	6	82	0	0	0	134	3	0	171	66	36	0	7	0	56	561	2,240
5:00 PM	0	13	89	0	0	0	144	9	0	147	62	50	0	15	0	94	623	2,277
5:15 PM	0	12	73	0	0	0	126	10	0	175	67	49	0	5	0	80	597	2,341
5:30 PM	0	11	61	0	0	0	69	5	0	177	56	42	0	5	0	52	478	2,259
5:45 PM	0	9	69	0	0	0	100	6	0	123	43	53	0	4	0	43	450	2,148
Count Total	1	84	583	0	0	0	886	50	0	1,331	492	373	0	55	0	533	4,388	0
Peak Hour	0	42	321	0	0	0	500	29	0	657	262	188	0	29	0	313	2,341	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	1	1	5	0	0	0	1	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Count Total	2	2	7	1	12	0	1	0	1	2	0	0	0	0	0
Peak Hour	2	1	2	1	6	0	0	0	1	1	0	0	0	0	0

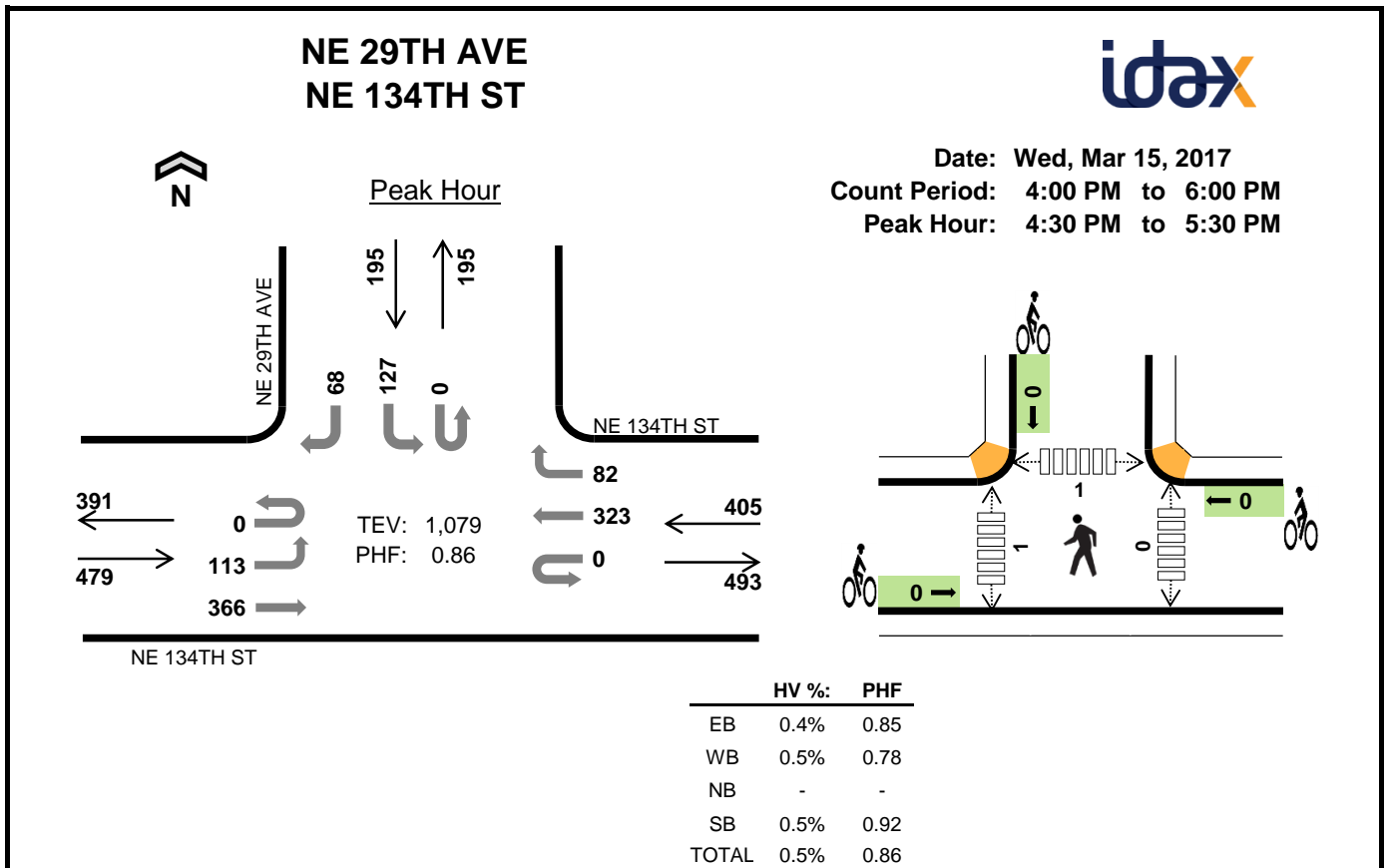


Two-Hour Count Summaries

Interval Start	NE 134TH ST Eastbound				NE 134TH ST Westbound				0 Northbound				NE 29TH AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	4	29	0	0	0	39	21	0	0	0	0	0	11	0	16	120	0
7:15 AM	0	10	47	0	0	0	54	9	0	0	0	0	0	20	0	22	162	0
7:30 AM	0	6	80	0	0	0	60	9	0	0	0	0	0	16	0	17	188	0
7:45 AM	0	13	111	0	0	0	70	29	0	0	0	0	0	25	0	31	279	749
8:00 AM	0	11	79	0	0	0	64	17	0	0	0	0	0	13	0	18	202	831
8:15 AM	0	16	68	0	0	0	53	17	0	0	0	0	0	15	0	17	186	855
8:30 AM	0	9	53	0	0	0	81	12	0	0	0	0	0	14	0	23	192	859
8:45 AM	0	13	62	0	0	0	78	16	0	0	0	0	0	21	0	19	209	789
Count Total	0	82	529	0	0	0	499	130	0	0	0	0	0	135	0	163	1,538	0
Peak Hour	0	49	311	0	0	0	268	75	0	0	0	0	0	67	0	89	859	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	1	0	1	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0
Count Total	6	9	0	2	17	0	1	0	0	1	0	0	0	0	0
Peak Hr	4	5	0	1	10	0	0	0	0	0	0	0	0	0	0

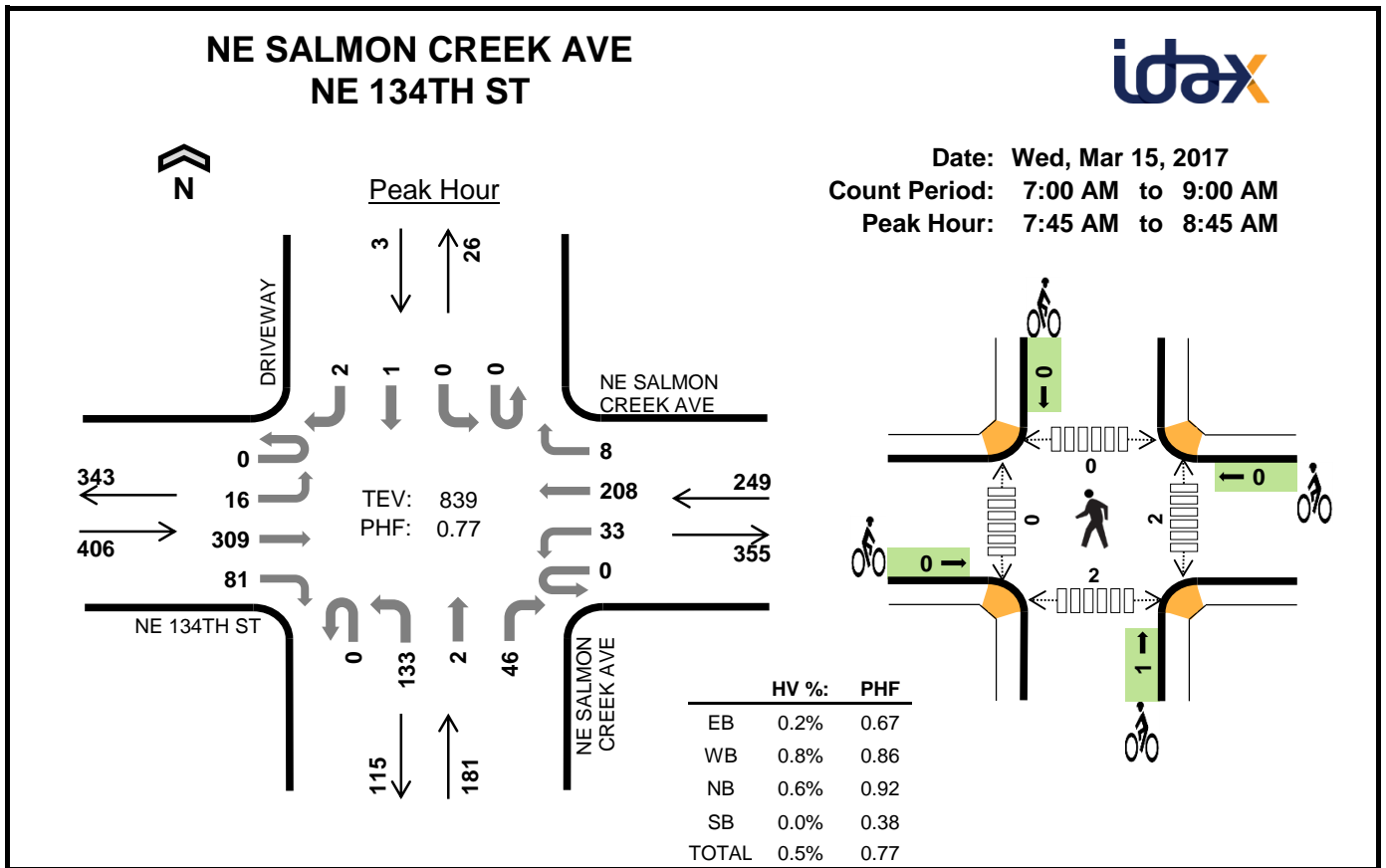


Two-Hour Count Summaries

Interval Start	NE 134TH ST Eastbound				NE 134TH ST Westbound				0 Northbound				NE 29TH AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	24	87	0	0	0	96	25	0	0	0	0	0	22	0	15	269	0
4:15 PM	0	27	81	0	0	0	65	24	0	0	0	0	0	23	0	19	239	0
4:30 PM	0	31	83	0	0	0	72	17	0	0	0	0	0	42	0	11	256	0
4:45 PM	0	20	89	0	0	0	81	19	0	0	0	0	0	27	0	21	257	1,021
5:00 PM	0	32	109	0	0	0	102	28	0	0	0	0	0	26	0	18	315	1,067
5:15 PM	0	30	85	0	0	0	68	18	0	0	0	0	0	32	0	18	251	1,079
5:30 PM	0	26	75	0	0	0	53	28	0	0	0	0	0	26	0	11	219	1,042
5:45 PM	0	33	80	0	0	0	55	20	0	0	0	0	0	19	0	19	226	1,011
Count Total	0	223	689	0	0	0	592	179	0	0	0	0	0	217	0	132	2,032	0
Peak Hour	0	113	366	0	0	0	323	82	0	0	0	0	0	127	0	68	1,079	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	0	1	4	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Count Total	2	3	0	2	7	0	1	0	0	1	0	1	1	0	2
Peak Hr	2	2	0	1	5	0	0	0	0	0	0	1	1	0	2

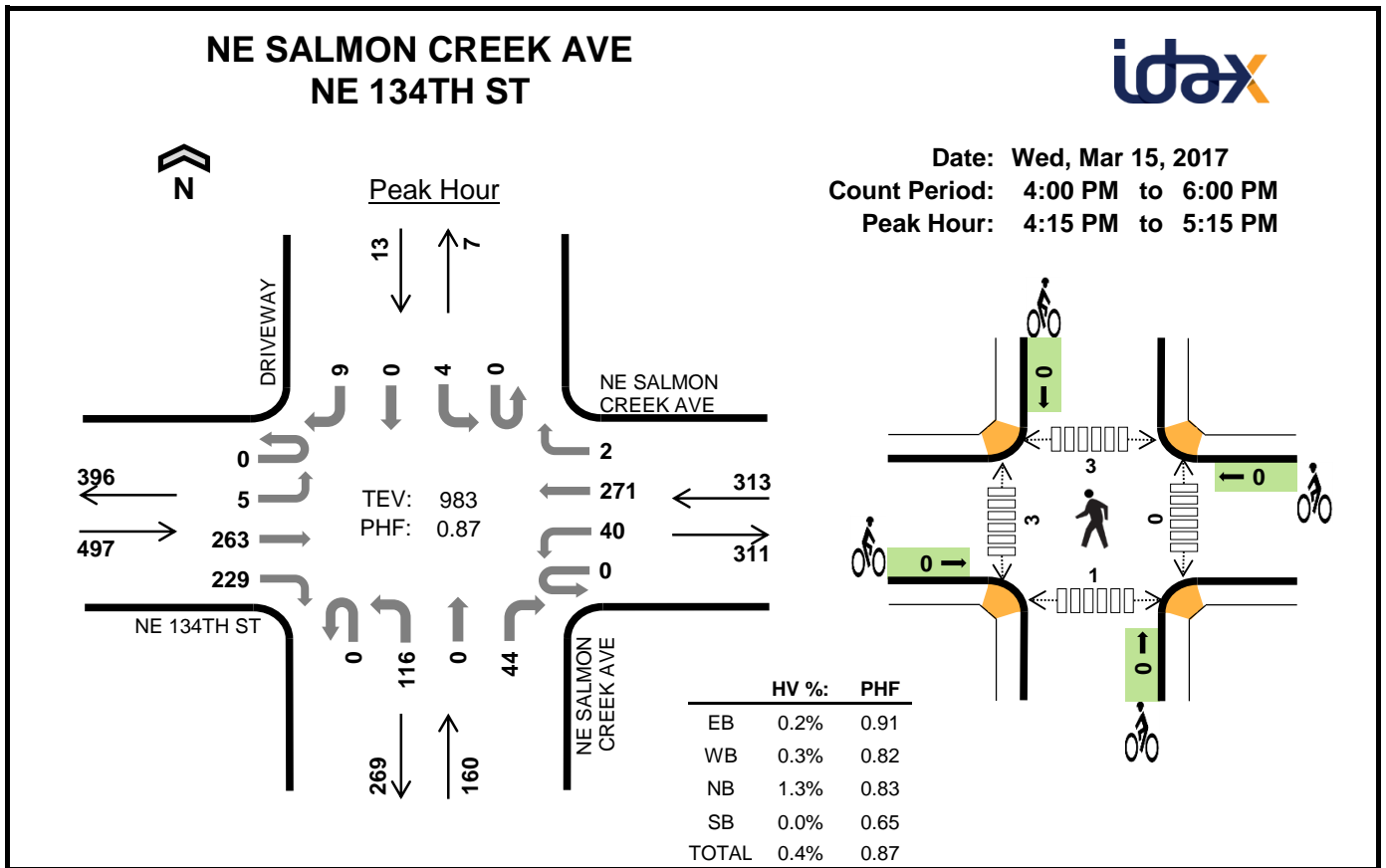


Two-Hour Count Summaries

Interval Start	NE 134TH ST				NE SALMON CREEK AVE				NE SALMON CREEK AVE				DRIVEWAY				15-min Total	Rolling One Hour
	Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound			
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	28	10	0	2	24	1	0	36	1	7	0	0	0	0	110	0
7:15 AM	0	0	44	27	0	1	28	0	0	28	0	8	0	0	0	0	136	0
7:30 AM	0	3	79	13	0	4	35	0	0	38	0	3	0	0	0	0	175	0
7:45 AM	0	4	118	29	0	8	61	2	0	39	0	10	0	0	0	0	271	692
8:00 AM	0	3	69	22	0	7	45	1	0	36	0	9	0	0	0	0	192	774
8:15 AM	0	4	68	16	0	11	41	1	0	25	1	15	0	0	0	1	183	821
8:30 AM	0	5	54	14	0	7	61	4	0	33	1	12	0	0	1	1	193	839
8:45 AM	0	2	57	24	0	7	53	2	0	38	1	6	0	0	0	2	192	760
Count Total	0	22	517	155	0	47	348	11	0	273	4	70	0	0	1	4	1,452	0
Peak Hour	0	16	309	81	0	33	208	8	0	133	2	46	0	0	1	2	839	0

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

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



Two-Hour Count Summaries

Interval Start	NE 134TH ST				NE SALMON CREEK AVE				NE SALMON CREEK AVE				DRIVEWAY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	61	44	0	15	80	0	0	32	0	9	0	1	0	7	251	0
4:15 PM	0	3	69	39	0	8	56	0	0	28	0	13	0	1	0	1	218	0
4:30 PM	0	0	63	68	0	11	65	1	0	22	0	12	0	1	0	1	244	0
4:45 PM	0	2	62	55	0	11	65	1	0	28	0	9	0	0	0	4	237	950
5:00 PM	0	0	69	67	0	10	85	0	0	38	0	10	0	2	0	3	284	983
5:15 PM	0	2	53	62	0	9	53	2	0	24	0	9	0	1	0	3	218	983
5:30 PM	0	1	51	52	0	15	50	0	0	33	0	4	0	0	0	0	206	945
5:45 PM	0	1	39	56	0	9	35	1	0	44	0	6	0	0	0	0	191	899
Count Total	0	11	467	443	0	88	489	5	0	249	0	72	0	6	0	19	1,849	0
Peak Hour	0	5	263	229	0	40	271	2	0	116	0	44	0	4	0	9	983	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4
4:30 PM	1	0	1	0	2	0	0	0	0	0	0	1	1	1	3
4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Count Total	1	2	2	0	5	0	0	1	0	1	0	4	3	1	8
Peak Hour	1	1	2	0	4	0	0	0	0	0	0	3	3	1	7

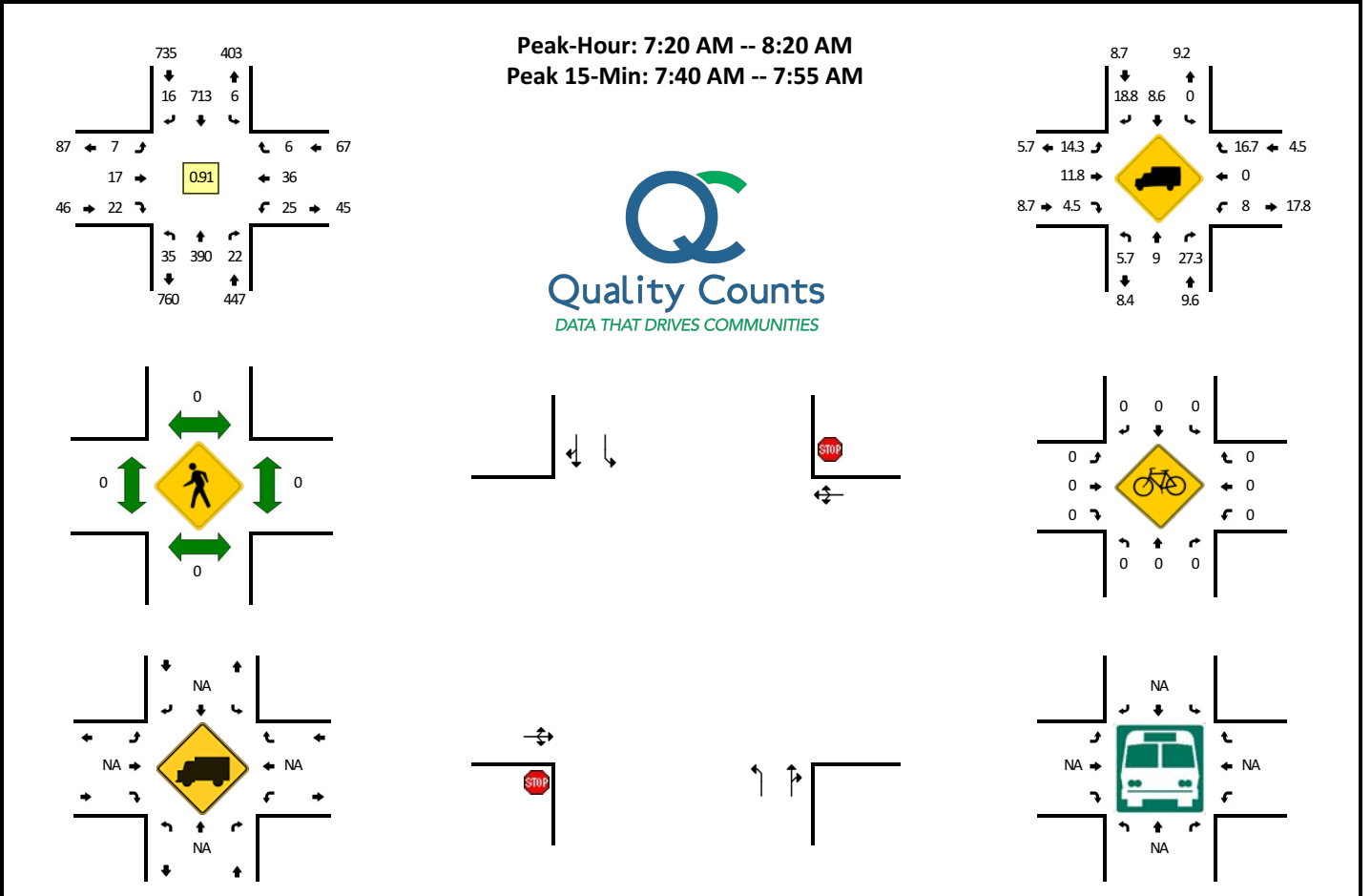
DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

2019 CLARK COUNTY
TURNING MOVEMENT COUNTS

LOCATION: IC03190 - NE 72nd Ave -- NE 159th St
CITY/STATE: Clark, WA

QC JOB #: 15060453
DATE: Tue, Sep 17 2019

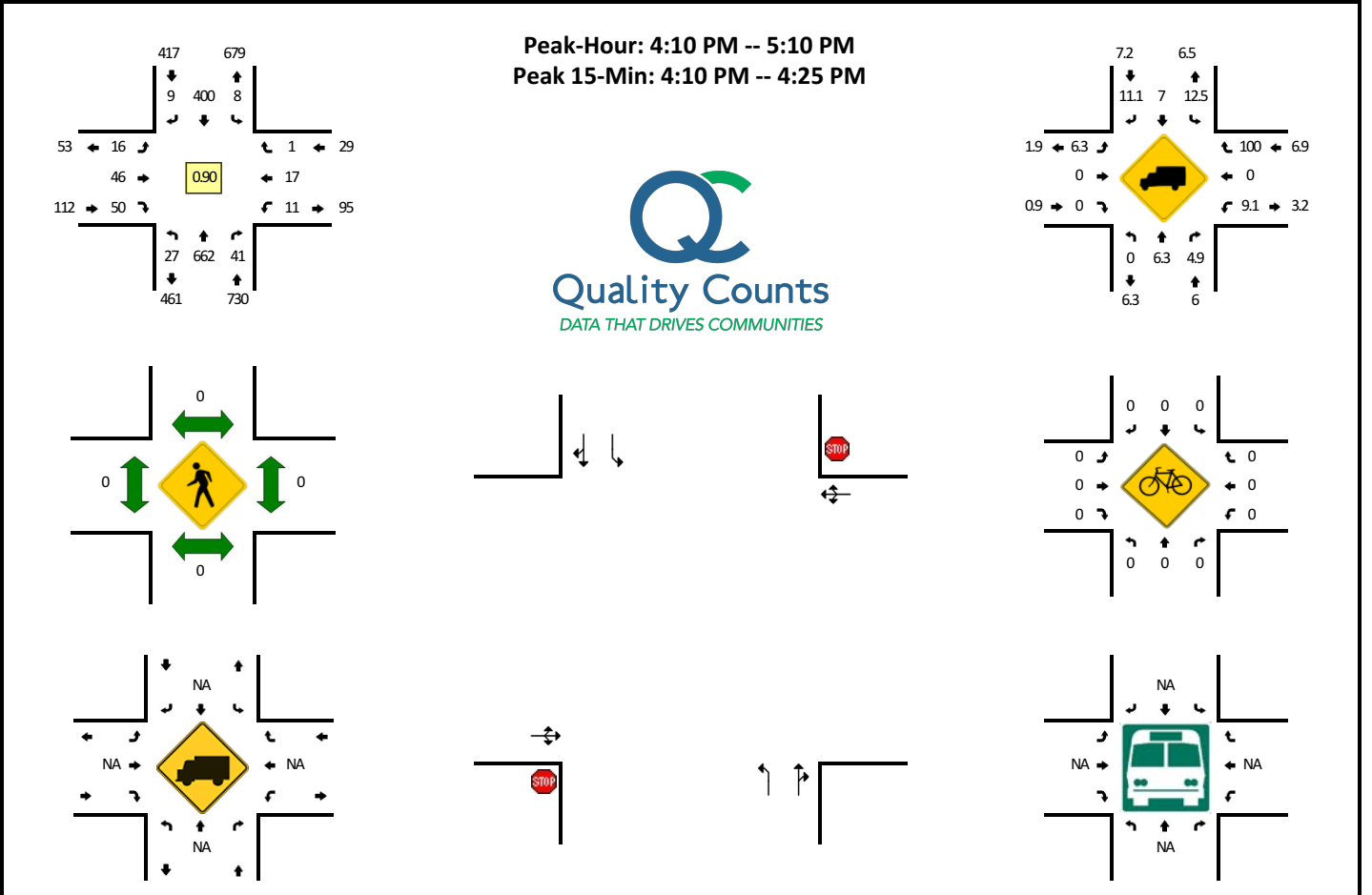


5-Min Count Period Beginning At	IC03190 - NE 72nd Ave (Northbound)				IC03190 - NE 72nd Ave (Southbound)				NE 159th St (Eastbound)				NE 159th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	18	0	0	0	46	0	0	0	2	1	0	3	0	1	0	71	
7:05 AM	1	21	0	0	0	62	0	0	0	1	0	0	3	2	0	0	90	
7:10 AM	1	22	0	0	0	44	1	0	0	0	2	0	4	1	0	0	75	
7:15 AM	0	22	1	0	0	58	1	0	0	1	2	0	2	2	1	0	90	
7:20 AM	3	34	2	0	0	63	1	0	1	1	4	0	1	3	0	0	113	
7:25 AM	1	22	1	0	2	72	2	0	1	1	2	0	2	1	0	0	107	
7:30 AM	3	41	2	0	0	36	2	0	0	3	2	0	4	5	1	0	99	
7:35 AM	4	32	0	0	1	63	0	0	0	0	2	0	4	2	1	0	109	
7:40 AM	4	36	2	0	0	56	0	0	0	6	4	0	3	5	0	0	116	
7:45 AM	1	36	0	0	1	71	2	0	0	0	1	0	3	2	0	0	117	
7:50 AM	3	25	5	0	0	81	1	0	1	0	1	0	2	2	0	0	121	
7:55 AM	2	46	2	0	1	42	3	0	1	0	2	0	2	7	0	0	108	1216
8:00 AM	5	29	1	0	1	67	1	0	0	3	1	0	0	1	1	0	110	1255
8:05 AM	2	23	2	0	0	53	0	0	1	1	2	0	4	3	0	0	91	1256
8:10 AM	4	32	2	0	0	50	3	0	1	1	1	0	0	3	3	0	100	1281
8:15 AM	3	34	3	0	0	59	1	0	1	1	0	0	0	2	0	0	104	1295
8:20 AM	2	30	0	0	1	59	2	0	2	0	1	0	1	2	0	0	100	1282
8:25 AM	2	16	0	0	0	64	3	0	0	0	2	0	4	3	0	0	94	1269
8:30 AM	2	17	2	0	2	47	2	0	1	3	1	0	3	4	0	0	84	1254
8:35 AM	4	31	0	0	0	48	3	0	0	3	1	0	3	1	0	0	94	1239
8:40 AM	10	24	0	0	0	48	4	0	0	0	2	0	2	2	1	0	93	1216
8:45 AM	5	24	3	0	0	46	4	0	1	0	2	0	4	1	0	0	90	1189
8:50 AM	9	31	0	0	0	43	4	0	1	1	4	0	2	6	1	0	102	1170
8:55 AM	7	20	0	0	0	45	4	0	0	1	3	0	3	1	0	0	84	1146
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	32	388	28	0	4	832	12	0	4	24	24	0	32	36	0	0	1416	
Heavy Trucks	8	36	8		0	52	4		0	0	0		0	0	0		108	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: IC03190 - NE 72nd Ave -- NE 159th St
CITY/STATE: Clark, WA

QC JOB #: 15060454
DATE: Tue, Sep 17 2019

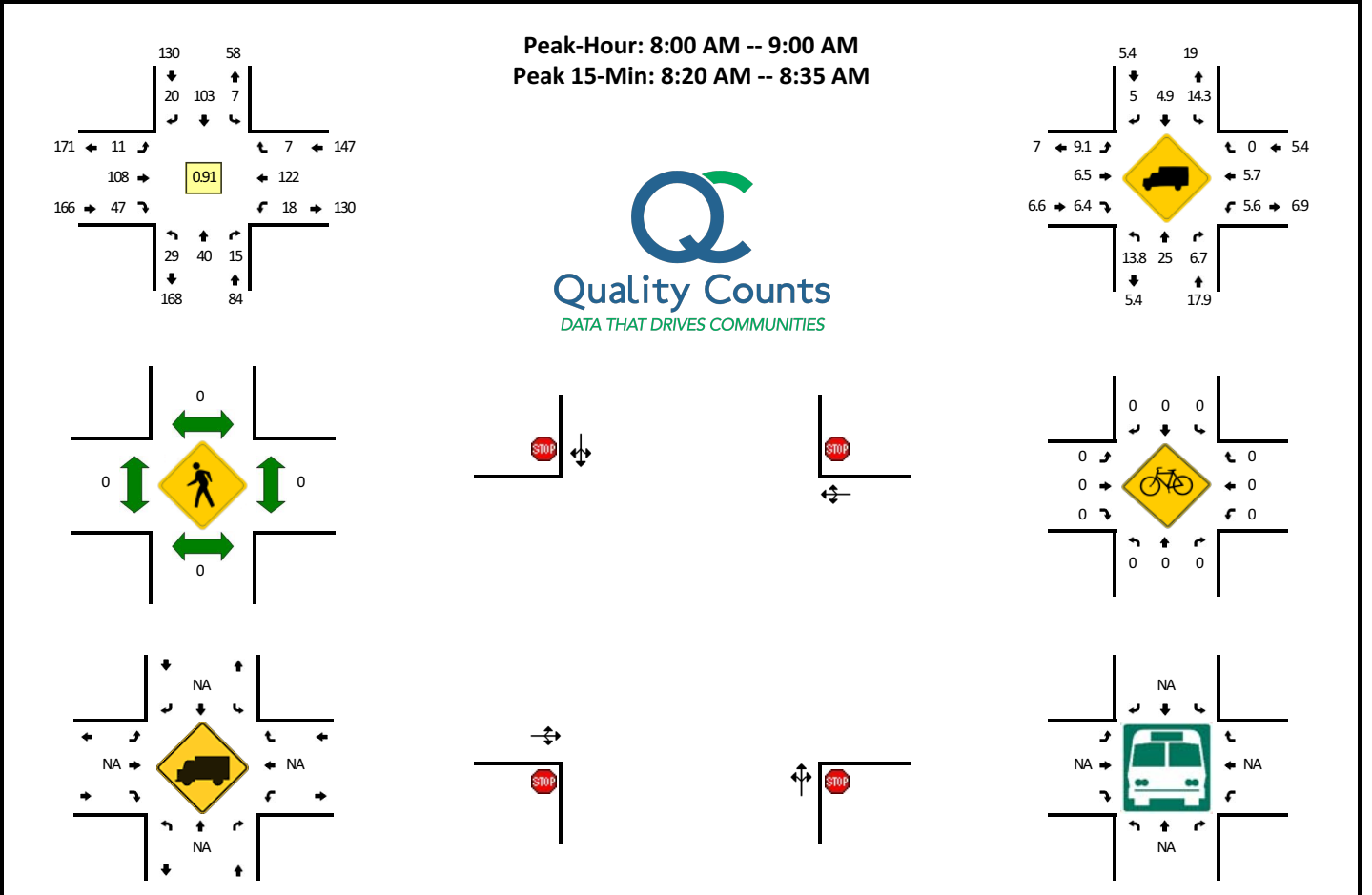


5-Min Count Period Beginning At	IC03190 - NE 72nd Ave (Northbound)				IC03190 - NE 72nd Ave (Southbound)				NE 159th St (Eastbound)				NE 159th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	64	1	0	2	30	1	0	1	4	2	0	0	4	0	0	110	
4:05 PM	2	47	1	0	1	39	0	0	0	3	3	0	0	2	0	0	98	
4:10 PM	5	56	4	0	1	37	0	0	2	4	6	0	1	2	0	0	118	
4:15 PM	2	58	5	0	1	36	2	0	3	4	6	0	0	1	0	0	118	
4:20 PM	1	55	1	0	1	40	1	0	1	7	11	0	0	2	0	0	120	
4:25 PM	1	51	1	0	0	25	2	0	0	6	3	0	0	3	0	0	92	
4:30 PM	1	51	3	0	1	28	1	0	3	5	2	0	2	3	1	0	101	
4:35 PM	2	64	3	0	0	26	0	0	1	3	1	0	1	1	0	0	102	
4:40 PM	2	65	6	0	1	26	1	0	0	3	2	0	1	1	0	0	108	
4:45 PM	1	46	2	0	0	31	0	0	4	6	3	0	1	1	0	0	95	
4:50 PM	3	53	6	0	0	33	0	0	2	2	3	0	0	1	0	0	103	
4:55 PM	2	49	4	0	1	43	0	0	0	3	2	0	3	0	0	0	107	1272
5:00 PM	2	58	3	0	1	40	2	0	0	2	2	0	1	1	0	0	112	1274
5:05 PM	5	56	3	0	1	35	0	0	0	1	9	0	1	1	0	0	112	1288
5:10 PM	0	58	1	0	0	32	1	0	1	3	3	0	0	1	0	0	100	1270
5:15 PM	2	67	6	0	0	45	1	0	0	2	7	0	1	3	0	0	134	1286
5:20 PM	5	48	5	0	0	25	1	0	0	2	2	0	0	3	1	0	92	1258
5:25 PM	1	57	2	0	0	24	0	0	0	2	1	0	0	2	1	0	90	1256
5:30 PM	2	53	3	0	0	27	0	0	1	0	3	0	1	5	1	0	96	1251
5:35 PM	3	54	3	0	0	33	0	0	1	2	4	0	1	0	0	0	101	1250
5:40 PM	3	50	3	0	0	38	0	0	0	4	7	0	0	1	0	0	106	1248
5:45 PM	3	36	1	0	3	27	2	0	0	4	5	0	2	2	0	0	85	1238
5:50 PM	3	46	1	0	1	28	2	0	1	3	1	0	2	4	0	0	92	1227
5:55 PM	2	50	4	0	1	21	0	0	0	1	0	0	0	0	0	0	79	1199
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	32	676	40	0	12	452	12	0	24	60	92	0	4	20	0	0	1424	
Heavy Trucks	0	60	4	0	4	28	0	0	0	0	0	0	0	0	0	0	96	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: IC03162 - NE 50th Ave -- NE 179th St
CITY/STATE: Clark, WA

QC JOB #: 15060405
DATE: Thu, Sep 26 2019

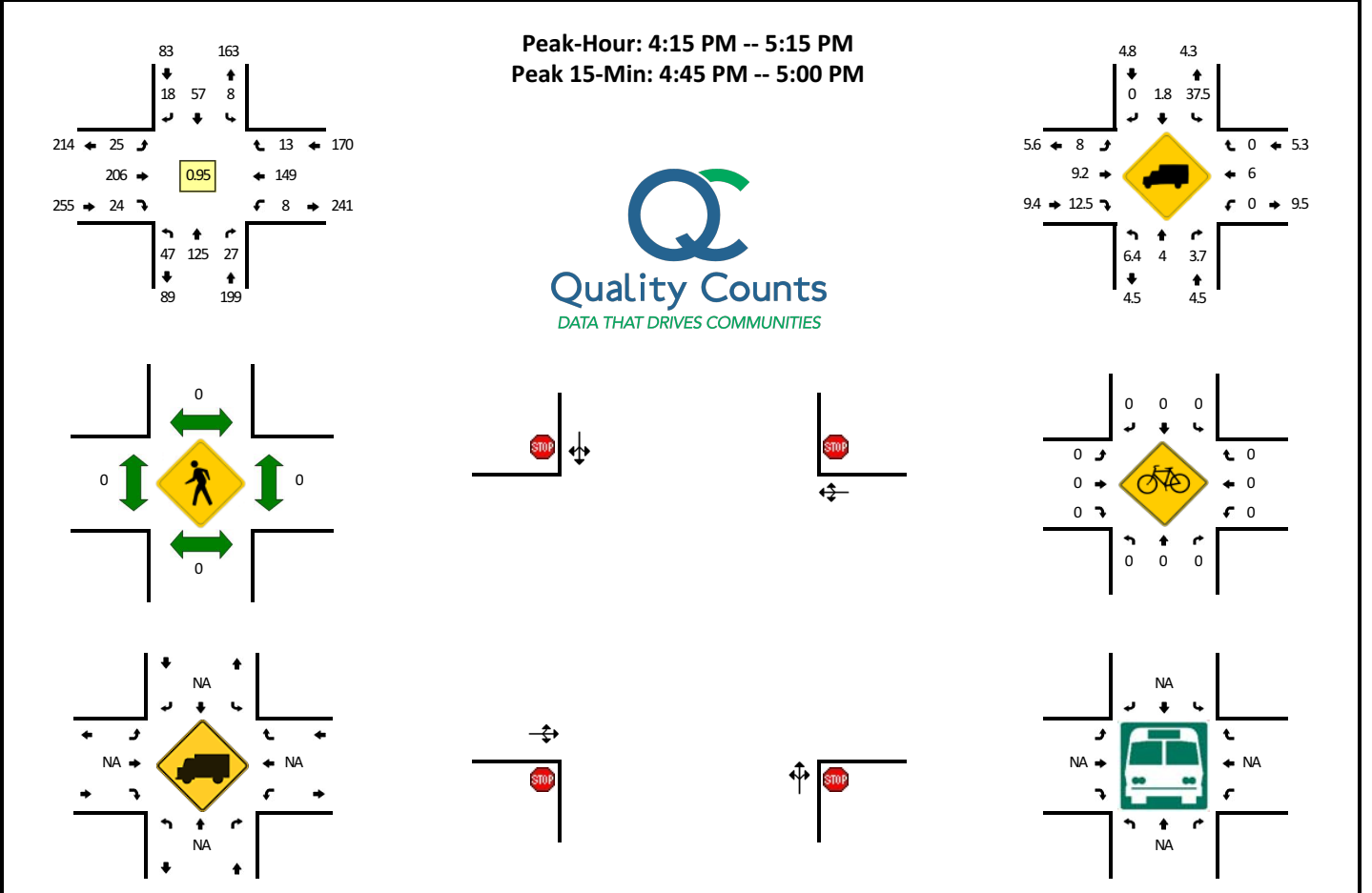


5-Min Count Period Beginning At	IC03162 - NE 50th Ave (Northbound)				IC03162 - NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	1	1	0	1	0	4	0	1	10	4	0	0	8	0	0	32	
7:05 AM	2	6	0	0	0	4	2	0	2	7	2	0	1	5	1	0	32	
7:10 AM	2	4	1	0	1	3	4	0	3	10	1	0	1	7	1	0	38	
7:15 AM	1	6	1	0	2	11	0	0	1	3	1	0	0	4	0	0	30	
7:20 AM	1	2	0	0	1	13	1	0	1	4	2	0	2	13	2	0	42	
7:25 AM	1	2	0	0	0	10	2	0	3	11	1	0	0	6	0	0	36	
7:30 AM	2	4	0	0	1	6	4	0	2	8	3	0	1	10	1	0	42	
7:35 AM	2	0	0	0	0	7	2	0	0	14	4	0	4	8	1	0	42	
7:40 AM	3	1	0	0	0	14	2	0	2	10	0	0	2	6	2	0	42	
7:45 AM	2	2	1	0	0	8	2	0	1	13	4	0	4	10	0	0	47	
7:50 AM	1	1	0	0	0	11	4	0	1	9	1	0	0	8	0	0	36	
7:55 AM	1	3	1	0	0	6	2	0	0	10	4	0	1	10	0	0	38	457
8:00 AM	0	1	1	0	1	6	5	0	1	7	4	0	0	6	0	0	32	457
8:05 AM	2	6	1	0	0	4	1	0	0	10	2	0	0	11	2	0	39	464
8:10 AM	1	2	2	0	0	5	3	0	0	7	5	0	0	13	1	0	39	465
8:15 AM	2	3	2	0	0	7	0	0	2	16	5	0	0	8	2	0	47	482
8:20 AM	3	4	1	0	0	9	2	0	1	11	8	0	2	6	0	0	47	487
8:25 AM	4	1	2	0	1	10	1	0	2	5	1	0	2	11	0	0	40	491
8:30 AM	6	2	0	0	1	8	1	0	1	12	5	0	2	20	0	0	58	507
8:35 AM	4	4	1	0	1	5	1	0	2	10	4	0	3	11	0	0	46	511
8:40 AM	1	3	1	0	1	7	1	0	0	9	4	0	2	6	0	0	35	504
8:45 AM	2	3	2	0	1	6	1	0	0	11	5	0	2	14	1	0	48	505
8:50 AM	2	4	1	0	0	18	1	0	1	4	2	0	2	11	0	0	46	515
8:55 AM	2	7	1	0	1	18	3	0	1	6	2	0	3	5	1	0	50	527
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	52	28	12	0	8	108	16	0	16	112	56	0	24	148	0	0	580	
Heavy Trucks	4	4	0	0	0	12	0	0	0	16	4	0	0	12	0	0	52	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: IC03162 - NE 50th Ave -- NE 179th St
CITY/STATE: Clark, WA

QC JOB #: 15060406
DATE: Thu, Sep 26 2019



5-Min Count Period Beginning At	IC03162 - NE 50th Ave (Northbound)				IC03162 - NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	5	2	0	1	3	1	0	2	12	4	0	2	7	1	0	44	
4:05 PM	2	8	0	0	0	4	2	0	3	19	5	0	0	9	0	0	52	
4:10 PM	4	14	2	0	2	3	2	0	1	15	2	0	2	16	0	0	63	
4:15 PM	8	17	4	0	0	1	2	0	1	13	0	0	2	14	0	0	62	
4:20 PM	4	13	3	0	1	3	1	0	2	17	3	0	0	16	0	0	63	
4:25 PM	3	12	3	0	0	7	0	0	5	17	1	0	0	10	1	0	59	
4:30 PM	3	13	2	0	0	6	3	0	0	13	2	0	1	9	1	0	53	
4:35 PM	6	3	2	0	1	2	0	0	4	22	2	0	0	8	3	0	53	
4:40 PM	3	7	1	0	0	5	0	0	2	15	1	0	1	9	0	0	44	
4:45 PM	2	7	2	0	0	6	3	0	3	22	5	0	0	9	3	0	62	
4:50 PM	4	8	3	0	2	5	2	0	3	17	0	0	2	12	1	0	59	
4:55 PM	6	12	1	0	2	9	3	0	0	14	0	0	0	18	1	0	66	680
5:00 PM	4	8	1	0	1	2	1	0	1	16	1	0	1	13	0	0	49	685
5:05 PM	2	8	4	0	0	3	0	0	0	25	5	0	0	20	2	0	69	702
5:10 PM	2	17	1	0	1	8	3	0	4	15	4	0	1	11	1	0	68	707
5:15 PM	5	16	2	0	0	4	0	0	2	13	2	0	2	8	2	0	56	701
5:20 PM	2	10	4	0	0	4	2	0	5	17	0	0	0	12	1	0	57	695
5:25 PM	2	9	2	0	2	2	2	0	0	19	3	0	0	8	5	0	54	690
5:30 PM	1	4	2	0	1	7	2	0	0	14	0	0	1	14	1	0	47	684
5:35 PM	0	6	1	0	0	2	1	0	2	19	2	0	2	7	1	0	43	674
5:40 PM	2	10	4	0	2	1	4	0	2	21	1	0	0	5	0	0	52	682
5:45 PM	3	6	1	0	0	2	2	0	3	20	1	0	1	8	1	0	48	668
5:50 PM	5	11	0	0	1	1	0	0	0	14	1	0	0	14	0	0	47	656
5:55 PM	2	6	1	0	1	7	1	0	2	16	2	0	1	8	2	0	49	639
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	48	108	24	0	16	80	32	0	24	212	20	0	8	156	20	0	748	
Heavy Trucks	4	12	0	0	8	0	0	0	4	4	0	0	0	12	0	0	44	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

CLARK COUNTY
TUBE COUNTS

LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) CITY/STATE: Clark, WA						QC JOB #: 14790065 DIRECTION: EB DATE: Oct 23 2018 - Oct 23 2018				
Start Time	Mon	Tue 23-Oct-18	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM		2				2			2	
1:00 AM		2				2			2	
2:00 AM		1				1			1	
3:00 AM		1				1			1	
4:00 AM		0				0			0	
5:00 AM		5				5			5	
6:00 AM		8				8			8	
7:00 AM		28				28			28	
8:00 AM		47				47			47	
9:00 AM		41				41			41	
10:00 AM		43				43			43	
11:00 AM		35				35			35	
12:00 PM		42				42			42	
1:00 PM		50				50			50	
2:00 PM		51				51			51	
3:00 PM		76				76			76	
4:00 PM		76				76			76	
5:00 PM		75				75			75	
6:00 PM		49				49			49	
7:00 PM		30				30			30	
8:00 PM		16				16			16	
9:00 PM		13				13			13	
10:00 PM		5				5			5	
11:00 PM		5				5			5	
Day Total		701				701			701	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:00 AM				8:00 AM			8:00 AM	
Volume		47				47			47	
PM Peak		3:00 PM				3:00 PM			3:00 PM	
Volume		76				76			76	
<i>Comments:</i>										

LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) CITY/STATE: Clark, WA						QC JOB #: 14790065 DIRECTION: WB DATE: Oct 23 2018 - Oct 23 2018				
Start Time	Mon	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
		23-Oct-18								
12:00 AM		1				1			1	
1:00 AM		1				1			1	
2:00 AM		1				1			1	
3:00 AM		0				0			0	
4:00 AM		4				4			4	
5:00 AM		19				19			19	
6:00 AM		29				29			29	
7:00 AM		60				60			60	
8:00 AM		77				77			77	
9:00 AM		60				60			60	
10:00 AM		45				45			45	
11:00 AM		60				60			60	
12:00 PM		47				47			47	
1:00 PM		52				52			52	
2:00 PM		47				47			47	
3:00 PM		48				48			48	
4:00 PM		58				58			58	
5:00 PM		43				43			43	
6:00 PM		25				25			25	
7:00 PM		8				8			8	
8:00 PM		11				11			11	
9:00 PM		4				4			4	
10:00 PM		3				3			3	
11:00 PM		2				2			2	
Day Total		705				705			705	
% Weekday Average		100.0%								
% Week Average		100.0%				100.0%				
AM Peak		8:00 AM				8:00 AM			8:00 AM	
Volume		77				77			77	
PM Peak		4:00 PM				4:00 PM			4:00 PM	
Volume		58				58			58	
<i>Comments:</i>										

LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) CITY/STATE: Clark, WA														QC JOB #: 14790065 DIRECTION: EB DATE: Oct 23 2018	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
12:00 AM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
2:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
6:00 AM	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
7:00 AM	0	21	2	2	3	0	0	0	0	0	0	0	0	0	28
8:00 AM	0	28	13	0	6	0	0	0	0	0	0	0	0	0	47
9:00 AM	0	28	4	0	7	0	0	2	0	0	0	0	0	0	41
10:00 AM	1	29	8	1	3	0	0	1	0	0	0	0	0	0	43
11:00 AM	0	20	12	0	2	1	0	0	0	0	0	0	0	0	35
12:00 PM	0	22	11	0	8	1	0	0	0	0	0	0	0	0	42
1:00 PM	0	34	9	0	4	0	0	3	0	0	0	0	0	0	50
2:00 PM	0	33	10	0	7	0	0	0	0	0	0	0	0	1	51
3:00 PM	0	57	14	0	5	0	0	0	0	0	0	0	0	0	76
4:00 PM	1	53	16	0	5	0	0	1	0	0	0	0	0	0	76
5:00 PM	1	53	10	0	10	0	0	0	0	0	0	0	0	1	75
6:00 PM	0	34	11	0	3	0	0	0	0	0	0	0	0	1	49
7:00 PM	0	26	3	0	1	0	0	0	0	0	0	0	0	0	30
8:00 PM	0	15	1	0	0	0	0	0	0	0	0	0	0	0	16
9:00 PM	0	9	2	0	2	0	0	0	0	0	0	0	0	0	13
10:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
11:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Day Total	4	487	128	3	67	2	0	7	0	0	0	0	0	3	701
Percent	0.6%	69.5%	18.3%	0.4%	9.6%	0.3%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	
ADT 701															
AM Peak Volume	12:00 AM	10:00 AM	8:00 AM	7:00 AM	9:00 AM	11:00 AM	9:00 AM								8:00 AM
	1	29	13	2	7	1	2								47
PM Peak Volume	4:00 PM	3:00 PM	4:00 PM	5:00 PM		12:00 PM	1:00 PM						2:00 PM	3:00 PM	
	1	57	16	10		1	3						1	76	
<i>Comments:</i>															

LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942)													QC JOB #: 14790065		
SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942)													DIRECTION: EB		
CITY/STATE: Clark, WA													DATE: Oct 23 2018 - Oct 23 2018		
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
Grand Total	4	487	128	3	67	2	0	7	0	0	0	0	0	3	701
Percent	0.6%	69.5%	18.3%	0.4%	9.6%	0.3%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	
ADT 701															
<i>Comments:</i>															

Report generated on 11/5/2018 1:12 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)



LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942) CITY/STATE: Clark, WA														QC JOB #: 14790065 DIRECTION: WB DATE: Oct 23 2018	
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
12:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
5:00 AM	0	12	3	0	4	0	0	0	0	0	0	0	0	0	19
6:00 AM	0	19	5	0	5	0	0	0	0	0	0	0	0	0	29
7:00 AM	0	41	14	0	4	0	0	1	0	0	0	0	0	0	60
8:00 AM	0	49	20	0	6	0	0	2	0	0	0	0	0	0	77
9:00 AM	0	44	10	0	3	1	0	2	0	0	0	0	0	0	60
10:00 AM	0	32	10	0	3	0	0	0	0	0	0	0	0	0	45
11:00 AM	1	44	10	0	3	2	0	0	0	0	0	0	0	0	60
12:00 PM	1	30	9	0	6	0	0	1	0	0	0	0	0	0	47
1:00 PM	0	36	10	0	5	0	0	1	0	0	0	0	0	0	52
2:00 PM	1	31	9	1	4	0	0	0	0	0	0	0	0	1	47
3:00 PM	1	30	11	0	5	0	0	1	0	0	0	0	0	0	48
4:00 PM	0	45	8	0	5	0	0	0	0	0	0	0	0	0	58
5:00 PM	0	31	8	0	3	0	0	0	0	0	0	0	0	1	43
6:00 PM	0	19	3	0	3	0	0	0	0	0	0	0	0	0	25
7:00 PM	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
8:00 PM	0	9	1	0	1	0	0	0	0	0	0	0	0	0	11
9:00 PM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
10:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	4	491	135	1	61	3	0	8	0	0	0	0	0	2	705
Percent	0.6%	69.6%	19.1%	0.1%	8.7%	0.4%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
ADT 705															
AM Peak	11:00 AM	8:00 AM	8:00 AM		8:00 AM	11:00 AM		8:00 AM							8:00 AM
Volume	1	49	20		6	2		2							77
PM Peak	12:00 PM	4:00 PM	3:00 PM	2:00 PM	12:00 PM			12:00 PM						2:00 PM	4:00 PM
Volume	1	45	11	1	6			1						1	58
<i>Comments:</i>															

LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942)													QC JOB #: 14790065		
SPECIFIC LOCATION: NE 159th St btwn NE 50th Ave & NE 57th Ave (SC00942)													DIRECTION: WB		
CITY/STATE: Clark, WA													DATE: Oct 23 2018 - Oct 23 2018		
Start Time	Motor-cycles	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Not Classified	Total
Grand Total	4	491	135	1	61	3	0	8	0	0	0	0	0	2	705
Percent	0.6%	69.6%	19.1%	0.1%	8.7%	0.4%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
ADT 705															
<i>Comments:</i>															

Report generated on 11/5/2018 1:12 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)



Monthly Average Weekday Hourly Traffic

Time Period: October 01, 2019 to October 31, 2019

Location: NE 134th St. E of Salmon Crk Av

	WB	EB	Total
12-1 AM	5	4	9
1-2	7	3	10
2-3	2	1	3
3-4	3	2	5
4-5	7	7	14
5-6	37	18	56
6-7	94	79	173
7-8	138	282	420
8-9	201	489	690
9-10	242	379	621
10-11	287	384	671
11-12	283	288	571
12-1 PM	328	239	568
1-2	390	256	646
2-3	410	245	655
3-4	372	269	642
4-5	500	244	744
5-6	449	253	703
6-7	218	132	350
7-8	169	90	259
8-9	151	66	217
9-10	44	40	83
10-11	22	22	44
11-12	9	13	22
AWD	4370	3806	8176

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

2021 HEATH & ASSOCIATES
TURNING MOVEMENT COUNTS

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4572a
Site Code : 00004572
Start Date : 4/14/2021
Page No : 1

Groups Printed- Passengers + - Heavy

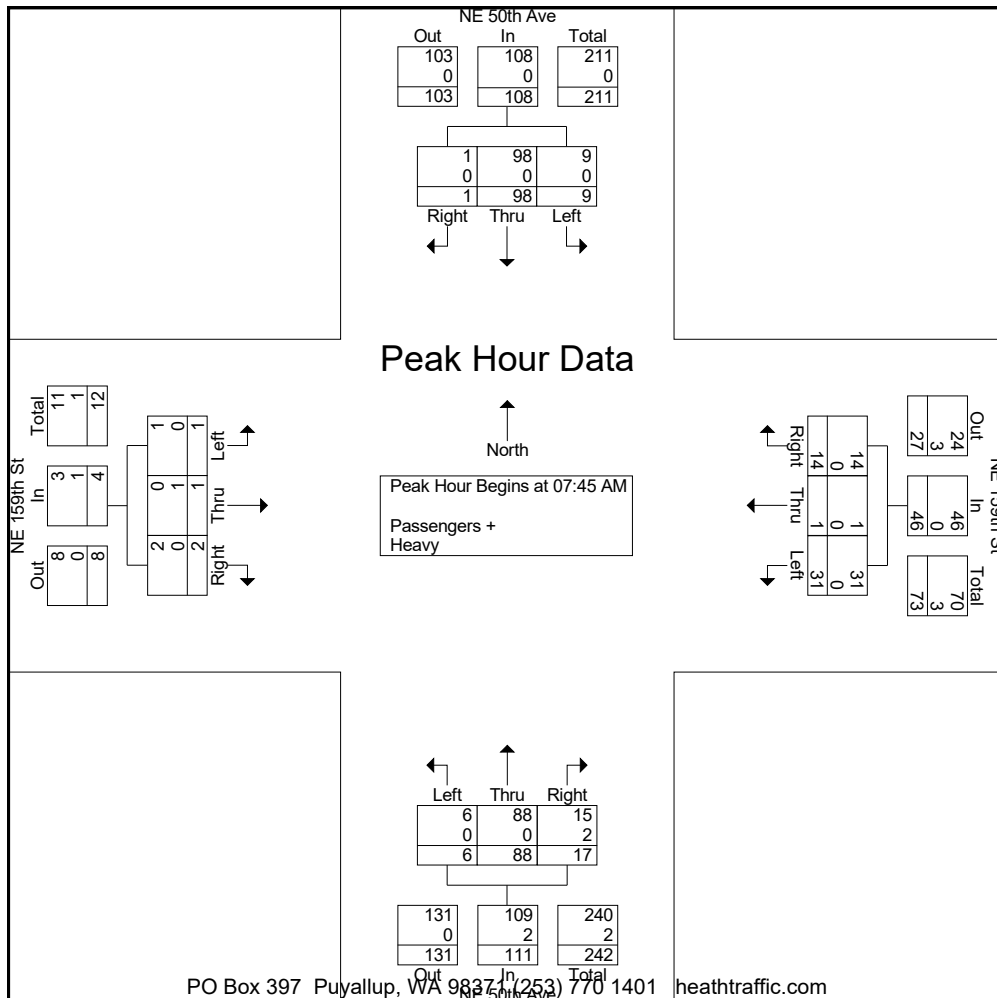
Start Time	NE 50th Ave Southbound				NE 159th St Westbound				NE 50th Ave Northbound				NE 159th St Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:00 AM	0	11	1	12	0	0	3	3	1	10	1	12	0	0	0	0	27
07:15 AM	0	15	2	17	1	1	3	5	3	9	1	13	0	0	0	0	35
07:30 AM	1	17	2	20	1	2	5	8	2	17	1	20	2	0	0	2	50
07:45 AM	1	20	3	24	3	0	12	15	9	23	2	34	0	0	0	0	73
Total	2	63	8	73	5	3	23	31	15	59	5	79	2	0	0	2	185
08:00 AM	0	23	2	25	4	0	4	8	4	23	2	29	0	0	0	0	62
08:15 AM	0	28	1	29	4	0	7	11	3	24	1	28	2	1	0	3	71
08:30 AM	0	27	3	30	3	1	8	12	1	18	1	20	0	0	1	1	63
08:45 AM	0	15	2	17	3	1	9	13	7	7	1	15	0	0	0	0	45
Total	0	93	8	101	14	2	28	44	15	72	5	92	2	1	1	4	241
Grand Total	2	156	16	174	19	5	51	75	30	131	10	171	4	1	1	6	426
Apprch %	1.1	89.7	9.2		25.3	6.7	68		17.5	76.6	5.8		66.7	16.7	16.7		
Total %	0.5	36.6	3.8	40.8	4.5	1.2	12	17.6	7	30.8	2.3	40.1	0.9	0.2	0.2	1.4	
Passengers +	2	155	16	173	19	5	51	75	28	131	10	169	4	0	1	5	422
% Passengers +	100	99.4	100	99.4	100	100	100	100	93.3	100	100	98.8	100	0	100	83.3	99.1
Heavy	0	1	0	1	0	0	0	0	2	0	0	2	0	1	0	1	4
% Heavy	0	0.6	0	0.6	0	0	0	0	6.7	0	0	1.2	0	100	0	16.7	0.9

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4572a
Site Code : 00004572
Start Date : 4/14/2021
Page No : 2

Start Time	NE 50th Ave Southbound				NE 159th St Westbound				NE 50th Ave Northbound				NE 159th St Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	20	3	24	3	0	12	15	9	23	2	34	0	0	0	0	73
08:00 AM	0	23	2	25	4	0	4	8	4	23	2	29	0	0	0	0	62
08:15 AM	0	28	1	29	4	0	7	11	3	24	1	28	2	1	0	3	71
08:30 AM	0	27	3	30	3	1	8	12	1	18	1	20	0	0	1	1	63
Total Volume	1	98	9	108	14	1	31	46	17	88	6	111	2	1	1	4	269
% App. Total	0.9	90.7	8.3		30.4	2.2	67.4		15.3	79.3	5.4		50	25	25		
PHF	.250	.875	.750	.900	.875	.250	.646	.767	.472	.917	.750	.816	.250	.250	.250	.333	.921
Passengers +	1	98	9	108	14	1	31	46	15	88	6	109	2	0	1	3	266
% Passengers +	100	100	100	100	100	100	100	100	88.2	100	100	98.2	100	0	100	75.0	98.9
Heavy	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	1	3
% Heavy	0	0	0	0	0	0	0	0	11.8	0	0	1.8	0	100	0	25.0	1.1



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4572b
Site Code : 00004572
Start Date : 4/14/2021
Page No : 1

Groups Printed- Passengers + - Heavy

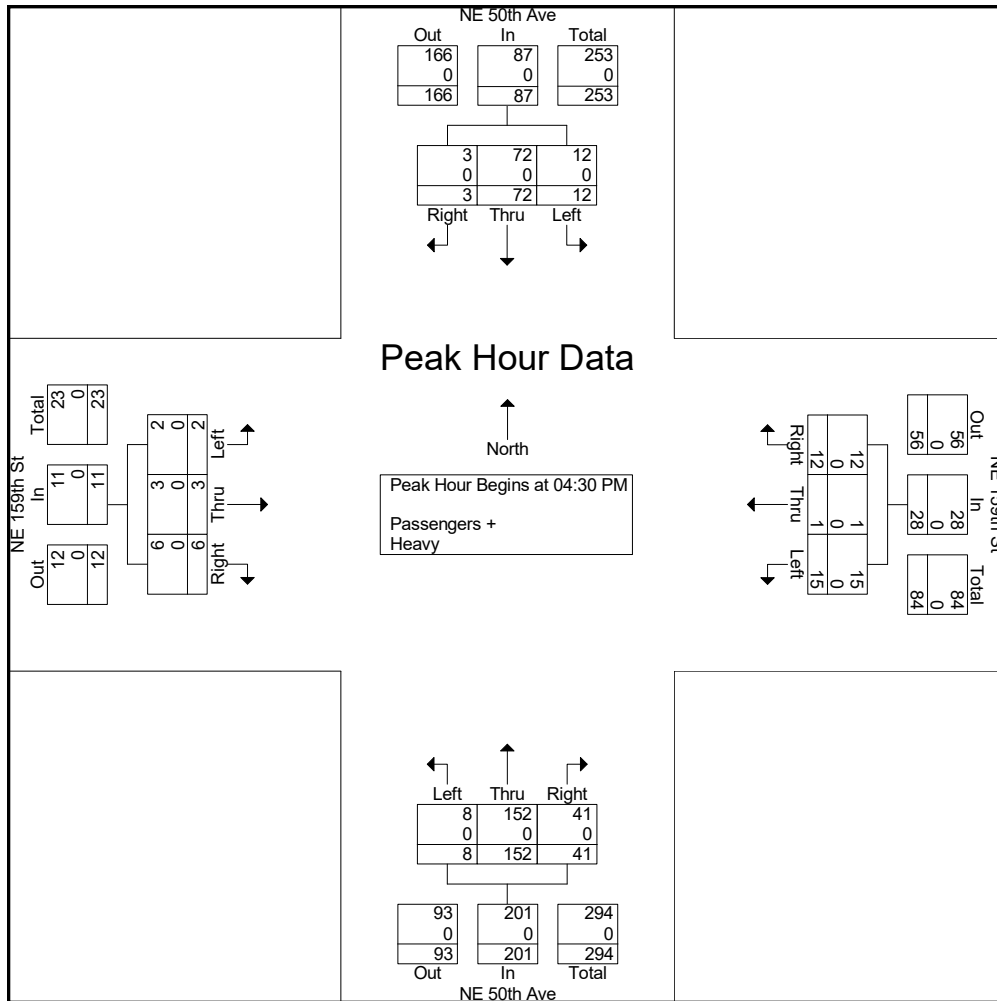
Start Time	NE 50th Ave Southbound				NE 159th St Westbound				NE 50th Ave Northbound				NE 159th St Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
04:00 PM	0	18	0	18	3	1	8	12	12	33	0	45	4	1	0	5	80
04:15 PM	0	21	3	24	1	3	3	7	10	22	2	34	1	0	2	3	68
04:30 PM	1	17	4	22	2	0	5	7	12	36	4	52	3	0	0	3	84
04:45 PM	0	17	2	19	2	0	5	7	5	34	2	41	0	2	0	2	69
Total	1	73	9	83	8	4	21	33	39	125	8	172	8	3	2	13	301
05:00 PM	1	24	2	27	4	1	2	7	13	36	0	49	3	1	2	6	89
05:15 PM	1	14	4	19	4	0	3	7	11	46	2	59	0	0	0	0	85
05:30 PM	0	16	3	19	4	0	5	9	2	23	1	26	2	0	1	3	57
05:45 PM	3	17	3	23	1	1	6	8	7	28	1	36	1	0	2	3	70
Total	5	71	12	88	13	2	16	31	33	133	4	170	6	1	5	12	301
Grand Total	6	144	21	171	21	6	37	64	72	258	12	342	14	4	7	25	602
Apprch %	3.5	84.2	12.3		32.8	9.4	57.8		21.1	75.4	3.5		56	16	28		
Total %	1	23.9	3.5	28.4	3.5	1	6.1	10.6	12	42.9	2	56.8	2.3	0.7	1.2	4.2	
Passengers +	6	144	21	171	21	6	37	64	72	258	12	342	14	4	7	25	602
% Passengers +	100	100	100	100	100	100	100	100	100	100	100	100	100	100	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

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4572b
Site Code : 00004572
Start Date : 4/14/2021
Page No : 2

Start Time	NE 50th Ave Southbound				NE 159th St Westbound				NE 50th Ave Northbound				NE 159th St Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. 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	1	17	4	22	2	0	5	7	12	36	4	52	3	0	0	3	84
04:45 PM	0	17	2	19	2	0	5	7	5	34	2	41	0	2	0	2	69
05:00 PM	1	24	2	27	4	1	2	7	13	36	0	49	3	1	2	6	89
05:15 PM	1	14	4	19	4	0	3	7	11	46	2	59	0	0	0	0	85
Total Volume	3	72	12	87	12	1	15	28	41	152	8	201	6	3	2	11	327
% App. Total	3.4	82.8	13.8		42.9	3.6	53.6		20.4	75.6	4		54.5	27.3	18.2		
PHF	.750	.750	.750	.806	.750	.250	.750	1.00	.788	.826	.500	.852	.500	.375	.250	.458	.919
Passengers +	3	72	12	87	12	1	15	28	41	152	8	201	6	3	2	11	327
% Passengers +	100	100	100	100	100	100	100	100	100	100	100	100	100	100	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

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4572e
Site Code : 00004572
Start Date : 4/15/2021
Page No : 1

Groups Printed- Passenger + - Heavy

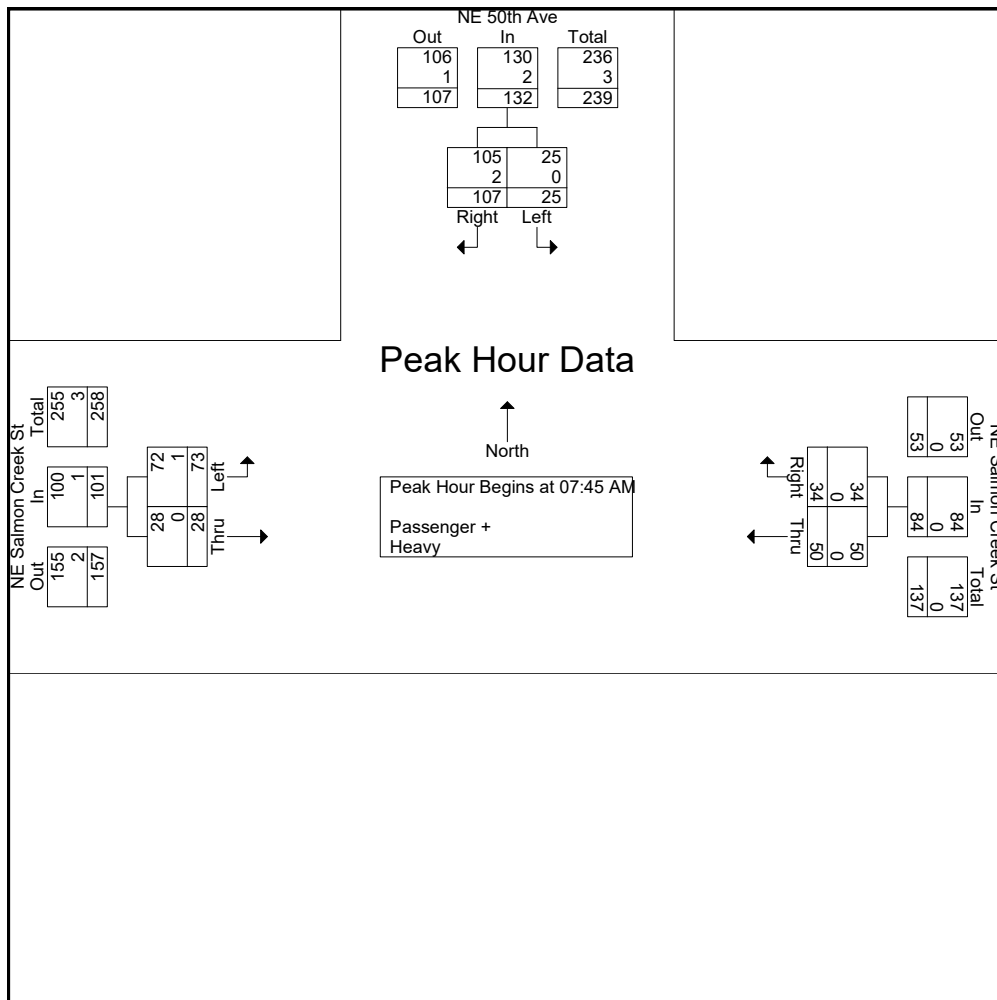
Start Time	NE 50th Ave Southbound			NE Salmon Creek St Westbound			NE Salmon Creek St Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
07:00 AM	10	4	14	6	5	11	5	8	13	38
07:15 AM	11	5	16	6	5	11	0	10	10	37
07:30 AM	18	8	26	6	13	19	7	14	21	66
07:45 AM	24	5	29	11	12	23	5	22	27	79
Total	63	22	85	29	35	64	17	54	71	220
08:00 AM	23	8	31	8	10	18	6	19	25	74
08:15 AM	31	6	37	9	13	22	8	16	24	83
08:30 AM	29	6	35	6	15	21	9	16	25	81
08:45 AM	19	7	26	7	12	19	13	8	21	66
Total	102	27	129	30	50	80	36	59	95	304
Grand Total	165	49	214	59	85	144	53	113	166	524
Apprch %	77.1	22.9		41	59		31.9	68.1		
Total %	31.5	9.4	40.8	11.3	16.2	27.5	10.1	21.6	31.7	
Passenger +	162	49	211	59	85	144	51	111	162	517
% Passenger +	98.2	100	98.6	100	100	100	96.2	98.2	97.6	98.7
Heavy	3	0	3	0	0	0	2	2	4	7
% Heavy	1.8	0	1.4	0	0	0	3.8	1.8	2.4	1.3

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA, 98371

File Name : 4572e
Site Code : 00004572
Start Date : 4/15/2021
Page No : 2

Start Time	NE 50th Ave Southbound			NE Salmon Creek St Westbound			NE Salmon Creek St Eastbound			Int. Total
	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	24	5	29	11	12	23	5	22	27	79
08:00 AM	23	8	31	8	10	18	6	19	25	74
08:15 AM	31	6	37	9	13	22	8	16	24	83
08:30 AM	29	6	35	6	15	21	9	16	25	81
Total Volume	107	25	132	34	50	84	28	73	101	317
% App. Total	81.1	18.9		40.5	59.5		27.7	72.3		
PHF	.863	.781	.892	.773	.833	.913	.778	.830	.935	.955
Passenger +	105	25	130	34	50	84	28	72	100	314
% Passenger +	98.1	100	98.5	100	100	100	100	98.6	99.0	99.1
Heavy	2	0	2	0	0	0	0	1	1	3
% Heavy	1.9	0	1.5	0	0	0	0	1.4	1.0	0.9



Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4572f
Site Code : 00004572
Start Date : 4/14/2021
Page No : 1

Groups Printed- Passenger + - Heavy

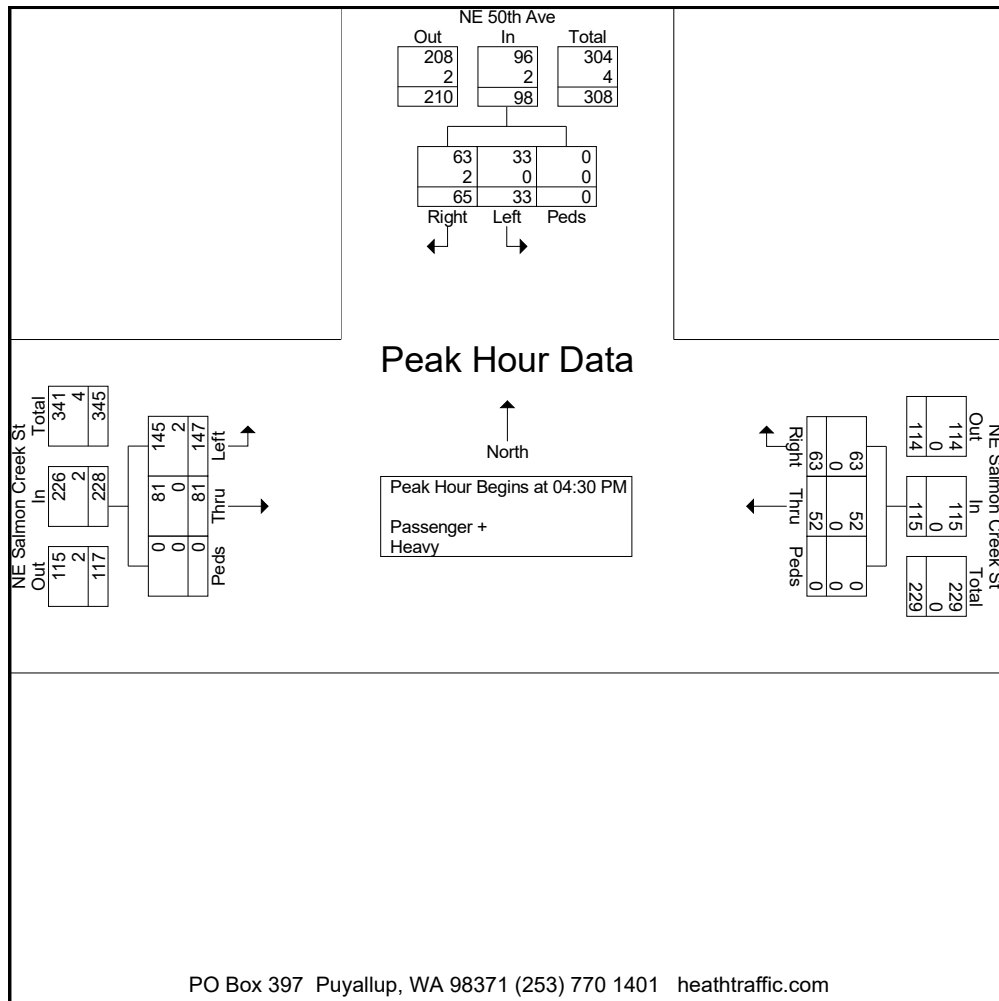
Start Time	NE 50th Ave Southbound				NE Salmon Creek St Westbound				NE Salmon Creek St Eastbound				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	
04:00 PM	19	7	0	26	14	11	0	25	17	32	0	49	100
04:15 PM	19	9	0	28	5	13	0	18	10	30	0	40	86
04:30 PM	18	11	0	29	13	18	0	31	29	43	0	72	132
04:45 PM	20	6	0	26	22	7	0	29	18	23	0	41	96
Total	76	33	0	109	54	49	0	103	74	128	0	202	414
05:00 PM	16	7	0	23	11	12	0	23	19	35	0	54	100
05:15 PM	11	9	0	20	17	15	0	32	15	46	0	61	113
05:30 PM	13	13	0	26	8	9	0	17	24	20	0	44	87
05:45 PM	16	9	0	25	18	14	0	32	21	19	0	40	97
Total	56	38	0	94	54	50	0	104	79	120	0	199	397
Grand Total	132	71	0	203	108	99	0	207	153	248	0	401	811
Apprch %	65	35	0		52.2	47.8	0		38.2	61.8	0		
Total %	16.3	8.8	0	25	13.3	12.2	0	25.5	18.9	30.6	0	49.4	
Passenger +	129	71	0	200	108	99	0	207	151	246	0	397	804
% Passenger +	97.7	100	0	98.5	100	100	0	100	98.7	99.2	0	99	99.1
Heavy	3	0	0	3	0	0	0	0	2	2	0	4	7
% Heavy	2.3	0	0	1.5	0	0	0	0	1.3	0.8	0	1	0.9

Heath & Associates

PO Box 397
Puyallup, WA 98371

File Name : 4572f
Site Code : 00004572
Start Date : 4/14/2021
Page No : 2

Start Time	NE 50th Ave Southbound				NE Salmon Creek St Westbound				NE Salmon Creek St Eastbound				Int. Total
	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. 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	18	11	0	29	13	18	0	31	29	43	0	72	132
04:45 PM	20	6	0	26	22	7	0	29	18	23	0	41	96
05:00 PM	16	7	0	23	11	12	0	23	19	35	0	54	100
05:15 PM	11	9	0	20	17	15	0	32	15	46	0	61	113
Total Volume	65	33	0	98	63	52	0	115	81	147	0	228	441
% App. Total	66.3	33.7	0		54.8	45.2	0		35.5	64.5	0		
PHF	.813	.750	.000	.845	.716	.722	.000	.898	.698	.799	.000	.792	.835
Passenger +	63	33	0	96	63	52	0	115	81	145	0	226	437
% Passenger +	96.9	100	0	98.0	100	100	0	100	100	98.6	0	99.1	99.1
Heavy	2	0	0	2	0	0	0	0	0	2	0	2	4
% Heavy	3.1	0	0	2.0	0	0	0	0	0	1.4	0	0.9	0.9



DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

VOLUME PERCENT CHANGE

Intersection	Year	AM	PM
NE 72nd Ave & NE 159th St	2019	1295	1288
	2021	861	1229
		50.4%	4.8%

Location	Year	AM		Total	PM		Total
		WB	EB		WB	EB	
#4) NE Salmon Creek Between 50th	2018	123	110	233	135	148	283
	2021	84	53	137	115	114	229
			% Change	70.1%			23.6%

Location	Year	AM		Total	PM		Total
		WB	EB		WB	EB	
#5) NE 159th btwn NE 50th Ave & NE 57th Ave	2018	77	47	124	58	76	134
	2021	53	32	85	40	76	116
			% Change	45.9%			15.5%

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

INTERSECTION VOLUME CALCULATIONS

Intersection Volume Calculations

Annual Growth Rate for 2021 Adjustment 1.26 %
 Annual Growth Rate: 2 %
 # of Years to Horizon: 3

2024

#1) NE 23rd Avenue & NE 134th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	169	0	20	38	355	0	217	261	454	0	298	72
Adjusted 2021	178	0	21	40	373	0	228	274	477	0	313	76
Project Trips	0	0	0	0	10	0	2	0	0	0	6	0
Without	189	0	22	42	396	0	242	291	507	0	332	80
With Project	189	0	22	42	406	0	244	291	507	0	338	80

#1) NE 23rd Avenue & NE 134th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	313	0	29	29	500	0	188	262	657	0	321	42
Adjusted 2021	329	0	30	30	526	0	198	275	691	0	337	44
Project Trips	0	0	0	0	10	0	1	0	0	0	2	0
Without	349	0	32	32	558	0	210	292	733	0	358	47
With Project	349	0	32	32	568	0	211	292	733	0	360	47

#2) NE 29th Avenue & NE 134th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	89	0	67	75	268	0	0	0	0	0	311	49
Adjusted 2021	94	0	70	79	282	0	0	0	0	0	327	52
Project Trips	0	0	1	1	10	0	0	0	0	0	8	0
Without	99	0	75	84	299	0	0	0	0	0	347	55
With Project	99	0	76	85	309	0	0	0	0	0	355	55

#2) NE 29th Avenue & NE 134th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	68	0	127	82	323	0	0	0	0	0	366	113
Adjusted 2021	71	0	134	86	340	0	0	0	0	0	385	119
Project Trips	0	0	1	1	10	0	0	0	0	0	3	0
Without	76	0	142	91	360	0	0	0	0	0	408	126
With Project	76	0	143	92	370	0	0	0	0	0	411	126

#3) NE Salmon Creek Avenue & NE 134th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	2	1	0	8	208	33	46	2	133	81	309	16
Adjusted 2021	2	1	0	8	219	35	48	2	140	85	325	17
Project Trips	0	0	0	0	11	2	2	0	0	0	9	0
Without	2	1	0	9	232	37	51	2	148	90	345	18
With Project	2	1	0	9	243	39	53	2	148	90	354	18

#3) NE Salmon Creek Avenue & NE 134th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2017	9	0	4	2	271	40	44	0	116	229	263	5
Adjusted 2021	9	0	4	2	285	42	46	0	122	241	277	5
Project Trips	0	0	0	0	11	2	1	0	0	0	4	0
Without	10	0	4	2	302	45	49	0	129	255	293	6
With Project	10	0	4	2	313	47	50	0	129	255	297	6

#4) NE 50th Avenue & NE Salmon Creek - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Unadjusted 2021	107	0	25	34	50	0	0	0	0	0	28	73
Adjusted 2021 (+70%)	182	0	43	58	85	0	0	0	0	0	48	124
Project Trips	13	0	1	1	0	0	0	0	0	0	0	11
Without	193	0	45	61	90	0	0	0	0	0	51	132
With Project	206	0	46	62	90	0	0	0	0	0	51	143

#4) NE 50th Avenue & NE Salmon Creek - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Unadjusted 2021	65	0	33	63	52	0	0	0	0	0	81	147
Adjusted 2021 (+24%)	81	0	41	78	64	0	0	0	0	0	100	182
Project Trips	13	0	1	1	0	0	0	0	0	0	0	5
Without	86	0	43	83	68	0	0	0	0	0	107	193
With Project	99	0	44	84	68	0	0	0	0	0	107	198

#5) NE 50th Avenue & NE 159th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Unadjusted 2021	1	98	9	14	1	31	17	88	6	2	1	1
Adjusted 2021 (+46%)	1	143	13	20	1	45	25	128	9	3	1	1
Project Trips	0	0	5	6	0	14	12	0	0	0	0	0
Without	2	152	14	22	2	48	26	136	9	3	2	2
With Project	2	152	19	28	2	62	38	136	9	3	2	2

#5) NE 50th Avenue & NE 159th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Unadjusted 2021	3	72	12	12	1	15	41	152	8	6	3	2
Adjusted 2021 (+16%)	3	84	14	14	1	17	48	176	9	7	3	2
Project Trips	0	0	2	6	0	14	6	0	0	0	0	0
Without	4	89	15	15	1	18	50	187	10	7	4	2
With Project	4	89	17	21	1	32	56	187	10	7	4	2

#6) NE 72nd Avenue & NE 159th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2019	16	713	6	6	36	25	22	390	35	22	17	7
Adjusted 2021	16	731	6	6	37	26	23	400	36	23	17	7
Project Trips	0	0	0	0	1	0	0	0	2	3	1	0
Without	17	776	7	7	39	27	24	424	38	24	18	8
With Project	17	776	7	7	40	27	24	424	40	27	19	8

#6) NE 72nd Avenue & NE 159th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2019	9	400	8	1	17	11	41	662	27	50	46	16
Adjusted 2021	9	410	8	1	17	11	42	679	28	51	47	16
Project Trips	0	0	0	0	0	0	0	0	1	2	1	0
Without	10	435	9	1	18	12	45	720	29	54	50	17
With Project	10	435	9	1	18	12	45	720	30	56	51	17

#A) Access & NE 159th Street - AM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2019	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted 2021	0	0	0	0	66	0	0	0	0	0	39	0
Project Trips	20	0	4	3	0	0	0	0	0	0	0	17
Without	0	0	0	0	70	0	0	0	0	0	41	0
With Project	20	0	4	3	70	0	0	0	0	0	41	17

#A) Access & NE 159th Street - PM

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing 2019	0	0	0	0	0	0	0	0	0	0	0	0
Adjusted 2021	0	0	0	0	32	0	0	0	0	0	65	0
Project Trips	20	0	3	1	0	0	0	0	0	0	0	8
Without	0	0	0	0	34	0	0	0	0	0	69	0
With Project	20	0	3	1	34	0	0	0	0	0	69	8

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

HEATH & ASSOCIATES SAMPLE SITE
TRIP GENERATION SPECIFICATIONS

Specifications for the three sample sites studied by our firm were obtained through Pierce/King County GIS. Below are the summaries of each sample site.

- A. Name: Recovery Response Center
Address: 2150 Freeman Road E, Fife, WA 98424-3776
Facility Type: Behavioral Health Services
Site Size: 16 Beds
Parcel Number(s): 0420082099
Date(s) Sampled: 8/18/2020; 8/19/2020

- B. Name: Telecare Pierce County Evaluation & Treatment Center
Address: 7224 Pacific Highway E, Milton, WA 98354
Facility Type: Behavioral Health Services
Site Size: 16 Beds
Parcel Number(s): 0420053048
Date(s) Sampled: 8/18/2020; 8/19/2020

- C. Name: Telecare King County Evaluation & Treatment Center
Address: 33435 13th Pl S, Federal Way, WA 98003
Facility Type: Behavioral Health Services
Site Size: 16 Beds
Parcel Number(s): 768190-0020
Date(s) Sampled: 8/18/2020; 8/19/2020

Data collection at the three sample sites analyzed by our firm was gathered via physical field counts and consisted of tracking each inbound/outbound movement. Cameras were deployed and captured peak period samples between 7:00 – 9:00 AM, 4:00-6:00 PM and a single 24-hr count at each location. The one-hour reflecting the highest observed total inbound and outbound movements was then used for calculations and is considered the “peak hour.” Full-count sheets at each location have been attached to the appendix for reference.

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
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LOCAL TRIP GENERATION COUNT SHEETS
BEHAVIORAL HEALTH FACILITIES

SAMPLE SITE #1: 2150 FREEMAN ROAD E

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483bbbb
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

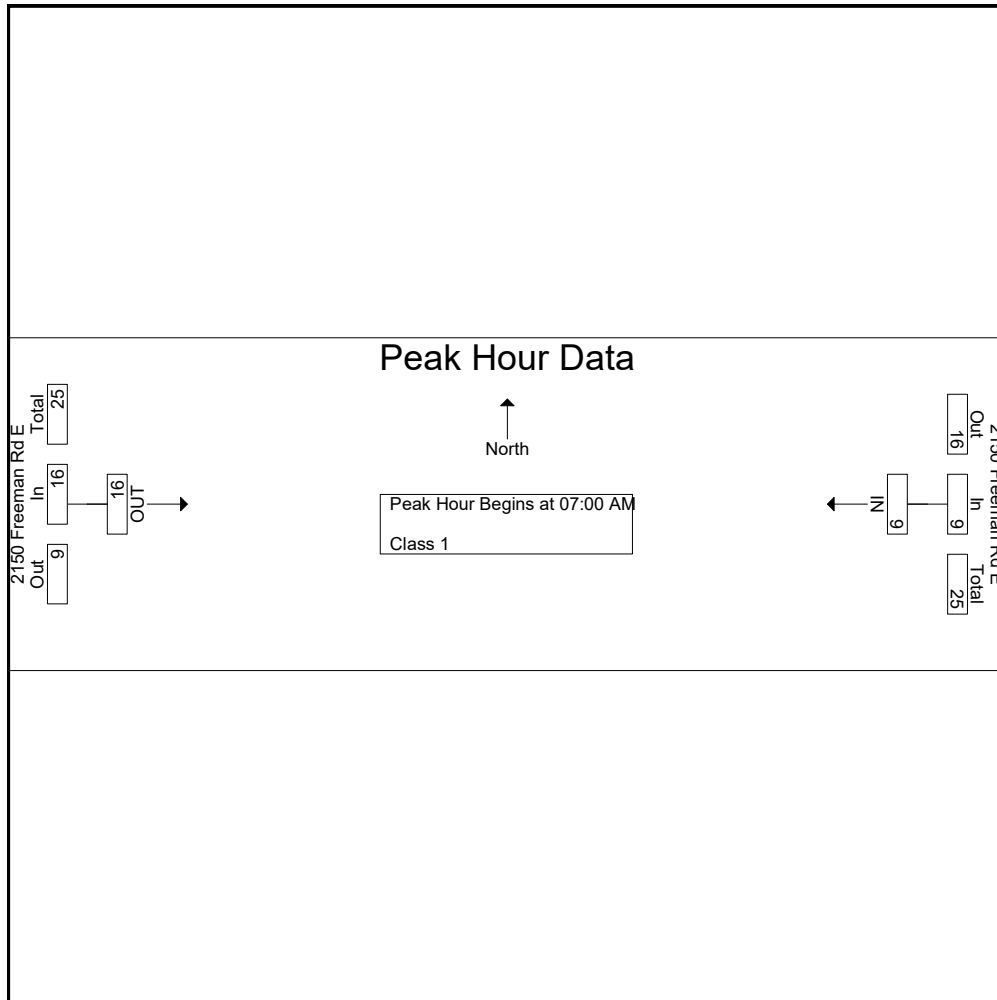
Start Time	2150 Freeman Rd E Westbound		2150 Freeman Rd E Eastbound		Int. Total
	IN	App. Total	OUT	App. Total	
07:00 AM	3	3	2	2	5
07:15 AM	1	1	4	4	5
07:30 AM	2	2	6	6	8
07:45 AM	3	3	4	4	7
Total	9	9	16	16	25
08:00 AM	2	2	1	1	3
08:15 AM	1	1	0	0	1
08:30 AM	2	2	0	0	2
08:45 AM	0	0	1	1	1
Total	5	5	2	2	7
Grand Total	14	14	18	18	32
Apprch %	100		100		
Total %	43.8	43.8	56.2	56.2	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483bbbb
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Start Time	2150 Freeman Rd E Westbound		2150 Freeman Rd E Eastbound		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	3	3	2	2	5
07:15 AM	1	1	4	4	5
07:30 AM	2	2	6	6	8
07:45 AM	3	3	4	4	7
Total Volume	9	9	16	16	25
% App. Total	100		100		
PHF	.750	.750	.667	.667	.781



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483a
Site Code : 00004483
Start Date : 8/18/2020
Page No : 1

Groups Printed- Class 1

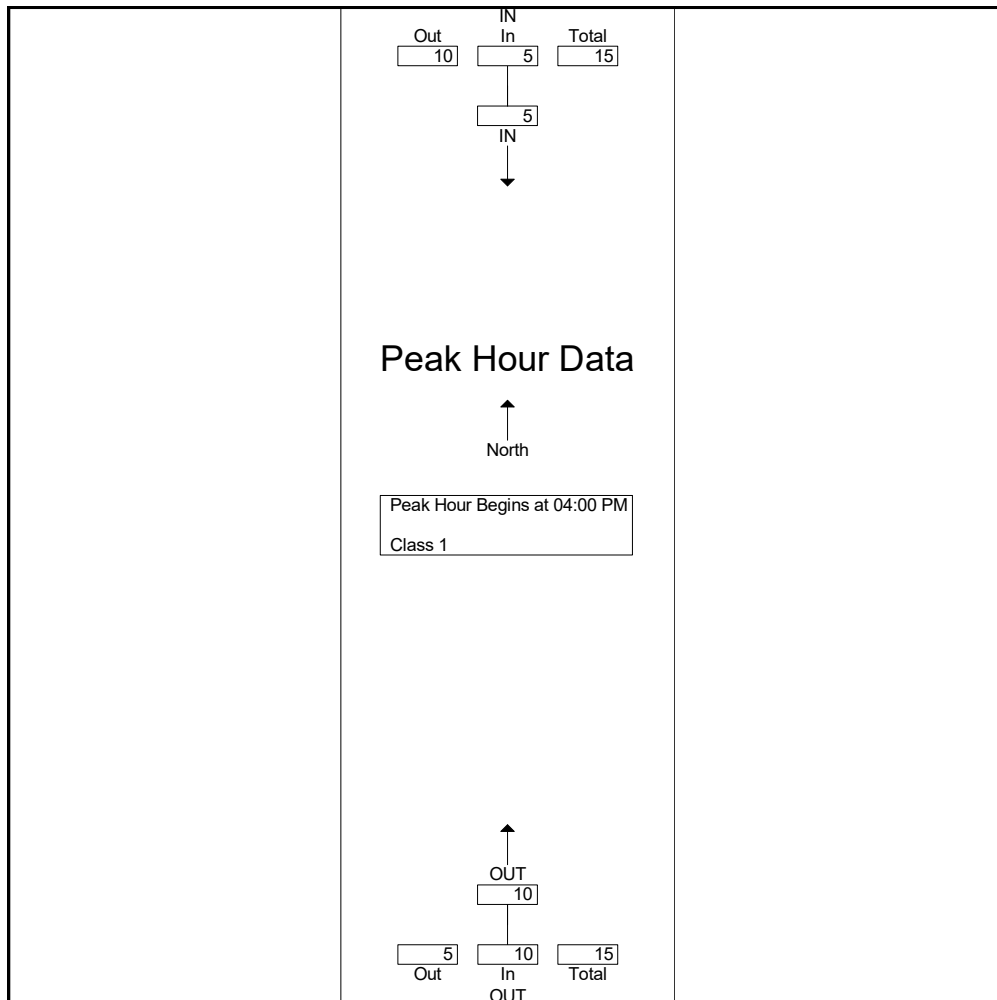
Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	1	1	2	2	3
04:15 PM	1	1	3	3	4
04:30 PM	2	2	3	3	5
04:45 PM	1	1	2	2	3
Total	5	5	10	10	15
05:00 PM	0	0	2	2	2
05:15 PM	0	0	1	1	1
05:30 PM	0	0	1	1	1
05:45 PM	0	0	1	1	1
Total	0	0	5	5	5
Grand Total	5	5	15	15	20
Apprch %	100		100		
Total %	25	25	75	75	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483a
Site Code : 00004483
Start Date : 8/18/2020
Page No : 2

Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	1	1	2	2	3
04:15 PM	1	1	3	3	4
04:30 PM	2	2	3	3	5
04:45 PM	1	1	2	2	3
Total Volume	5	5	10	10	15
% App. Total	100		100		
PHF	.625	.625	.833	.833	.750



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483b
Site Code : 00004483
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

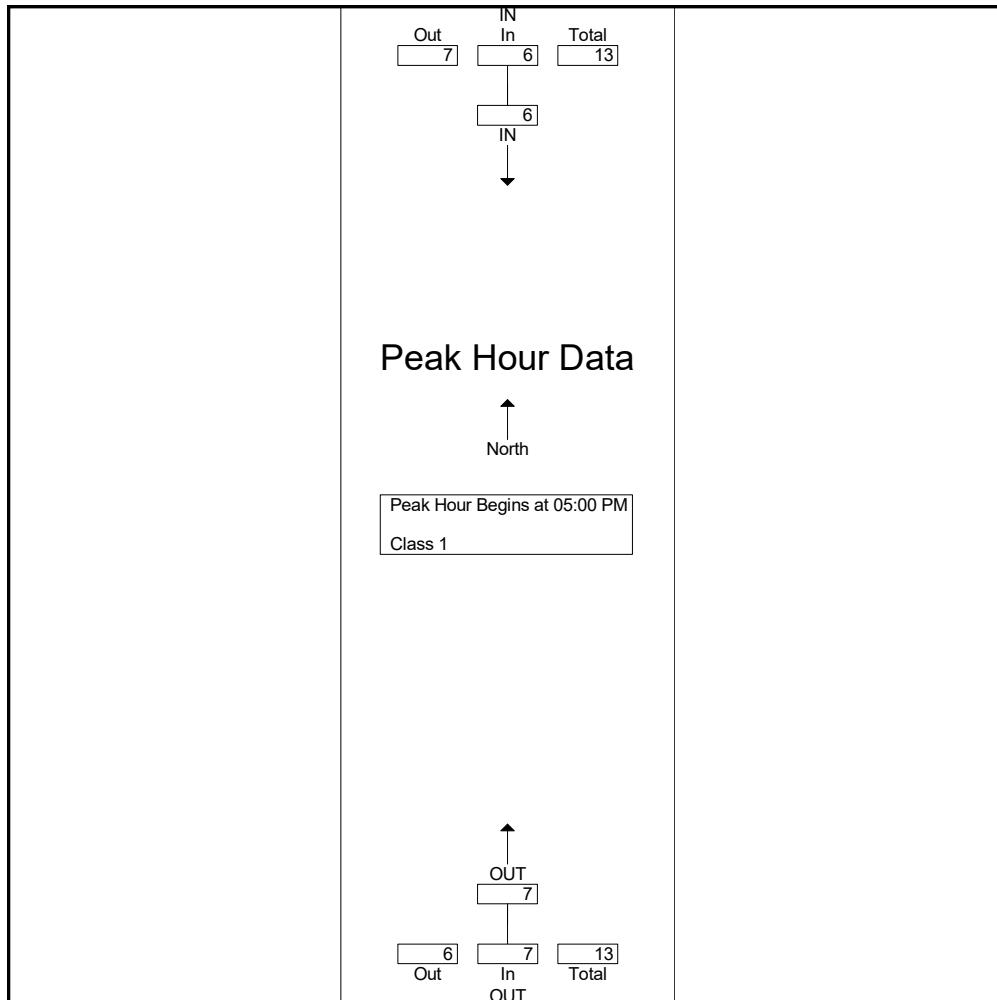
Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	0	0	1	1	1
04:15 PM	0	0	0	0	0
04:30 PM	1	1	4	4	5
04:45 PM	0	0	2	2	2
Total	1	1	7	7	8
05:00 PM	0	0	3	3	3
05:15 PM	1	1	0	0	1
05:30 PM	3	3	3	3	6
05:45 PM	2	2	1	1	3
Total	6	6	7	7	13
Grand Total	7	7	14	14	21
Apprch %	100		100		
Total %	33.3	33.3	66.7	66.7	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483b
Site Code : 00004483
Start Date : 8/19/2020
Page No : 2

Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. 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	3	3	3
05:15 PM	1	1	0	0	1
05:30 PM	3	3	3	3	6
05:45 PM	2	2	1	1	3
Total Volume	6	6	7	7	13
% App. Total	100		100		
PHF	.500	.500	.583	.583	.542



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483bbb
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
12:00 AM	0	0	1	1	1
12:15 AM	0	0	0	0	0
12:30 AM	0	0	0	0	0
12:45 AM	0	0	0	0	0
Total	0	0	1	1	1
01:00 AM	0	0	0	0	0
01:15 AM	0	0	0	0	0
01:30 AM	0	0	0	0	0
01:45 AM	0	0	0	0	0
Total	0	0	0	0	0
02:00 AM	0	0	0	0	0
02:15 AM	0	0	0	0	0
02:30 AM	0	0	0	0	0
02:45 AM	0	0	0	0	0
Total	0	0	0	0	0
03:00 AM	0	0	0	0	0
03:15 AM	0	0	0	0	0
03:30 AM	0	0	0	0	0
03:45 AM	0	0	0	0	0
Total	0	0	0	0	0
04:00 AM	0	0	0	0	0
04:15 AM	0	0	0	0	0
04:30 AM	0	0	0	0	0
04:45 AM	0	0	0	0	0
Total	0	0	0	0	0
05:00 AM	0	0	0	0	0
05:15 AM	0	0	0	0	0
05:30 AM	0	0	0	0	0
05:45 AM	0	0	0	0	0
Total	0	0	0	0	0
06:00 AM	0	0	0	0	0
06:15 AM	1	1	0	0	1
06:30 AM	0	0	0	0	0
06:45 AM	12	12	1	1	13
Total	13	13	1	1	14
07:00 AM	3	3	2	2	5
07:15 AM	1	1	4	4	5
07:30 AM	2	2	6	6	8
07:45 AM	3	3	4	4	7
Total	9	9	16	16	25
08:00 AM	2	2	1	1	3
08:15 AM	1	1	0	0	1
08:30 AM	2	2	0	0	2
08:45 AM	0	0	1	1	1
Total	5	5	2	2	7
09:00 AM	2	2	0	0	2
09:15 AM	1	1	0	0	1
09:30 AM	1	1	0	0	1
09:45 AM	0	0	2	2	2
Total	4	4	2	2	6

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483bbb
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Groups Printed- Class 1

Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
10:00 AM	1	1	0	0	1
10:15 AM	3	3	0	0	3
10:30 AM	2	2	2	2	4
10:45 AM	2	2	1	1	3
Total	8	8	3	3	11
11:00 AM	2	2	2	2	4
11:15 AM	1	1	1	1	2
11:30 AM	0	0	2	2	2
11:45 AM	0	0	1	1	1
Total	3	3	6	6	9
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	1	1	1	1	2
12:45 PM	1	1	1	1	2
Total	2	2	2	2	4
01:00 PM	0	0	1	1	1
01:15 PM	1	1	1	1	2
01:30 PM	2	2	0	0	2
01:45 PM	0	0	1	1	1
Total	3	3	3	3	6
02:00 PM	0	0	1	1	1
02:15 PM	0	0	1	1	1
02:30 PM	1	1	0	0	1
02:45 PM	5	5	1	1	6
Total	6	6	3	3	9
03:00 PM	1	1	2	2	3
03:15 PM	1	1	1	1	2
03:30 PM	0	0	6	6	6
03:45 PM	2	2	2	2	4
Total	4	4	11	11	15
04:00 PM	0	0	1	1	1
04:15 PM	0	0	0	0	0
04:30 PM	1	1	4	4	5
04:45 PM	0	0	2	2	2
Total	1	1	7	7	8
05:00 PM	0	0	3	3	3
05:15 PM	1	1	0	0	1
05:30 PM	3	3	3	3	6
05:45 PM	2	2	1	1	3
Total	6	6	7	7	13
06:00 PM	1	1	4	4	5
06:15 PM	2	2	0	0	2
06:30 PM	3	3	1	1	4
06:45 PM	3	3	1	1	4
Total	9	9	6	6	15
07:00 PM	1	1	1	1	2
07:15 PM	1	1	3	3	4
07:30 PM	1	1	4	4	5
07:45 PM	2	2	2	2	4
Total	5	5	10	10	15

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483bbb
Site Code : 00004383
Start Date : 8/19/2020
Page No : 3

Groups Printed- Class 1

Start Time	IN 2150 Freeman Rd E		OUT 2150 Freeman Rd E		Int. Total
	IN	App. Total	OUT	App. Total	
08:00 PM	0	0	3	3	3
08:15 PM	2	2	0	0	2
08:30 PM	1	1	1	1	2
08:45 PM	0	0	0	0	0
Total	3	3	4	4	7
09:00 PM	0	0	0	0	0
09:15 PM	1	1	1	1	2
09:30 PM	0	0	0	0	0
09:45 PM	0	0	0	0	0
Total	1	1	1	1	2
10:00 PM	0	0	0	0	0
10:15 PM	1	1	1	1	2
10:30 PM	3	3	1	1	4
10:45 PM	3	3	0	0	3
Total	7	7	2	2	9
11:00 PM	2	2	1	1	3
11:15 PM	1	1	2	2	3
11:30 PM	0	0	4	4	4
11:45 PM	0	0	0	0	0
Total	3	3	7	7	10
Grand Total	92	92	94	94	186
Apprch %	100		100		
Total %	49.5	49.5	50.5	50.5	

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

LOCAL TRIP GENERATION COUNT SHEETS
BEHAVIORAL HEALTH FACILITIES

SAMPLE SITE #2: 7224 PACIFIC HIGHWAY E

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483aaaa
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

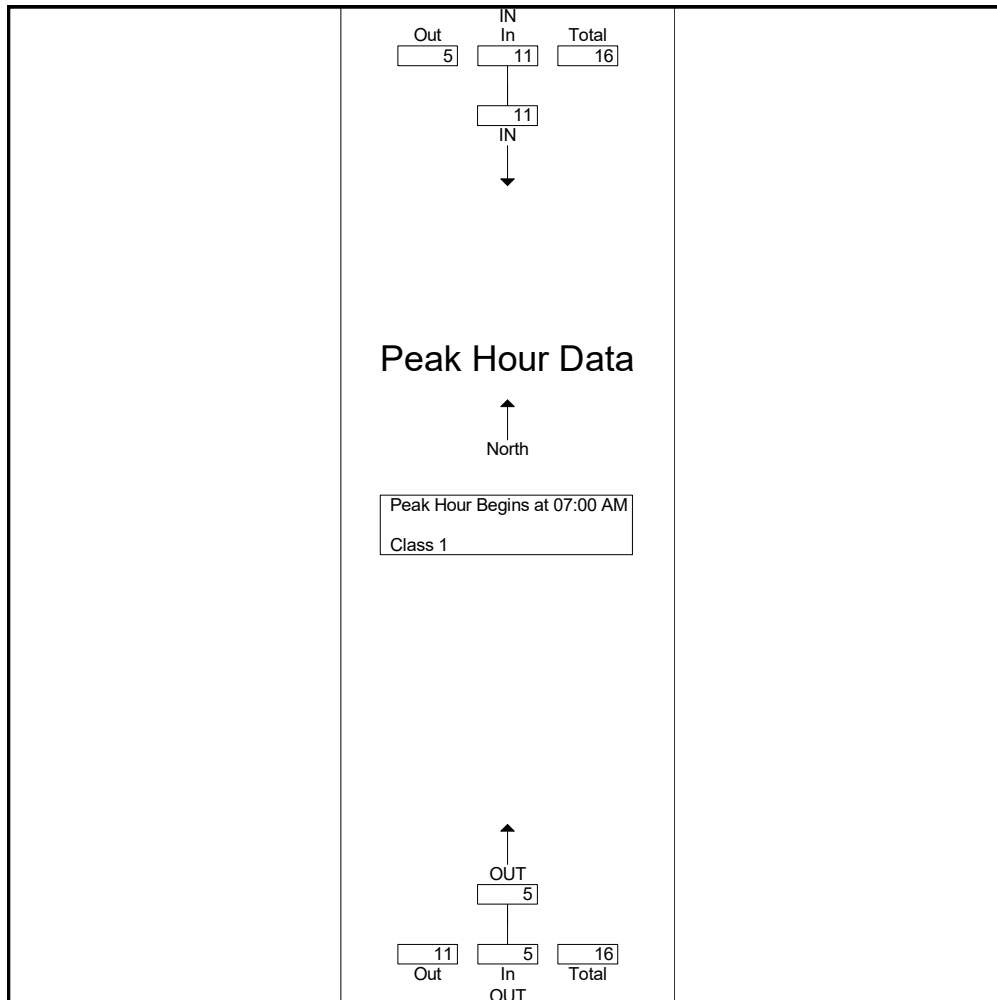
Start Time	IN Southbound		OUT Northbound		Int. Total
	IN	App. Total	OUT	App. Total	
07:00 AM	5	5	0	0	5
07:15 AM	0	0	1	1	1
07:30 AM	2	2	2	2	4
07:45 AM	4	4	2	2	6
Total	11	11	5	5	16
08:00 AM	0	0	0	0	0
08:15 AM	0	0	0	0	0
08:30 AM	1	1	1	1	2
08:45 AM	1	1	0	0	1
Total	2	2	1	1	3
Grand Total	13	13	6	6	19
Apprch %	100		100		
Total %	68.4	68.4	31.6	31.6	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483aaaa
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Start Time	IN Southbound		OUT Northbound		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	5	5	0	0	5
07:15 AM	0	0	1	1	1
07:30 AM	2	2	2	2	4
07:45 AM	4	4	2	2	6
Total Volume	11	11	5	5	16
% App. Total	100		100		
PHF	.550	.550	.625	.625	.667



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483c
Site Code : 00004483
Start Date : 8/18/2020
Page No : 1

Groups Printed- Class 1

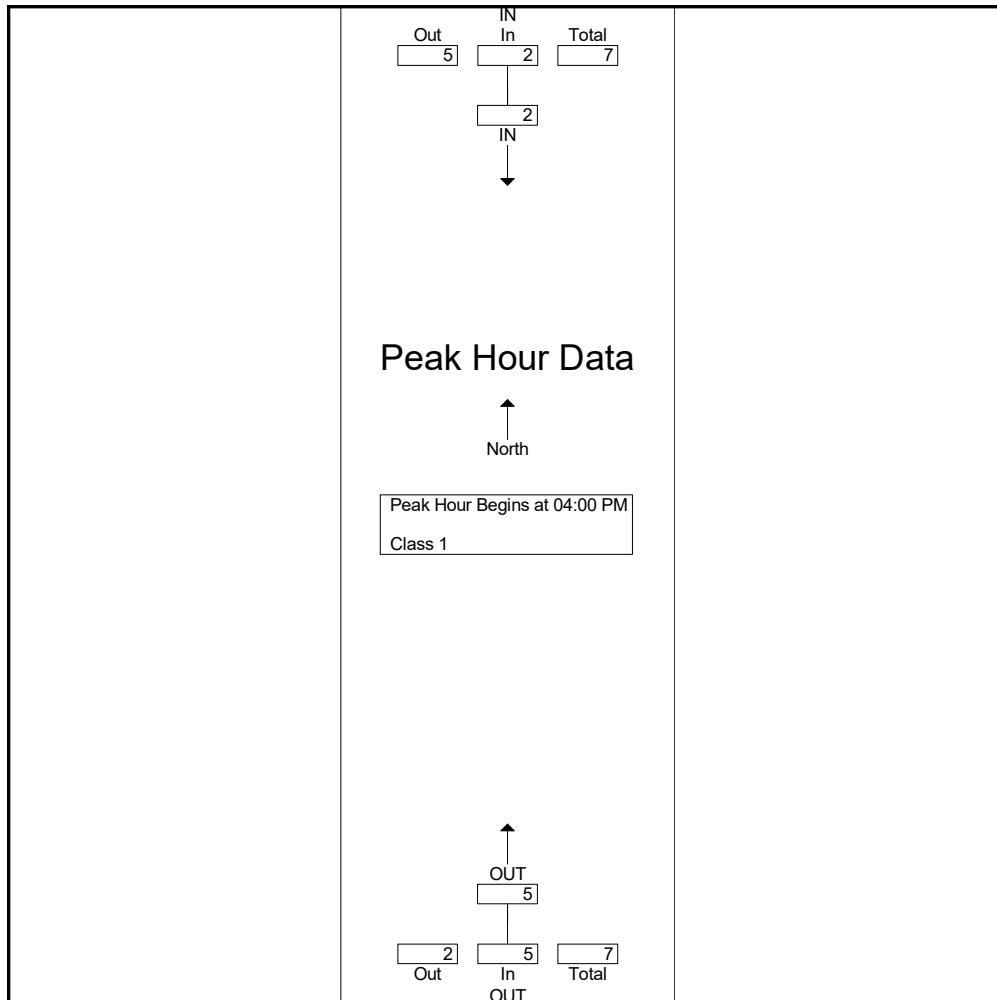
Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	1	1	1	1	2
04:15 PM	0	0	4	4	4
04:30 PM	1	1	0	0	1
04:45 PM	0	0	0	0	0
Total	2	2	5	5	7
05:00 PM	0	0	1	1	1
05:15 PM	0	0	0	0	0
05:30 PM	0	0	2	2	2
05:45 PM	0	0	0	0	0
Total	0	0	3	3	3
Grand Total	2	2	8	8	10
Apprch %	100		100		
Total %	20	20	80	80	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483c
Site Code : 00004483
Start Date : 8/18/2020
Page No : 2

Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	1	1	1	1	2
04:15 PM	0	0	4	4	4
04:30 PM	1	1	0	0	1
04:45 PM	0	0	0	0	0
Total Volume	2	2	5	5	7
% App. Total	100		100		
PHF	.500	.500	.313	.313	.438



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483d
Site Code : 00004483
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

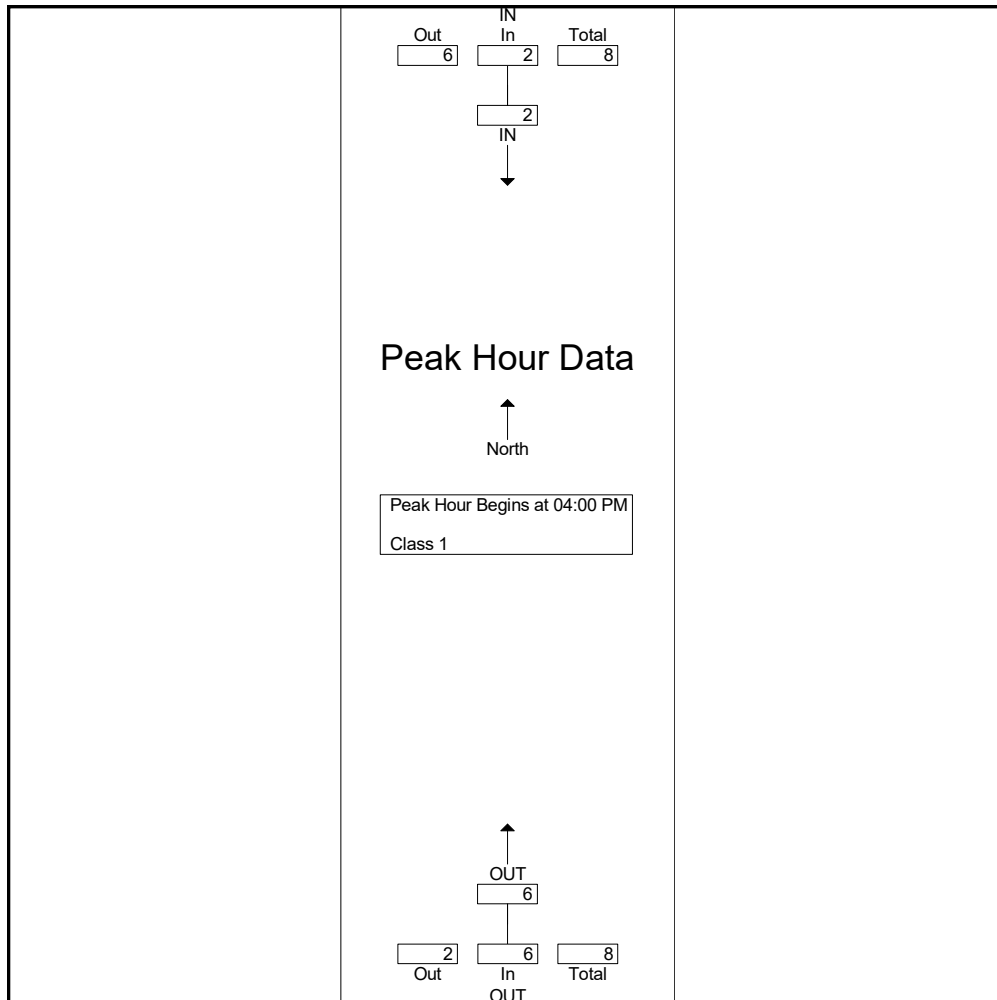
Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	1	1	0	0	1
04:15 PM	0	0	1	1	1
04:30 PM	0	0	4	4	4
04:45 PM	1	1	1	1	2
Total	2	2	6	6	8
05:00 PM	0	0	0	0	0
05:15 PM	0	0	0	0	0
05:30 PM	0	0	0	0	0
05:45 PM	0	0	0	0	0
Total	0	0	0	0	0
Grand Total	2	2	6	6	8
Apprch %	100		100		
Total %	25	25	75	75	

Heath & Associates

2214 Tacoma Rd E
 Puyallup, WA 98371

File Name : 4483d
 Site Code : 00004483
 Start Date : 8/19/2020
 Page No : 2

Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	1	1	0	0	1
04:15 PM	0	0	1	1	1
04:30 PM	0	0	4	4	4
04:45 PM	1	1	1	1	2
Total Volume	2	2	6	6	8
% App. Total	100		100		
PHF	.500	.500	.375	.375	.500



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483aaa
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
12:00 AM	0	0	0	0	0
12:15 AM	0	0	0	0	0
12:30 AM	0	0	0	0	0
12:45 AM	0	0	0	0	0
Total	0	0	0	0	0
01:00 AM	0	0	0	0	0
01:15 AM	0	0	0	0	0
01:30 AM	0	0	0	0	0
01:45 AM	0	0	0	0	0
Total	0	0	0	0	0
02:00 AM	0	0	0	0	0
02:15 AM	0	0	0	0	0
02:30 AM	0	0	0	0	0
02:45 AM	0	0	1	1	1
Total	0	0	1	1	1
03:00 AM	0	0	0	0	0
03:15 AM	0	0	0	0	0
03:30 AM	0	0	0	0	0
03:45 AM	0	0	0	0	0
Total	0	0	0	0	0
04:00 AM	0	0	0	0	0
04:15 AM	0	0	0	0	0
04:30 AM	0	0	0	0	0
04:45 AM	0	0	0	0	0
Total	0	0	0	0	0
05:00 AM	0	0	0	0	0
05:15 AM	0	0	0	0	0
05:30 AM	0	0	0	0	0
05:45 AM	1	1	0	0	1
Total	1	1	0	0	1
06:00 AM	1	1	0	0	1
06:15 AM	0	0	0	0	0
06:30 AM	1	1	0	0	1
06:45 AM	4	4	0	0	4
Total	6	6	0	0	6
07:00 AM	5	5	0	0	5
07:15 AM	0	0	1	1	1
07:30 AM	2	2	2	2	4
07:45 AM	4	4	2	2	6
Total	11	11	5	5	16
08:00 AM	0	0	0	0	0
08:15 AM	0	0	0	0	0
08:30 AM	1	1	1	1	2
08:45 AM	1	1	0	0	1
Total	2	2	1	1	3
09:00 AM	1	1	1	1	2
09:15 AM	0	0	0	0	0
09:30 AM	0	0	0	0	0
09:45 AM	1	1	1	1	2
Total	2	2	2	2	4

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483aaa
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Groups Printed- Class 1

Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
10:00 AM	1	1	0	0	1
10:15 AM	0	0	0	0	0
10:30 AM	0	0	2	2	2
10:45 AM	0	0	0	0	0
Total	1	1	2	2	3
11:00 AM	3	3	1	1	4
11:15 AM	1	1	1	1	2
11:30 AM	0	0	2	2	2
11:45 AM	2	2	0	0	2
Total	6	6	4	4	10
12:00 PM	0	0	1	1	1
12:15 PM	2	2	1	1	3
12:30 PM	0	0	1	1	1
12:45 PM	0	0	0	0	0
Total	2	2	3	3	5
01:00 PM	2	2	0	0	2
01:15 PM	0	0	1	1	1
01:30 PM	2	2	2	2	4
01:45 PM	1	1	0	0	1
Total	5	5	3	3	8
02:00 PM	0	0	1	1	1
02:15 PM	1	1	3	3	4
02:30 PM	2	2	1	1	3
02:45 PM	3	3	3	3	6
Total	6	6	8	8	14
03:00 PM	2	2	0	0	2
03:15 PM	1	1	3	3	4
03:30 PM	0	0	4	4	4
03:45 PM	0	0	1	1	1
Total	3	3	8	8	11
04:00 PM	1	1	0	0	1
04:15 PM	0	0	1	1	1
04:30 PM	0	0	4	4	4
04:45 PM	1	1	1	1	2
Total	2	2	6	6	8
05:00 PM	0	0	0	0	0
05:15 PM	0	0	0	0	0
05:30 PM	0	0	0	0	0
05:45 PM	0	0	0	0	0
Total	0	0	0	0	0
06:00 PM	0	0	0	0	0
06:15 PM	0	0	0	0	0
06:30 PM	1	1	1	1	2
06:45 PM	1	1	1	1	2
Total	2	2	2	2	4
07:00 PM	0	0	0	0	0
07:15 PM	0	0	1	1	1
07:30 PM	0	0	1	1	1
07:45 PM	0	0	0	0	0
Total	0	0	2	2	2

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483aaa
Site Code : 00004383
Start Date : 8/19/2020
Page No : 3

Groups Printed- Class 1

Start Time	IN 7224 Pacific Hwy E		OUT 7224 Pacific Hwy E		Int. Total
	IN	App. Total	OUT	App. Total	
08:00 PM	0	0	0	0	0
08:15 PM	0	0	0	0	0
08:30 PM	0	0	0	0	0
08:45 PM	0	0	0	0	0
Total	0	0	0	0	0
09:00 PM	0	0	0	0	0
09:15 PM	0	0	1	1	1
09:30 PM	0	0	0	0	0
09:45 PM	0	0	0	0	0
Total	0	0	1	1	1
10:00 PM	0	0	0	0	0
10:15 PM	1	1	0	0	1
10:30 PM	2	2	0	0	2
10:45 PM	1	1	1	1	2
Total	4	4	1	1	5
11:00 PM	1	1	0	0	1
11:15 PM	1	1	2	2	3
11:30 PM	0	0	2	2	2
11:45 PM	0	0	0	0	0
Total	2	2	4	4	6
Grand Total	55	55	53	53	108
Apprch %	100		100		
Total %	50.9	50.9	49.1	49.1	

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

LOCAL TRIP GENERATION COUNT SHEETS
BEHAVIORAL HEALTH FACILITIES

SAMPLE SITE #3: 33480 13TH PLACE S

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483cccc
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

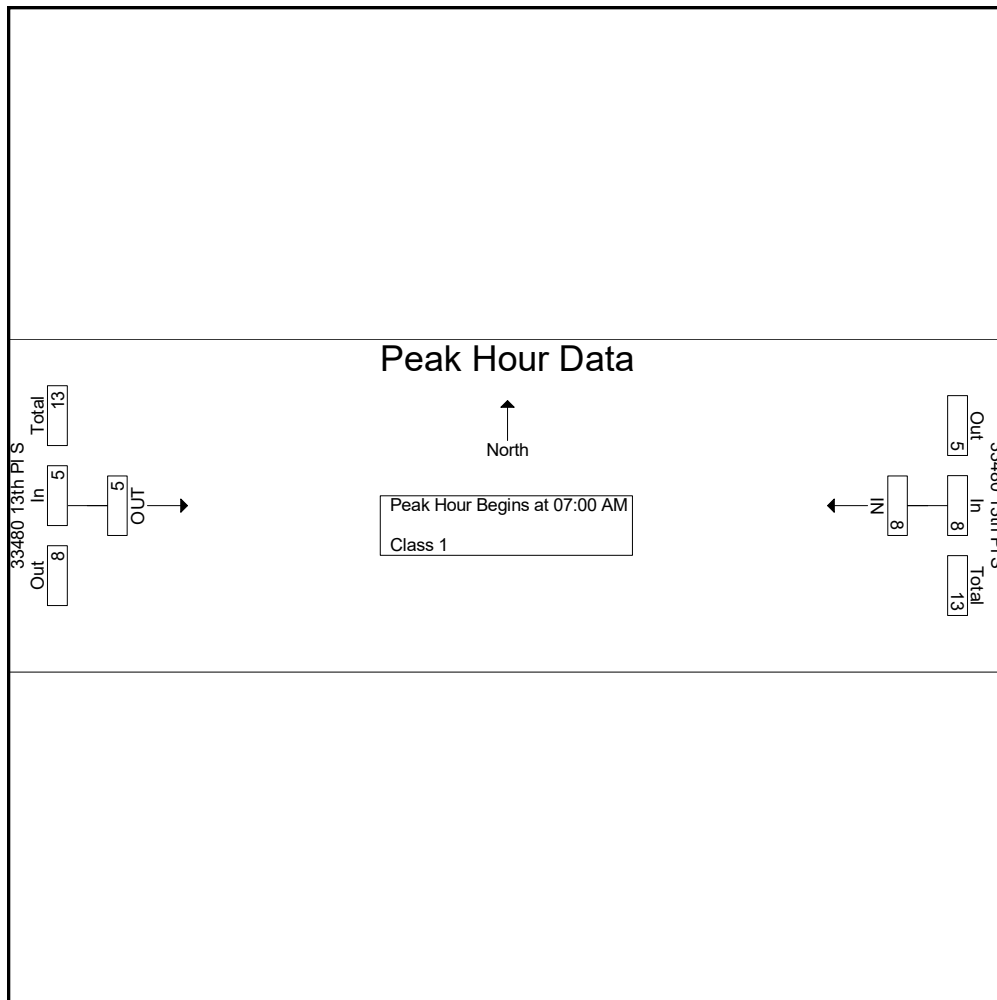
Start Time	33480 13th PI S Westbound		33480 13th PI S Eastbound		Int. Total
	IN	App. Total	OUT	App. Total	
07:00 AM	2	2	0	0	2
07:15 AM	1	1	1	1	2
07:30 AM	4	4	3	3	7
07:45 AM	1	1	1	1	2
Total	8	8	5	5	13
08:00 AM	1	1	1	1	2
08:15 AM	0	0	0	0	0
08:30 AM	0	0	0	0	0
08:45 AM	1	1	0	0	1
Total	2	2	1	1	3
Grand Total	10	10	6	6	16
Apprch %	100		100		
Total %	62.5	62.5	37.5	37.5	

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2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483cccc
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Start Time	33480 13th PI S Westbound		33480 13th PI S Eastbound		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:00 AM					
07:00 AM	2	2	0	0	2
07:15 AM	1	1	1	1	2
07:30 AM	4	4	3	3	7
07:45 AM	1	1	1	1	2
Total Volume	8	8	5	5	13
% App. Total	100		100		
PHF	.500	.500	.417	.417	.464



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2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483e
Site Code : 00004483
Start Date : 8/18/2020
Page No : 1

Groups Printed- Class 1

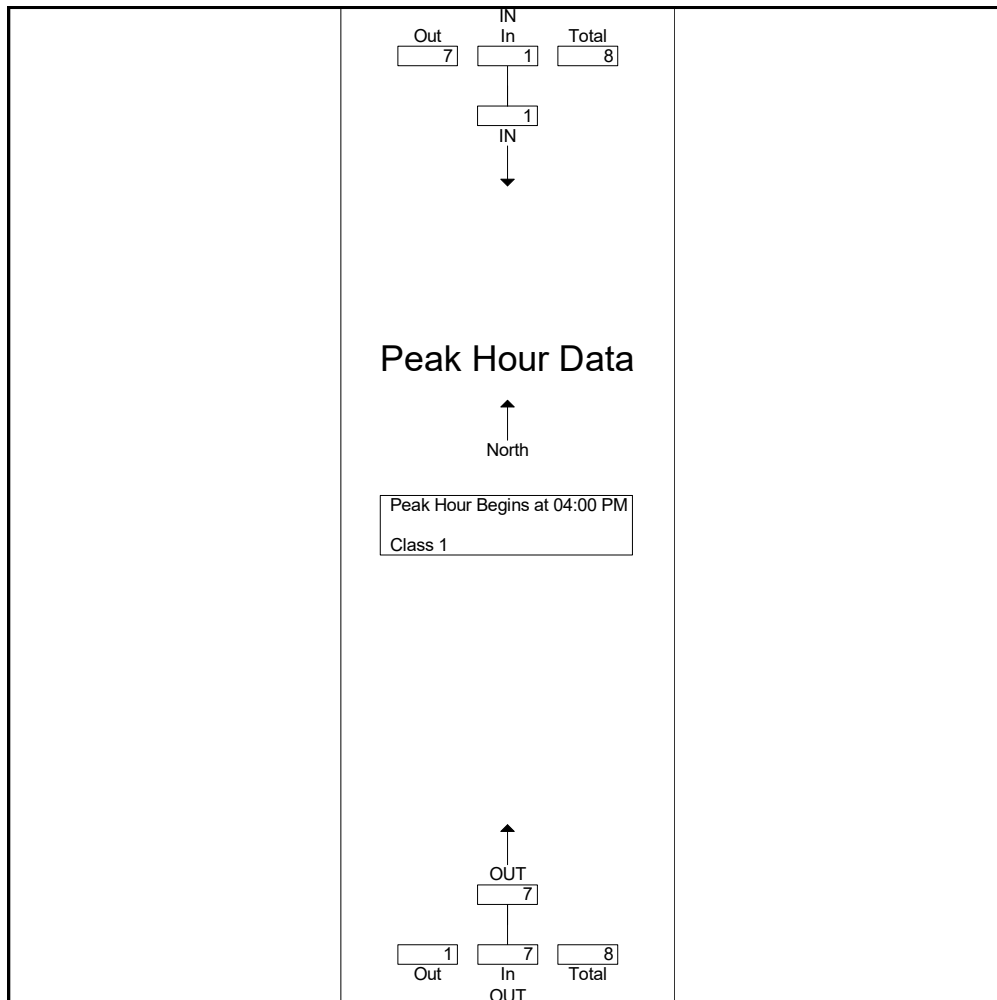
Start Time	IN 33480 13th PI S		OUT 33480 13th PI S		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	0	0	2	2	2
04:15 PM	0	0	3	3	3
04:30 PM	1	1	0	0	1
04:45 PM	0	0	2	2	2
Total	1	1	7	7	8
05:00 PM	0	0	1	1	1
05:15 PM	0	0	0	0	0
05:30 PM	0	0	1	1	1
05:45 PM	0	0	1	1	1
Total	0	0	3	3	3
Grand Total	1	1	10	10	11
Apprch %	100		100		
Total %	9.1	9.1	90.9	90.9	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483e
Site Code : 00004483
Start Date : 8/18/2020
Page No : 2

Start Time	IN 33480 13th Pl S		OUT 33480 13th Pl S		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	0	0	2	2	2
04:15 PM	0	0	3	3	3
04:30 PM	1	1	0	0	1
04:45 PM	0	0	2	2	2
Total Volume	1	1	7	7	8
% App. Total	100		100		
PHF	.250	.250	.583	.583	.667



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2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483f
Site Code : 00004483
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

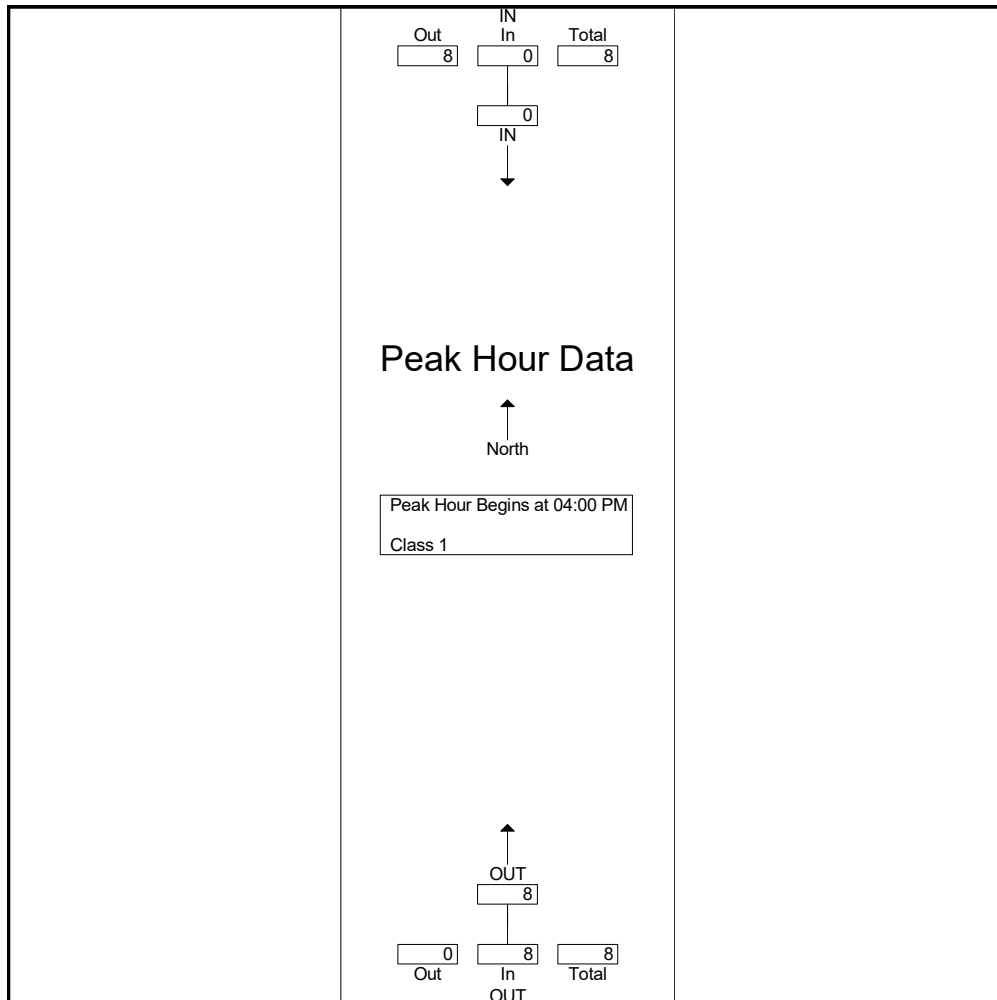
Start Time	IN 33480 13th PI S		OUT 33480 13th PI S		Int. Total
	IN	App. Total	OUT	App. Total	
04:00 PM	0	0	3	3	3
04:15 PM	0	0	4	4	4
04:30 PM	0	0	0	0	0
04:45 PM	0	0	1	1	1
Total	0	0	8	8	8
05:00 PM	0	0	0	0	0
05:15 PM	0	0	1	1	1
05:30 PM	1	1	0	0	1
05:45 PM	0	0	1	1	1
Total	1	1	2	2	3
Grand Total	1	1	10	10	11
Apprch %	100		100		
Total %	9.1	9.1	90.9	90.9	

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483f
Site Code : 00004483
Start Date : 8/19/2020
Page No : 2

Start Time	IN 33480 13th Pl S		OUT 33480 13th Pl S		Int. Total
	IN	App. Total	OUT	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 04:00 PM					
04:00 PM	0	0	3	3	3
04:15 PM	0	0	4	4	4
04:30 PM	0	0	0	0	0
04:45 PM	0	0	1	1	1
Total Volume	0	0	8	8	8
% App. Total	0		100		
PHF	.000	.000	.500	.500	.500



Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483ccc
Site Code : 00004383
Start Date : 8/19/2020
Page No : 1

Groups Printed- Class 1

Start Time	IN 33480 13th PI S		OUT 33480 13th PI S		Int. Total
	IN	App. Total	OUT	App. Total	
12:00 AM	0	0	0	0	0
12:15 AM	0	0	0	0	0
12:30 AM	0	0	0	0	0
12:45 AM	0	0	0	0	0
Total	0	0	0	0	0
01:00 AM	0	0	0	0	0
01:15 AM	0	0	0	0	0
01:30 AM	0	0	0	0	0
01:45 AM	0	0	0	0	0
Total	0	0	0	0	0
02:00 AM	0	0	0	0	0
02:15 AM	0	0	0	0	0
02:30 AM	0	0	0	0	0
02:45 AM	0	0	0	0	0
Total	0	0	0	0	0
03:00 AM	1	1	0	0	1
03:15 AM	0	0	0	0	0
03:30 AM	0	0	0	0	0
03:45 AM	0	0	1	1	1
Total	1	1	1	1	2
04:00 AM	1	1	0	0	1
04:15 AM	0	0	0	0	0
04:30 AM	0	0	0	0	0
04:45 AM	0	0	0	0	0
Total	1	1	0	0	1
05:00 AM	1	1	2	2	3
05:15 AM	1	1	1	1	2
05:30 AM	0	0	0	0	0
05:45 AM	0	0	1	1	1
Total	2	2	4	4	6
06:00 AM	1	1	0	0	1
06:15 AM	0	0	0	0	0
06:30 AM	3	3	0	0	3
06:45 AM	5	5	0	0	5
Total	9	9	0	0	9
07:00 AM	2	2	0	0	2
07:15 AM	1	1	1	1	2
07:30 AM	4	4	3	3	7
07:45 AM	1	1	1	1	2
Total	8	8	5	5	13
08:00 AM	1	1	1	1	2
08:15 AM	0	0	0	0	0
08:30 AM	0	0	0	0	0
08:45 AM	1	1	0	0	1
Total	2	2	1	1	3
09:00 AM	2	2	3	3	5
09:15 AM	2	2	1	1	3
09:30 AM	1	1	1	1	2
09:45 AM	1	1	0	0	1
Total	6	6	5	5	11

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483ccc
Site Code : 00004383
Start Date : 8/19/2020
Page No : 2

Groups Printed- Class 1

Start Time	IN 33480 13th PI S		OUT 33480 13th PI S		Int. Total
	IN	App. Total	OUT	App. Total	
10:00 AM	2	2	2	2	4
10:15 AM	0	0	1	1	1
10:30 AM	0	0	1	1	1
10:45 AM	3	3	0	0	3
Total	5	5	4	4	9
11:00 AM	0	0	0	0	0
11:15 AM	1	1	2	2	3
11:30 AM	1	1	1	1	2
11:45 AM	0	0	1	1	1
Total	2	2	4	4	6
12:00 PM	0	0	2	2	2
12:15 PM	1	1	2	2	3
12:30 PM	0	0	0	0	0
12:45 PM	2	2	1	1	3
Total	3	3	5	5	8
01:00 PM	1	1	2	2	3
01:15 PM	1	1	0	0	1
01:30 PM	2	2	0	0	2
01:45 PM	1	1	2	2	3
Total	5	5	4	4	9
02:00 PM	2	2	1	1	3
02:15 PM	0	0	2	2	2
02:30 PM	2	2	0	0	2
02:45 PM	3	3	1	1	4
Total	7	7	4	4	11
03:00 PM	2	2	1	1	3
03:15 PM	1	1	3	3	4
03:30 PM	0	0	3	3	3
03:45 PM	0	0	1	1	1
Total	3	3	8	8	11
04:00 PM	0	0	3	3	3
04:15 PM	0	0	4	4	4
04:30 PM	0	0	0	0	0
04:45 PM	0	0	1	1	1
Total	0	0	8	8	8
05:00 PM	0	0	0	0	0
05:15 PM	0	0	1	1	1
05:30 PM	1	1	0	0	1
05:45 PM	0	0	1	1	1
Total	1	1	2	2	3
06:00 PM	1	1	1	1	2
06:15 PM	0	0	1	1	1
06:30 PM	1	1	0	0	1
06:45 PM	1	1	1	1	2
Total	3	3	3	3	6
07:00 PM	0	0	2	2	2
07:15 PM	0	0	0	0	0
07:30 PM	2	2	0	0	2
07:45 PM	0	0	0	0	0
Total	2	2	2	2	4

Heath & Associates

2214 Tacoma Rd E
Puyallup, WA 98371

File Name : 4483ccc
Site Code : 00004383
Start Date : 8/19/2020
Page No : 3

Groups Printed- Class 1

Start Time	IN 33480 13th PI S		OUT 33480 13th PI S		Int. Total
	IN	App. Total	OUT	App. Total	
08:00 PM	0	0	0	0	0
08:15 PM	0	0	0	0	0
08:30 PM	0	0	0	0	0
08:45 PM	0	0	0	0	0
Total	0	0	0	0	0
09:00 PM	2	2	0	0	2
09:15 PM	0	0	2	2	2
09:30 PM	0	0	0	0	0
09:45 PM	1	1	0	0	1
Total	3	3	2	2	5
10:00 PM	0	0	1	1	1
10:15 PM	1	1	0	0	1
10:30 PM	0	0	0	0	0
10:45 PM	4	4	0	0	4
Total	5	5	1	1	6
11:00 PM	0	0	1	1	1
11:15 PM	0	0	0	0	0
11:30 PM	0	0	4	4	4
11:45 PM	0	0	1	1	1
Total	0	0	6	6	6
Grand Total	68	68	69	69	137
Apprch %	100		100		
Total %	49.6	49.6	50.4	50.4	

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

HEATH & ASSOCIATES SAMPLE SITE
TRIP GENERATION & RATES

Table 1 below illustrates the calculated inbound and outbound trip generation rates for the average daily (ADT), AM peak hour and PM peak hour at each sample site analyzed by our firm. Rates are based on trips per bed.

Table 1: Trip Generation Rates

Sample Site	Size	Date	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
2150 Freeman	16	8/18/2020	-	-	-	-	5	10	15
Rd E	beds	8/19/2020	186	9	16	25	6	7	13
7224 Pacific	16	8/18/2020	-	-	-	-	2	5	7
Hwy E	beds	8/19/2020	108	11	5	16	2	6	8
33435 13th Pl	16	8/18/2020	-	-	-	-	1	7	8
S	beds	8/19/2020	137	5	8	13	0	8	8
Average Trip Rate			8.98	0.52	0.60	1.12	0.17	0.45	0.62

The results indicate an average daily rate of 8.98 vehicle trips per bed, an AM peak hour rate of 1.12 vehicle trips per bed (46% inbound / 54% outbound) and a PM peak hour rate of 0.62 vehicle trips per bed (27% inbound / 73% outbound).

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

H. LEE & ASSOCIATES
TRIP GENERATION MEMO



proud past, promising future

CLARK COUNTY
WASHINGTON

Date: September 29, 2015
To: File
Cc: Ali Safayi PE; Greg Schafer PE
From: David Jardin
RE: Behavioral Hospital - Trip Generation

Clark County was approached by an applicant that claimed the trip generation for hospital, as described in *the Institute of Transportation Engineers (ITE) 9th Edition, Land Use 610 page 1164*, did not accurately represent the trip generation of their proposed facility. Therefore, the applicant has submitted an analysis conforming to the guidelines in *the ITE Trip Generation Handbook, 2nd Edition - Chapter 4* and as allowed under Clark County Code 40.620.010(c) along with ITE guidance.

In order to substantiate the applicant's claim H. Lee & Associates performed a study in August and September of 2011 that collected and analyzed data from three (3) similar behavioral type facilities. County Staff reviewed the data and agrees that the ITE definition of hospital does not reflect the operations of a behavioral hospital. Further, Staff believes that the trip generation data collected is a reasonable representation of behavioral hospital facilities that specialize in treatment for mental health, mental illness, and substance abuse and detoxification services with overnight accommodations. Because of this, Staff concurs with H. Lee & Associates' trip generation findings. These findings are as follows:

1. The ITE categories that are the closest in definition to a behavioral hospital is Hospital (Land Use 610) and Clinic (Land Use 630)
 - a. Hospital trip generation rates were based on institutions where medical of surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients. These types of hospital facilities averaged over 400 beds. Based on the number of beds, these hospital facilities are about three to six times larger than the three sites where data was collected.
 - b. While the Clinic land use category is listed as a similar use, by definition Clinics do provide limited diagnostic and outpatient care but are not able to provide prolonged in-house medical and surgical care.
2. Three sites with similar operation characteristics were analyzed and data collected for trip generation purposes in the AM and PM peak hour of the generator and for daily trip volumes. All three locations had a trip generation that varied widely. Of the three sites

studied a total of two sites were used to determine the trip generation rate. The one site was removed from the analysis because of an extremely low trip generation. Staff concurs with the study findings. The following Behavioral Hospital trip generation rates were determined by the data collected.

- a. The average **trip rate for AM peak hour of the generator was estimated to be 0.69 trips per bed.**
- b. The average **trip rate for PM peak hour of the generator was estimated to be 0.71 trips per bed.**
- c. The **average daily trip (ADT) rate was estimated to be 8.76 trips per bed.**

After reviewing H. Lee & Associates trip generation study, Staff believes that the trip generation findings are reasonable and should be applied to all Behavioral Hospitals described as:

Behavioral Hospitals are free-standing facilities specializing in the treatment of mental health, mental illness, substance abuse, detoxification services and have the ability to accommodate prolonged in-house care. Behavioral Hospitals shall not provide general medical or surgical services. Behavioral Hospitals considered at the above trip rates shall be between 64 and 200 bed facilities. Behavioral Hospitals considered at the above trip rates shall not propose to include services as to resemble the definition of ITE Land Use 610 – Hospitals, or ITE Land Use 630 - Clinic.

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

LEVEL OF SERVICE

HCM 6th Signalized Intersection Summary
 1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street

Baseline 2021 AM Peak Hour
 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑	↘	↘		↘
Traffic Volume (veh/h)	76	313	0	0	373	40	477	274	228	21	0	178
Future Volume (veh/h)	76	313	0	0	373	40	477	274	228	21	0	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	97	401	0	0	478	51	612	351	0	27	0	228
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	680	2507	0	0	2033	216	784	424		0	0	0
Arrive On Green	0.04	0.70	0.00	0.00	1.00	1.00	0.23	0.23	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3360	347	3483	1885	1598		0	
Grp Volume(v), veh/h	97	401	0	0	261	268	612	351	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1822	1742	1885	1598			
Q Serve(g_s), s	2.2	4.5	0.0	0.0	0.0	0.0	19.8	21.3	0.0			
Cycle Q Clear(g_c), s	2.2	4.5	0.0	0.0	0.0	0.0	19.8	21.3	0.0			
Prop In Lane	1.00		0.00	0.00		0.19	1.00		1.00			
Lane Grp Cap(c), veh/h	680	2507	0	0	1115	1134	784	424				
V/C Ratio(X)	0.14	0.16	0.00	0.00	0.23	0.24	0.78	0.83				
Avail Cap(c_a), veh/h	752	2507	0	0	1115	1134	1033	559				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	6.5	6.1	0.0	0.0	0.0	0.0	43.7	44.3	0.0			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.5	0.5	2.9	7.7	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	1.7	0.0	0.0	0.1	0.2	8.8	10.8	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	6.2	0.0	0.0	0.5	0.5	46.6	52.0	0.0			
LnGrp LOS	A	A	A	A	A	A	D	D				
Approach Vol, veh/h		498			529			963	A			
Approach Delay, s/veh		6.3			0.5			48.5				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.5			9.3	79.2		31.5				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.0			9.6	27.9		35.6				
Max Q Clear Time (g_c+I1), s		6.5			4.2	2.0		23.3				
Green Ext Time (p_c), s		2.9			0.1	3.3		3.7				

Intersection Summary

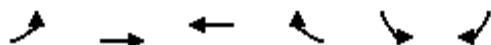
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Baseline 2021 AM Peak Hour
05/10/2021



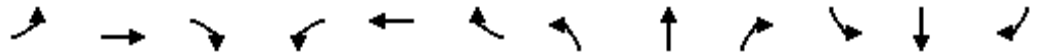
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↙	↘
Traffic Volume (veh/h)	52	327	282	79	70	94
Future Volume (veh/h)	52	327	282	79	70	94
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	68	425	366	103	91	122
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	730	2968	2070	575	173	154
Arrive On Green	0.07	1.00	0.25	0.25	0.10	0.10
Sat Flow, veh/h	1795	3676	2840	763	1795	1598
Grp Volume(v), veh/h	68	425	235	234	91	122
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1733	1795	1598
Q Serve(g_s), s	0.9	0.0	12.5	12.7	5.8	9.0
Cycle Q Clear(g_c), s	0.9	0.0	12.5	12.7	5.8	9.0
Prop In Lane	1.00			0.44	1.00	1.00
Lane Grp Cap(c), veh/h	730	2968	1339	1306	173	154
V/C Ratio(X)	0.09	0.14	0.18	0.18	0.53	0.79
Avail Cap(c_a), veh/h	895	2968	1339	1306	546	486
HCM Platoon Ratio	2.00	2.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.92	0.92	1.00	1.00
Uniform Delay (d), s/veh	3.2	0.0	15.8	15.9	51.6	53.0
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	2.5	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	6.0	6.0	2.7	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.2	0.1	16.0	16.2	54.1	61.8
LnGrp LOS	A	A	B	B	D	E
Approach Vol, veh/h		493	469		213	
Approach Delay, s/veh		0.5	16.1		58.5	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.9		16.1	9.0	94.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		74.5		36.5	15.5	54.5
Max Q Clear Time (g_c+11), s		2.0		11.0	2.9	14.7
Green Ext Time (p_c), s		3.0		0.6	0.1	3.0
Intersection Summary						
HCM 6th Ctrl Delay			17.3			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary

Baseline 2021 AM Peak Hour

3: NE Salmon Creek Avenue & NE 134th Street & Vancouver Hospice

05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	17	325	85	35	219	8	140	2	48	0	1	2
Future Volume (veh/h)	17	325	85	35	219	8	140	2	48	0	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	22	422	110	45	284	10	182	3	62	0	1	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	757	1840	475	692	1202	42	214	15	305	2	18	55
Arrive On Green	0.04	1.00	1.00	0.03	0.66	0.66	0.12	0.20	0.20	0.00	0.04	0.04
Sat Flow, veh/h	1795	2816	727	1795	1810	64	1795	73	1511	1810	409	1226
Grp Volume(v), veh/h	22	267	265	45	0	294	182	0	65	0	0	4
Grp Sat Flow(s),veh/h/ln	1795	1791	1753	1795	0	1874	1795	0	1584	1810	0	1635
Q Serve(g_s), s	0.5	0.0	0.0	1.0	0.0	7.5	11.9	0.0	4.1	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.0	0.0	7.5	11.9	0.0	4.1	0.0	0.0	0.3
Prop In Lane	1.00		0.41	1.00		0.03	1.00		0.95	1.00		0.75
Lane Grp Cap(c), veh/h	757	1170	1146	692	0	1244	214	0	319	2	0	73
V/C Ratio(X)	0.03	0.23	0.23	0.07	0.00	0.24	0.85	0.00	0.20	0.00	0.00	0.05
Avail Cap(c_a), veh/h	830	1170	1146	761	0	1244	456	0	581	75	0	252
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	6.1	0.0	8.0	51.8	0.0	39.9	0.0	0.0	54.9
Incr Delay (d2), s/veh	0.0	0.4	0.5	0.0	0.0	0.4	9.1	0.0	0.3	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.1	0.3	0.0	2.9	5.9	0.0	1.6	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.4	0.5	6.1	0.0	8.5	60.9	0.0	40.2	0.0	0.0	55.2
LnGrp LOS	A	A	A	A	A	A	E	A	D	A	A	E
Approach Vol, veh/h		554			339			247				4
Approach Delay, s/veh		0.7			8.2			55.4				55.2
Approach LOS		A			A			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	82.9	18.8	9.9	7.1	84.2	0.0	28.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	44.5	30.5	18.5	7.5	45.5	5.0	44.0				
Max Q Clear Time (g_c+I1), s	3.0	2.0	13.9	2.3	2.5	9.5	0.0	6.1				
Green Ext Time (p_c), s	0.0	3.3	0.4	0.0	0.0	1.7	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.9									
HCM 6th LOS			B									

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↕
Traffic Vol, veh/h	124	48	85	58	43	182
Future Vol, veh/h	124	48	85	58	43	182
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	131	51	89	61	45	192
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	9.4	8.5	8.8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	72%	0%	100%	0%
Vol Thru, %	28%	59%	0%	0%
Vol Right, %	0%	41%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	143	43	182
LT Vol	124	0	43	0
Through Vol	48	85	0	0
RT Vol	0	58	0	182
Lane Flow Rate	181	151	45	192
Geometry Grp	2	2	7	7
Degree of Util (X)	0.241	0.186	0.073	0.245
Departure Headway (Hd)	4.792	4.454	5.807	4.599
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	804	616	780
Service Time	2.827	2.49	3.545	2.337
HCM Lane V/C Ratio	0.242	0.188	0.073	0.246
HCM Control Delay	9.4	8.5	9	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.7	0.2	1

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔		↔	↔	
Traffic Vol, veh/h	1	1	3	45	1	20	9	128	25	13	143	1
Future Vol, veh/h	1	1	3	45	1	20	9	128	25	13	143	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	12	1	1	1
Mvmt Flow	1	1	3	49	1	22	10	139	27	14	155	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	368	370	156	359	357	153	156	0	0	166	0	0
Stage 1	184	184	-	173	173	-	-	-	-	-	-	-
Stage 2	184	186	-	186	184	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
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	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	590	561	892	598	571	896	1430	-	-	1418	-	-
Stage 1	820	749	-	831	758	-	-	-	-	-	-	-
Stage 2	820	748	-	818	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	568	551	892	587	561	896	1430	-	-	1418	-	-
Mov Cap-2 Maneuver	568	551	-	587	561	-	-	-	-	-	-	-
Stage 1	814	742	-	825	753	-	-	-	-	-	-	-
Stage 2	793	743	-	806	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	11.2	0.4	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1430	-	-	559	892	655	1418	-	-
HCM Lane V/C Ratio	0.007	-	-	0.004	0.004	0.11	0.01	-	-
HCM Control Delay (s)	7.5	-	-	11.5	9.1	11.2	7.6	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.4	0	-	-

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	7	17	23	26	37	6	36	400	23	6	731	16
Future Vol, veh/h	7	17	23	26	37	6	36	400	23	6	731	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
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, %	14	12	5	8	0	17	6	9	27	0	9	19
Mvmt Flow	8	19	25	29	41	7	40	440	25	7	803	18

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1383	1371	812	1381	1368	453	821	0	0	465	0	0
Stage 1	826	826	-	533	533	-	-	-	-	-	-	-
Stage 2	557	545	-	848	835	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.62	6.25	7.18	6.5	6.37	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4.108	3.345	3.572	4	3.453	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	114	139	374	118	148	577	791	-	-	1107	-	-
Stage 1	349	373	-	520	528	-	-	-	-	-	-	-
Stage 2	494	503	-	348	386	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	84	131	374	94	140	577	791	-	-	1107	-	-
Mov Cap-2 Maneuver	84	131	-	94	140	-	-	-	-	-	-	-
Stage 1	331	371	-	493	501	-	-	-	-	-	-	-
Stage 2	426	477	-	306	384	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.9	70.6	0.8	0.1
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	791	-	-	171	125	1107	-
HCM Lane V/C Ratio	0.05	-	-	0.302	0.607	0.006	-
HCM Control Delay (s)	9.8	-	-	34.9	70.6	8.3	-
HCM Lane LOS	A	-	-	D	F	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	3.1	0	-

HCM 6th Signalized Intersection Summary
 1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street

Baseline 2021 PM Peak Hour
 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑	↘	↘		↘
Traffic Volume (veh/h)	44	337	0	0	526	30	691	275	198	30	0	329
Future Volume (veh/h)	44	337	0	0	526	30	691	275	198	30	0	329
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	47	359	0	0	560	32	735	293	0	32	0	350
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	900	2450	0	0	649	37	839	454		0	0	0
Arrive On Green	0.46	0.68	0.00	0.00	0.38	0.38	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3538	197	3483	1885	1598		0	
Grp Volume(v), veh/h	47	359	0	0	291	301	735	293	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1850	1742	1885	1598			
Q Serve(g_s), s	0.0	4.2	0.0	0.0	18.0	18.1	24.4	16.8	0.0			
Cycle Q Clear(g_c), s	0.0	4.2	0.0	0.0	18.0	18.1	24.4	16.8	0.0			
Prop In Lane	1.00		0.00	0.00		0.11	1.00		1.00			
Lane Grp Cap(c), veh/h	900	2450	0	0	337	349	839	454				
V/C Ratio(X)	0.05	0.15	0.00	0.00	0.86	0.86	0.88	0.65				
Avail Cap(c_a), veh/h	900	2450	0	0	446	461	943	511				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	17.1	6.7	0.0	0.0	35.9	36.0	43.8	40.9	0.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	23.6	23.3	8.6	2.4	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.7	1.6	0.0	0.0	8.7	9.0	11.4	8.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	6.8	0.0	0.0	59.6	59.3	52.4	43.3	0.0			
LnGrp LOS	B	A	A	A	E	E	D	D				
Approach Vol, veh/h		406			592			1028	A			
Approach Delay, s/veh		8.0			59.4			49.8				
Approach LOS		A			E			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		86.6			59.5	27.1		33.4				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		39.5			5.1	29.9		32.5				
Max Q Clear Time (g_c+I1), s		6.2			2.0	20.1		26.4				
Green Ext Time (p_c), s		2.5			0.0	2.6		2.5				

Intersection Summary

HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Baseline 2021 PM Peak Hour
05/10/2021



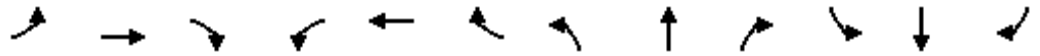
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↘	↘
Traffic Volume (veh/h)	119	385	340	86	134	71
Future Volume (veh/h)	119	385	340	86	134	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	138	448	395	100	156	83
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	735	2929	2097	525	192	171
Arrive On Green	0.08	1.00	0.50	0.50	0.11	0.11
Sat Flow, veh/h	1795	3676	2931	711	1795	1598
Grp Volume(v), veh/h	138	448	248	247	156	83
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1757	1795	1598
Q Serve(g_s), s	2.1	0.0	9.2	9.4	10.2	5.9
Cycle Q Clear(g_c), s	2.1	0.0	9.2	9.4	10.2	5.9
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	735	2929	1324	1298	192	171
V/C Ratio(X)	0.19	0.15	0.19	0.19	0.81	0.48
Avail Cap(c_a), veh/h	997	2929	1324	1298	531	473
HCM Platoon Ratio	2.00	2.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	3.2	0.0	10.2	10.3	52.4	50.5
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	7.9	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	3.8	3.8	5.0	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.3	0.1	10.5	10.6	60.3	52.6
LnGrp LOS	A	A	B	B	E	D
Approach Vol, veh/h		586	495		239	
Approach Delay, s/veh		0.9	10.6		57.6	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		102.6		17.4	9.4	93.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		75.5		35.5	22.5	48.5
Max Q Clear Time (g_c+11), s		2.0		12.2	4.1	11.4
Green Ext Time (p_c), s		3.2		0.7	0.3	3.1
Intersection Summary						
HCM 6th Ctrl Delay			14.8			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary

Baseline 2021 PM Peak Hour

3: NE Salmon Creek Avenue & NE 134th Street & Vancouver Hospice

05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	5	277	241	42	285	2	122	0	46	4	0	9
Future Volume (veh/h)	5	277	241	42	285	2	122	0	46	4	0	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	6	318	277	48	328	2	140	0	53	5	0	10
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	746	1234	1051	678	1309	8	170	0	96	148	0	76
Arrive On Green	0.02	1.00	1.00	0.03	0.70	0.70	0.09	0.00	0.06	0.08	0.00	0.05
Sat Flow, veh/h	1795	1831	1560	1795	1872	11	1795	0	1574	1810	0	1580
Grp Volume(v), veh/h	6	311	284	48	0	330	140	0	53	5	0	10
Grp Sat Flow(s),veh/h/ln	1795	1791	1600	1795	0	1883	1795	0	1574	1810	0	1580
Q Serve(g_s), s	0.1	0.0	0.0	0.9	0.0	7.7	9.2	0.0	3.9	0.3	0.0	0.7
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.9	0.0	7.7	9.2	0.0	3.9	0.3	0.0	0.7
Prop In Lane	1.00		0.97	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	746	1207	1078	678	0	1317	170	0	96	148	0	76
V/C Ratio(X)	0.01	0.26	0.26	0.07	0.00	0.25	0.82	0.00	0.55	0.03	0.00	0.13
Avail Cap(c_a), veh/h	844	1207	1078	745	0	1317	396	0	492	148	0	244
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	5.1	0.0	6.6	53.3	0.0	54.7	50.7	0.0	54.7
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.0	0.0	0.5	9.5	0.0	4.9	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.3	0.0	2.8	4.6	0.0	1.7	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	0.5	0.6	5.2	0.0	7.0	62.8	0.0	59.6	50.8	0.0	55.5
LnGrp LOS	A	A	A	A	A	A	E	A	E	D	A	E
Approach Vol, veh/h		601			378			193				15
Approach Delay, s/veh		0.6			6.8			61.9				53.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	85.3	15.9	10.3	5.4	88.4	14.3	11.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	48.5	26.5	18.5	7.5	49.5	7.5	37.5				
Max Q Clear Time (g_c+I1), s	2.9	2.0	11.2	2.7	2.1	9.7	2.3	5.9				
Green Ext Time (p_c), s	0.0	3.9	0.3	0.0	0.0	2.0	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↔
Traffic Vol, veh/h	182	100	64	78	41	81
Future Vol, veh/h	182	100	64	78	41	81
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	1	1	1	1	1	3
Mvmt Flow	217	119	76	93	49	96
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	11.1	8.5	8.8
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	65%	0%	100%	0%
Vol Thru, %	35%	45%	0%	0%
Vol Right, %	0%	55%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	282	142	41	81
LT Vol	182	0	41	0
Through Vol	100	64	0	0
RT Vol	0	78	0	81
Lane Flow Rate	336	169	49	96
Geometry Grp	2	2	7	7
Degree of Util (X)	0.429	0.204	0.083	0.133
Departure Headway (Hd)	4.605	4.347	6.155	4.978
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	825	581	717
Service Time	2.635	2.381	3.905	2.727
HCM Lane V/C Ratio	0.43	0.205	0.084	0.134
HCM Control Delay	11.1	8.5	9.5	8.5
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.2	0.8	0.3	0.5

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↕	↗		↕	↗	
Traffic Vol, veh/h	2	3	7	17	1	14	9	176	48	14	84	3
Future Vol, veh/h	2	3	7	17	1	14	9	176	48	14	84	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	3	8	18	1	15	10	191	52	15	91	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	368	386	93	365	361	217	94	0	0	243	0	0
Stage 1	123	123	-	237	237	-	-	-	-	-	-	-
Stage 2	245	263	-	128	124	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	588	548	964	591	566	823	1500	-	-	1323	-	-
Stage 1	881	794	-	766	709	-	-	-	-	-	-	-
Stage 2	759	691	-	876	793	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	569	538	964	576	556	823	1500	-	-	1323	-	-
Mov Cap-2 Maneuver	569	538	-	576	556	-	-	-	-	-	-	-
Stage 1	875	785	-	761	704	-	-	-	-	-	-	-
Stage 2	739	686	-	856	784	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	10.7	0.3	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	550	964	662	1323	-	-
HCM Lane V/C Ratio	0.007	-	-	0.01	0.008	0.053	0.012	-	-
HCM Control Delay (s)	7.4	-	-	11.6	8.8	10.7	7.8	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	0	-	-

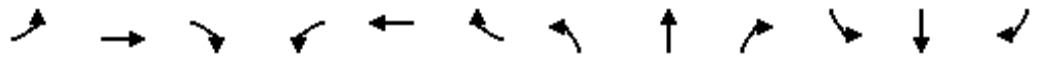
Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	47	51	11	17	1	28	679	42	8	410	9
Future Vol, veh/h	16	47	51	11	17	1	28	679	42	8	410	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	9	0	7	0	6	5	13	7	11
Mvmt Flow	18	52	57	12	19	1	31	754	47	9	456	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1329	1342	461	1374	1324	778	466	0	0	801	0	0
Stage 1	479	479	-	840	840	-	-	-	-	-	-	-
Stage 2	850	863	-	534	484	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.2	7.19	6.5	6.27	4.1	-	-	4.23	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.3	3.581	4	3.363	2.2	-	-	2.317	-	-
Pot Cap-1 Maneuver	129	154	605	119	157	389	1106	-	-	776	-	-
Stage 1	560	558	-	350	384	-	-	-	-	-	-	-
Stage 2	350	374	-	517	555	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	113	148	605	76	151	389	1106	-	-	776	-	-
Mov Cap-2 Maneuver	113	148	-	76	151	-	-	-	-	-	-	-
Stage 1	544	551	-	340	373	-	-	-	-	-	-	-
Stage 2	322	364	-	419	548	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	45.2		49.6		0.3		0.2	
HCM LOS	E		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	210	112	776	-
HCM Lane V/C Ratio	0.028	-	-	0.603	0.288	0.011	-
HCM Control Delay (s)	8.3	-	-	45.2	49.6	9.7	-
HCM Lane LOS	A	-	-	E	E	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.4	1.1	0	-

HCM 6th Signalized Intersection Summary Forecast 2024 AM Peak Hour Without Project
 1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑	↘	↘		↘
Traffic Volume (veh/h)	80	332	0	0	396	42	507	291	242	22	0	189
Future Volume (veh/h)	80	332	0	0	396	42	507	291	242	22	0	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	103	426	0	0	508	54	650	373	0	28	0	242
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	654	2466	0	0	1996	211	823	446		0	0	0
Arrive On Green	0.04	0.69	0.00	0.00	1.00	1.00	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3362	346	3483	1885	1598		0	
Grp Volume(v), veh/h	103	426	0	0	278	284	650	373	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1823	1742	1885	1598			
Q Serve(g_s), s	2.4	5.0	0.0	0.0	0.0	0.0	21.0	22.6	0.0			
Cycle Q Clear(g_c), s	2.4	5.0	0.0	0.0	0.0	0.0	21.0	22.6	0.0			
Prop In Lane	1.00		0.00	0.00		0.19	1.00		1.00			
Lane Grp Cap(c), veh/h	654	2466	0	0	1094	1113	823	446				
V/C Ratio(X)	0.16	0.17	0.00	0.00	0.25	0.26	0.79	0.84				
Avail Cap(c_a), veh/h	726	2466	0	0	1094	1113	1033	559				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	7.0	6.6	0.0	0.0	0.0	0.0	43.0	43.6	0.0			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.5	0.5	3.3	8.8	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	1.9	0.0	0.0	0.2	0.2	9.4	11.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	6.8	0.0	0.0	0.5	0.5	46.3	52.5	0.0			
LnGrp LOS	A	A	A	A	A	A	D	D				
Approach Vol, veh/h		529			562			1023	A			
Approach Delay, s/veh		6.8			0.5			48.6				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.1			9.3	77.8		32.9				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.0			9.6	27.9		35.6				
Max Q Clear Time (g_c+I1), s		7.0			4.4	2.0		24.6				
Green Ext Time (p_c), s		3.1			0.1	3.6		3.8				

Intersection Summary

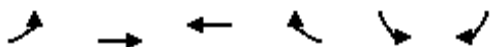
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

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

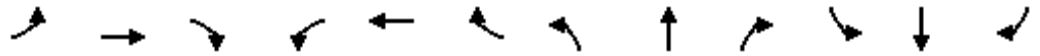
HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Forecast 2024 AM Peak Hour Without Project
05/10/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↑↑	↑↑		↔	↔
Traffic Volume (veh/h)	55	347	299	84	75	99
Future Volume (veh/h)	55	347	299	84	75	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	71	451	388	109	97	129
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	705	2951	2057	571	181	161
Arrive On Green	0.08	1.00	0.25	0.25	0.10	0.10
Sat Flow, veh/h	1795	3676	2840	763	1795	1598
Grp Volume(v), veh/h	71	451	249	248	97	129
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1733	1795	1598
Q Serve(g_s), s	1.0	0.0	13.3	13.5	6.2	9.5
Cycle Q Clear(g_c), s	1.0	0.0	13.3	13.5	6.2	9.5
Prop In Lane	1.00			0.44	1.00	1.00
Lane Grp Cap(c), veh/h	705	2951	1330	1298	181	161
V/C Ratio(X)	0.10	0.15	0.19	0.19	0.53	0.80
Avail Cap(c_a), veh/h	869	2951	1330	1298	546	486
HCM Platoon Ratio	2.00	2.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	16.4	16.5	51.3	52.7
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	2.4	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.4	6.4	2.9	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.4	0.1	16.6	16.8	53.7	61.5
LnGrp LOS	A	A	B	B	D	E
Approach Vol, veh/h		522	497		226	
Approach Delay, s/veh		0.6	16.7		58.1	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.4		16.6	9.0	94.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		74.5		36.5	15.5	54.5
Max Q Clear Time (g_c+11), s		2.0		11.5	3.0	15.5
Green Ext Time (p_c), s		3.3		0.7	0.1	3.2
Intersection Summary						
HCM 6th Ctrl Delay			17.5			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary Forecast 2024 AM Peak Hour Without Project
 3: NE Salmon Creek Avenue & NE 134th Street & Vancouver Hospice 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	18	345	90	37	232	9	148	2	51	0	1	2
Future Volume (veh/h)	18	345	90	37	232	9	148	2	51	0	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	23	448	117	48	301	12	192	3	66	0	1	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	732	1819	471	670	1183	47	224	14	315	2	19	56
Arrive On Green	0.04	1.00	1.00	0.03	0.66	0.66	0.12	0.21	0.21	0.00	0.05	0.05
Sat Flow, veh/h	1795	2814	729	1795	1800	72	1795	69	1515	1810	409	1226
Grp Volume(v), veh/h	23	284	281	48	0	313	192	0	69	0	0	4
Grp Sat Flow(s),veh/h/ln	1795	1791	1753	1795	0	1872	1795	0	1584	1810	0	1635
Q Serve(g_s), s	0.5	0.0	0.0	1.1	0.0	8.3	12.6	0.0	4.3	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.1	0.0	8.3	12.6	0.0	4.3	0.0	0.0	0.3
Prop In Lane	1.00		0.42	1.00		0.04	1.00		0.96	1.00		0.75
Lane Grp Cap(c), veh/h	732	1158	1133	670	0	1231	224	0	329	2	0	74
V/C Ratio(X)	0.03	0.25	0.25	0.07	0.00	0.25	0.86	0.00	0.21	0.00	0.00	0.05
Avail Cap(c_a), veh/h	805	1158	1133	738	0	1231	456	0	581	75	0	252
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	0.0	6.3	0.0	8.5	51.4	0.0	39.4	0.0	0.0	54.8
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.0	0.0	0.5	9.0	0.0	0.3	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.4	0.0	3.2	6.2	0.0	1.7	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.5	0.5	6.4	0.0	9.0	60.5	0.0	39.7	0.0	0.0	55.1
LnGrp LOS	A	A	A	A	A	A	E	A	D	A	A	E
Approach Vol, veh/h		588			361			261				4
Approach Delay, s/veh		0.7			8.6			55.0				55.1
Approach LOS		A			A			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	82.1	19.5	9.9	7.2	83.4	0.0	29.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	44.5	30.5	18.5	7.5	45.5	5.0	44.0				
Max Q Clear Time (g_c+I1), s	3.1	2.0	14.6	2.3	2.5	10.3	0.0	6.3				
Green Ext Time (p_c), s	0.0	3.5	0.4	0.0	0.0	1.8	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				14.9								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	132	51	90	61	45	193
Future Vol, veh/h	132	51	90	61	45	193
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	139	54	95	64	47	203
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	9.6	8.7	9.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	72%	0%	100%	0%
Vol Thru, %	28%	60%	0%	0%
Vol Right, %	0%	40%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	151	45	193
LT Vol	132	0	45	0
Through Vol	51	90	0	0
RT Vol	0	61	0	193
Lane Flow Rate	193	159	47	203
Geometry Grp	2	2	7	7
Degree of Util (X)	0.259	0.199	0.077	0.262
Departure Headway (Hd)	4.84	4.508	5.86	4.651
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	795	611	770
Service Time	2.878	2.547	3.601	2.393
HCM Lane V/C Ratio	0.26	0.2	0.077	0.264
HCM Control Delay	9.6	8.7	9.1	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.7	0.2	1

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕		↕	↕	
Traffic Vol, veh/h	2	2	3	48	2	22	9	136	26	14	152	2
Future Vol, veh/h	2	2	3	48	2	22	9	136	26	14	152	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	12	1	1	1
Mvmt Flow	2	2	3	52	2	24	10	148	28	15	165	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	391	392	166	381	379	162	167	0	0	176	0	0
Stage 1	196	196	-	182	182	-	-	-	-	-	-	-
Stage 2	195	196	-	199	197	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
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	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	570	545	881	579	555	885	1417	-	-	1406	-	-
Stage 1	808	740	-	822	751	-	-	-	-	-	-	-
Stage 2	809	740	-	805	740	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	545	535	881	567	545	885	1417	-	-	1406	-	-
Mov Cap-2 Maneuver	545	535	-	567	545	-	-	-	-	-	-	-
Stage 1	802	732	-	816	746	-	-	-	-	-	-	-
Stage 2	779	735	-	791	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	11.5	0.4	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	540	881	636	1406	-	-
HCM Lane V/C Ratio	0.007	-	-	0.008	0.004	0.123	0.011	-	-
HCM Control Delay (s)	7.6	-	-	11.7	9.1	11.5	7.6	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.4	0	-	-

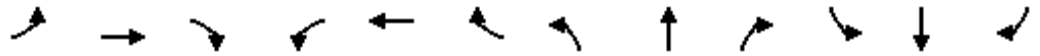
Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	8	18	24	27	39	7	38	424	24	7	776	17
Future Vol, veh/h	8	18	24	27	39	7	38	424	24	7	776	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
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, %	14	12	5	8	0	17	6	9	27	0	9	19
Mvmt Flow	9	20	26	30	43	8	42	466	26	8	853	19

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1468	1455	863	1465	1451	479	872	0	0	492	0	0
Stage 1	879	879	-	563	563	-	-	-	-	-	-	-
Stage 2	589	576	-	902	888	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.62	6.25	7.18	6.5	6.37	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4.108	3.345	3.572	4	3.453	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	99	124	350	103	132	557	757	-	-	1082	-	-
Stage 1	326	352	-	500	512	-	-	-	-	-	-	-
Stage 2	474	487	-	324	365	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	68	116	350	79	124	557	757	-	-	1082	-	-
Mov Cap-2 Maneuver	68	116	-	79	124	-	-	-	-	-	-	-
Stage 1	308	350	-	473	484	-	-	-	-	-	-	-
Stage 2	402	460	-	281	362	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	43.8		98.9		0.8		0.1	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	146	109	1082	-
HCM Lane V/C Ratio	0.055	-	-	0.376	0.736	0.007	-
HCM Control Delay (s)	10	-	-	43.8	98.9	8.4	-
HCM Lane LOS	B	-	-	E	F	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.6	4	0	-

HCM 6th Signalized Intersection Summary Forecast 2024 PM Peak Hour Without Project
 1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖		↖	↗	↖	↖		↖
Traffic Volume (veh/h)	47	358	0	0	558	32	733	292	210	32	0	349
Future Volume (veh/h)	47	358	0	0	558	32	733	292	210	32	0	349
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	50	381	0	0	594	34	780	311	0	34	0	371
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	866	2415	0	0	680	39	874	473		0	0	0
Arrive On Green	0.44	0.67	0.00	0.00	0.39	0.39	0.25	0.25	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3538	197	3483	1885	1598		0	
Grp Volume(v), veh/h	50	381	0	0	309	319	780	311	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1850	1742	1885	1598			
Q Serve(g_s), s	0.0	4.7	0.0	0.0	19.1	19.2	25.9	17.8	0.0			
Cycle Q Clear(g_c), s	0.0	4.7	0.0	0.0	19.1	19.2	25.9	17.8	0.0			
Prop In Lane	1.00		0.00	0.00		0.11	1.00		1.00			
Lane Grp Cap(c), veh/h	866	2415	0	0	354	365	874	473				
V/C Ratio(X)	0.06	0.16	0.00	0.00	0.87	0.87	0.89	0.66				
Avail Cap(c_a), veh/h	866	2415	0	0	446	461	943	511				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	18.4	7.1	0.0	0.0	34.9	34.9	43.4	40.3	0.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	24.1	23.7	10.3	2.8	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	1.7	0.0	0.0	9.1	9.4	12.4	8.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	7.3	0.0	0.0	59.0	58.7	53.7	43.1	0.0			
LnGrp LOS	B	A	A	A	E	E	D	D				
Approach Vol, veh/h		431			628			1091	A			
Approach Delay, s/veh		8.6			58.8			50.7				
Approach LOS		A			E			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.4			57.2	28.2		34.6				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		39.5			5.1	29.9		32.5				
Max Q Clear Time (g_c+I1), s		6.7			2.0	21.2		27.9				
Green Ext Time (p_c), s		2.7			0.0	2.5		2.2				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

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

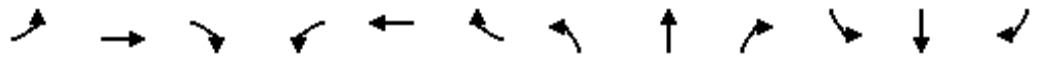
HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Forecast 2024 PM Peak Hour Without Project
05/10/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	408	360	91	142	76
Future Volume (veh/h)	126	408	360	91	142	76
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	147	474	419	106	165	88
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	709	2911	2081	522	202	180
Arrive On Green	0.08	1.00	0.49	0.49	0.11	0.11
Sat Flow, veh/h	1795	3676	2931	711	1795	1598
Grp Volume(v), veh/h	147	474	263	262	165	88
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1757	1795	1598
Q Serve(g_s), s	2.3	0.0	9.9	10.1	10.8	6.2
Cycle Q Clear(g_c), s	2.3	0.0	9.9	10.1	10.8	6.2
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	709	2911	1314	1289	202	180
V/C Ratio(X)	0.21	0.16	0.20	0.20	0.82	0.49
Avail Cap(c_a), veh/h	971	2911	1314	1289	531	473
HCM Platoon Ratio	2.00	2.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	10.6	10.7	52.1	50.0
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	7.9	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.2	4.1	5.3	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.6	0.1	11.0	11.0	59.9	52.1
LnGrp LOS	A	A	B	B	E	D
Approach Vol, veh/h		621	525		253	
Approach Delay, s/veh		0.9	11.0		57.2	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		102.0		18.0	9.5	92.6
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		75.5		35.5	22.5	48.5
Max Q Clear Time (g_c+11), s		2.0		12.8	4.3	12.1
Green Ext Time (p_c), s		3.4		0.7	0.3	3.4
Intersection Summary						
HCM 6th Ctrl Delay			14.9			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary Forecast 2024 PM Peak Hour Without Project
 3: NE Salmon Creek Avenue & NE 134th Street & Vancouver Hospice 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	6	293	255	45	302	2	129	0	49	4	0	10
Future Volume (veh/h)	6	293	255	45	302	2	129	0	49	4	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	7	337	293	52	347	2	148	0	56	5	0	11
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	723	1221	1042	657	1298	7	178	0	99	154	0	77
Arrive On Green	0.02	1.00	1.00	0.03	0.69	0.69	0.10	0.00	0.06	0.09	0.00	0.05
Sat Flow, veh/h	1795	1830	1561	1795	1872	11	1795	0	1575	1810	0	1580
Grp Volume(v), veh/h	7	330	300	52	0	349	148	0	56	5	0	11
Grp Sat Flow(s),veh/h/ln	1795	1791	1600	1795	0	1883	1795	0	1575	1810	0	1580
Q Serve(g_s), s	0.2	0.0	0.0	1.1	0.0	8.4	9.7	0.0	4.1	0.3	0.0	0.8
Cycle Q Clear(g_c), s	0.2	0.0	0.0	1.1	0.0	8.4	9.7	0.0	4.1	0.3	0.0	0.8
Prop In Lane	1.00		0.98	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	723	1195	1068	657	0	1305	178	0	99	154	0	77
V/C Ratio(X)	0.01	0.28	0.28	0.08	0.00	0.27	0.83	0.00	0.57	0.03	0.00	0.14
Avail Cap(c_a), veh/h	820	1195	1068	722	0	1305	396	0	492	154	0	244
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.3	0.0	6.9	53.0	0.0	54.6	50.3	0.0	54.7
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.1	0.0	0.5	9.4	0.0	5.0	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.2	0.4	0.0	3.1	4.8	0.0	1.8	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.5	0.6	5.4	0.0	7.4	62.5	0.0	59.6	50.4	0.0	55.5
LnGrp LOS	A	A	A	A	A	A	E	A	E	D	A	E
Approach Vol, veh/h		637			401			204				16
Approach Delay, s/veh		0.7			7.2			61.7				53.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	84.6	16.4	10.4	5.5	87.7	14.7	12.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	48.5	26.5	18.5	7.5	49.5	7.5	37.5				
Max Q Clear Time (g_c+I1), s	3.1	2.0	11.7	2.8	2.2	10.4	2.3	6.1				
Green Ext Time (p_c), s	0.0	4.2	0.3	0.0	0.0	2.1	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				13.3								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↕
Traffic Vol, veh/h	193	107	68	83	43	86
Future Vol, veh/h	193	107	68	83	43	86
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	1	1	1	1	1	3
Mvmt Flow	230	127	81	99	51	102
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	11.6	8.7	9
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	64%	0%	100%	0%
Vol Thru, %	36%	45%	0%	0%
Vol Right, %	0%	55%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	300	151	43	86
LT Vol	193	0	43	0
Through Vol	107	68	0	0
RT Vol	0	83	0	86
Lane Flow Rate	357	180	51	102
Geometry Grp	2	2	7	7
Degree of Util (X)	0.461	0.22	0.089	0.144
Departure Headway (Hd)	4.642	4.398	6.23	5.052
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	775	813	573	705
Service Time	2.68	2.443	3.99	2.811
HCM Lane V/C Ratio	0.461	0.221	0.089	0.145
HCM Control Delay	11.6	8.7	9.6	8.7
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.5	0.8	0.3	0.5

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Traffic Vol, veh/h	2	4	7	18	1	15	10	187	50	15	89	4
Future Vol, veh/h	2	4	7	18	1	15	10	187	50	15	89	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	8	20	1	16	11	203	54	16	97	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	392	410	99	389	385	230	101	0	0	257	0	0
Stage 1	131	131	-	252	252	-	-	-	-	-	-	-
Stage 2	261	279	-	137	133	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	567	531	957	570	549	809	1491	-	-	1308	-	-
Stage 1	873	788	-	752	698	-	-	-	-	-	-	-
Stage 2	744	680	-	866	786	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	547	521	957	553	539	809	1491	-	-	1308	-	-
Mov Cap-2 Maneuver	547	521	-	553	539	-	-	-	-	-	-	-
Stage 1	867	779	-	747	693	-	-	-	-	-	-	-
Stage 2	722	675	-	844	777	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	11	0.3	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1491	-	-	529	957	642	1308	-	-
HCM Lane V/C Ratio	0.007	-	-	0.012	0.008	0.058	0.012	-	-
HCM Control Delay (s)	7.4	-	-	11.9	8.8	11	7.8	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.2	0	-	-

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	17	50	54	12	18	1	29	720	45	9	435	10
Future Vol, veh/h	17	50	54	12	18	1	29	720	45	9	435	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	9	0	7	0	6	5	13	7	11
Mvmt Flow	19	56	60	13	20	1	32	800	50	10	483	11

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1409	1423	489	1456	1403	825	494	0	0	850	0	0
Stage 1	509	509	-	889	889	-	-	-	-	-	-	-
Stage 2	900	914	-	567	514	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.2	7.19	6.5	6.27	4.1	-	-	4.23	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.3	3.581	4	3.363	2.2	-	-	2.317	-	-
Pot Cap-1 Maneuver	114	137	583	104	141	365	1080	-	-	743	-	-
Stage 1	539	541	-	328	364	-	-	-	-	-	-	-
Stage 2	328	355	-	496	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	98	131	583	61	135	365	1080	-	-	743	-	-
Mov Cap-2 Maneuver	98	131	-	61	135	-	-	-	-	-	-	-
Stage 1	523	534	-	318	353	-	-	-	-	-	-	-
Stage 2	299	344	-	393	532	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	62.1		64.9		0.3		0.2	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	187	93	743	-	-
HCM Lane V/C Ratio	0.03	-	-	0.719	0.37	0.013	-	-
HCM Control Delay (s)	8.4	-	-	62.1	64.9	9.9	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.5	1.5	0	-	-

HCM 6th Signalized Intersection Summary Forecast 2024 AM Peak Hour With Project
 1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street 05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑	↘	↘		↘
Traffic Volume (veh/h)	80	338	0	0	406	42	507	291	244	22	0	189
Future Volume (veh/h)	80	338	0	0	406	42	507	291	244	22	0	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	103	433	0	0	521	54	650	373	0	28	0	242
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	648	2466	0	0	2001	207	823	446		0	0	0
Arrive On Green	0.04	0.69	0.00	0.00	1.00	1.00	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3371	339	3483	1885	1598		0	
Grp Volume(v), veh/h	103	433	0	0	284	291	650	373	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1824	1742	1885	1598			
Q Serve(g_s), s	2.4	5.1	0.0	0.0	0.0	0.0	21.0	22.6	0.0			
Cycle Q Clear(g_c), s	2.4	5.1	0.0	0.0	0.0	0.0	21.0	22.6	0.0			
Prop In Lane	1.00		0.00	0.00		0.19	1.00		1.00			
Lane Grp Cap(c), veh/h	648	2466	0	0	1094	1114	823	446				
V/C Ratio(X)	0.16	0.18	0.00	0.00	0.26	0.26	0.79	0.84				
Avail Cap(c_a), veh/h	721	2466	0	0	1094	1114	1033	559				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	7.0	6.6	0.0	0.0	0.0	0.0	43.0	43.6	0.0			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.6	0.6	3.3	8.8	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	1.9	0.0	0.0	0.2	0.2	9.4	11.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	6.8	0.0	0.0	0.6	0.6	46.3	52.5	0.0			
LnGrp LOS	A	A	A	A	A	A	D	D				
Approach Vol, veh/h		536			575			1023	A			
Approach Delay, s/veh		6.8			0.6			48.6				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.1			9.3	77.8		32.9				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		42.0			9.7	27.8		35.6				
Max Q Clear Time (g_c+I1), s		7.1			4.4	2.0		24.6				
Green Ext Time (p_c), s		3.2			0.1	3.7		3.8				

Intersection Summary

HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

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

HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Forecast 2024 AM Peak Hour With Project
05/10/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↗		↙	↘
Traffic Volume (veh/h)	55	355	309	85	76	99
Future Volume (veh/h)	55	355	309	85	76	99
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1885	1885
Adj Flow Rate, veh/h	71	461	401	110	99	129
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	2	2	1	1
Cap, veh/h	695	2951	2068	561	182	162
Arrive On Green	0.08	1.00	0.25	0.25	0.10	0.10
Sat Flow, veh/h	1795	3676	2856	750	1795	1598
Grp Volume(v), veh/h	71	461	256	255	99	129
Grp Sat Flow(s),veh/h/ln	1795	1791	1777	1735	1795	1598
Q Serve(g_s), s	1.0	0.0	13.7	13.9	6.3	9.5
Cycle Q Clear(g_c), s	1.0	0.0	13.7	13.9	6.3	9.5
Prop In Lane	1.00			0.43	1.00	1.00
Lane Grp Cap(c), veh/h	695	2951	1330	1299	182	162
V/C Ratio(X)	0.10	0.16	0.19	0.20	0.55	0.80
Avail Cap(c_a), veh/h	859	2951	1330	1299	546	486
HCM Platoon Ratio	2.00	2.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	3.4	0.0	16.5	16.6	51.3	52.7
Incr Delay (d2), s/veh	0.1	0.1	0.3	0.3	2.5	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.6	6.6	2.9	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.5	0.1	16.8	16.9	53.8	61.5
LnGrp LOS	A	A	B	B	D	E
Approach Vol, veh/h		532	511		228	
Approach Delay, s/veh		0.6	16.9		58.2	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.4		16.6	9.0	94.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		74.5		36.5	15.5	54.5
Max Q Clear Time (g_c+11), s		2.0		11.5	3.0	15.9
Green Ext Time (p_c), s		3.3		0.7	0.1	3.3
Intersection Summary						
HCM 6th Ctrl Delay			17.6			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary

Forecast 2024 AM Peak Hour With Project

3: NE Salmon Creek Avenue & NE 134th Street & Vancouver Hospice

05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	18	354	90	39	243	9	148	2	53	0	1	2
Future Volume (veh/h)	18	354	90	39	243	9	148	2	53	0	1	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	23	460	117	51	316	12	192	3	69	0	1	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	719	1827	461	665	1185	45	224	14	316	2	19	56
Arrive On Green	0.04	1.00	1.00	0.03	0.66	0.66	0.12	0.21	0.21	0.00	0.05	0.05
Sat Flow, veh/h	1795	2831	715	1795	1804	69	1795	66	1517	1810	409	1226
Grp Volume(v), veh/h	23	290	287	51	0	328	192	0	72	0	0	4
Grp Sat Flow(s),veh/h/ln	1795	1791	1755	1795	0	1873	1795	0	1583	1810	0	1635
Q Serve(g_s), s	0.5	0.0	0.0	1.1	0.0	8.7	12.6	0.0	4.5	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.5	0.0	0.0	1.1	0.0	8.7	12.6	0.0	4.5	0.0	0.0	0.3
Prop In Lane	1.00		0.41	1.00		0.04	1.00		0.96	1.00		0.75
Lane Grp Cap(c), veh/h	719	1156	1133	665	0	1230	224	0	330	2	0	75
V/C Ratio(X)	0.03	0.25	0.25	0.08	0.00	0.27	0.86	0.00	0.22	0.00	0.00	0.05
Avail Cap(c_a), veh/h	776	1156	1133	731	0	1230	456	0	580	75	0	252
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	0.0	6.3	0.0	8.6	51.4	0.0	39.4	0.0	0.0	54.8
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.0	0.0	0.5	9.0	0.0	0.3	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.4	0.0	3.4	6.2	0.0	1.8	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	0.5	0.5	6.4	0.0	9.1	60.5	0.0	39.7	0.0	0.0	55.1
LnGrp LOS	A	A	A	A	A	A	E	A	D	A	A	E
Approach Vol, veh/h		600			379			264				4
Approach Delay, s/veh		0.8			8.7			54.8				55.1
Approach LOS		A			A			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	81.9	19.5	10.0	7.2	83.3	0.0	29.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	44.5	30.5	18.5	6.5	46.5	5.0	44.0				
Max Q Clear Time (g_c+I1), s	3.1	2.0	14.6	2.3	2.5	10.7	0.0	6.5				
Green Ext Time (p_c), s	0.0	3.6	0.4	0.0	0.0	1.9	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay				14.9								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↕
Traffic Vol, veh/h	143	51	90	62	46	206
Future Vol, veh/h	143	51	90	62	46	206
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	151	54	95	65	48	217
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	9.8	8.8	9.3
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	74%	0%	100%	0%
Vol Thru, %	26%	59%	0%	0%
Vol Right, %	0%	41%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	152	46	206
LT Vol	143	0	46	0
Through Vol	51	90	0	0
RT Vol	0	62	0	206
Lane Flow Rate	204	160	48	217
Geometry Grp	2	2	7	7
Degree of Util (X)	0.277	0.203	0.079	0.282
Departure Headway (Hd)	4.882	4.558	5.893	4.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	733	784	607	763
Service Time	2.926	2.603	3.642	2.433
HCM Lane V/C Ratio	0.278	0.204	0.079	0.284
HCM Control Delay	9.8	8.8	9.2	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.8	0.3	1.2

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↗		↖	↗	
Traffic Vol, veh/h	2	2	3	62	2	28	9	136	38	19	152	2
Future Vol, veh/h	2	2	3	62	2	28	9	136	38	19	152	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	12	1	1	1
Mvmt Flow	2	2	3	67	2	30	10	148	41	21	165	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	413	417	166	400	398	169	167	0	0	189	0	0
Stage 1	208	208	-	189	189	-	-	-	-	-	-	-
Stage 2	205	209	-	211	209	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.11	-	-	4.11	-	-
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	3.509	4.009	3.309	3.509	4.009	3.309	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	551	528	881	562	541	878	1417	-	-	1391	-	-
Stage 1	796	732	-	815	746	-	-	-	-	-	-	-
Stage 2	799	731	-	793	731	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	521	516	881	549	529	878	1417	-	-	1391	-	-
Mov Cap-2 Maneuver	521	516	-	549	529	-	-	-	-	-	-	-
Stage 1	790	721	-	809	741	-	-	-	-	-	-	-
Stage 2	764	726	-	776	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.9	0.4	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1417	-	-	518	881	619	1391	-	-
HCM Lane V/C Ratio	0.007	-	-	0.008	0.004	0.162	0.015	-	-
HCM Control Delay (s)	7.6	-	-	12	9.1	11.9	7.6	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.6	0	-	-

Intersection												
Int Delay, s/veh	7.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	8	19	27	27	40	7	40	424	24	7	776	17
Future Vol, veh/h	8	19	27	27	40	7	40	424	24	7	776	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
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, %	14	12	5	8	0	17	6	9	27	0	9	19
Mvmt Flow	9	21	30	30	44	8	44	466	26	8	853	19

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1472	1459	863	1471	1455	479	872	0	0	492	0	0
Stage 1	879	879	-	567	567	-	-	-	-	-	-	-
Stage 2	593	580	-	904	888	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.62	6.25	7.18	6.5	6.37	4.16	-	-	4.1	-	-
Critical Hdwy Stg 1	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.62	-	6.18	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4.108	3.345	3.572	4	3.453	2.254	-	-	2.2	-	-
Pot Cap-1 Maneuver	99	123	350	102	131	557	757	-	-	1082	-	-
Stage 1	326	352	-	498	510	-	-	-	-	-	-	-
Stage 2	472	484	-	323	365	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	67	115	350	77	122	557	757	-	-	1082	-	-
Mov Cap-2 Maneuver	67	115	-	77	122	-	-	-	-	-	-	-
Stage 1	307	350	-	469	480	-	-	-	-	-	-	-
Stage 2	398	456	-	276	362	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	44.3		104.7		0.8		0.1	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	149	107	1082	-
HCM Lane V/C Ratio	0.058	-	-	0.398	0.76	0.007	-
HCM Control Delay (s)	10	-	-	44.3	104.7	8.4	-
HCM Lane LOS	B	-	-	E	F	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.7	4.1	0	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	17	42	72	3	4	20
Future Vol, veh/h	17	42	72	3	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	12	2	2	2	2
Mvmt Flow	18	46	78	3	4	22

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	81	0	-	0	162 80
Stage 1	-	-	-	-	80 -
Stage 2	-	-	-	-	82 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1517	-	-	-	829 980
Stage 1	-	-	-	-	943 -
Stage 2	-	-	-	-	941 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1517	-	-	-	819 980
Mov Cap-2 Maneuver	-	-	-	-	819 -
Stage 1	-	-	-	-	932 -
Stage 2	-	-	-	-	941 -

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	949
HCM Lane V/C Ratio	0.012	-	-	-	0.027
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th Signalized Intersection Summary

Forecast 2024 PM Peak Hour With Project

1: I-205 NB Off-Ramp/NE 23rd Avenue & NE 134th Street

05/10/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑	↗	↘		↗
Traffic Volume (veh/h)	47	360	0	0	568	32	733	292	211	32	0	349
Future Volume (veh/h)	47	360	0	0	568	32	733	292	211	32	0	349
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	0	0	1885	1885	1885	1885	1885	1885	0	1885
Adj Flow Rate, veh/h	50	383	0	0	604	34	780	311	0	34	0	371
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	0	0	1	1	1	1	1	1	0	1
Cap, veh/h	861	2415	0	0	689	39	874	473		0	0	0
Arrive On Green	0.44	0.67	0.00	0.00	0.40	0.40	0.25	0.25	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1795	3676	0	0	3542	194	3483	1885	1598		0	
Grp Volume(v), veh/h	50	383	0	0	313	325	780	311	0		0.0	
Grp Sat Flow(s),veh/h/ln	1795	1791	0	0	1791	1850	1742	1885	1598			
Q Serve(g_s), s	0.0	4.7	0.0	0.0	19.4	19.5	25.9	17.8	0.0			
Cycle Q Clear(g_c), s	0.0	4.7	0.0	0.0	19.4	19.5	25.9	17.8	0.0			
Prop In Lane	1.00		0.00	0.00		0.10	1.00		1.00			
Lane Grp Cap(c), veh/h	861	2415	0	0	358	370	874	473				
V/C Ratio(X)	0.06	0.16	0.00	0.00	0.88	0.88	0.89	0.66				
Avail Cap(c_a), veh/h	861	2415	0	0	446	461	943	511				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.98	0.98	1.00	1.00	0.00			
Uniform Delay (d), s/veh	18.6	7.1	0.0	0.0	34.6	34.7	43.4	40.3	0.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	24.2	23.9	10.3	2.8	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.8	1.8	0.0	0.0	9.3	9.6	12.4	8.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.6	7.3	0.0	0.0	58.9	58.5	53.7	43.1	0.0			
LnGrp LOS	B	A	A	A	E	E	D	D				
Approach Vol, veh/h		433			638			1091	A			
Approach Delay, s/veh		8.6			58.7			50.7				
Approach LOS		A			E			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		85.4			56.9	28.5		34.6				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		39.5			5.1	29.9		32.5				
Max Q Clear Time (g_c+I1), s		6.7			2.0	21.5		27.9				
Green Ext Time (p_c), s		2.7			0.0	2.5		2.2				

Intersection Summary

HCM 6th Ctrl Delay	44.6
HCM 6th LOS	D

Notes

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

HCM 6th Signalized Intersection Summary
2: NE 134th Street & NE 29th Avenue

Forecast 2024 PM Peak Hour With Project
05/10/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑↗		↘	↘
Traffic Volume (veh/h)	126	411	370	92	143	76
Future Volume (veh/h)	126	411	370	92	143	76
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	147	478	430	107	166	88
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	669	2909	2087	515	203	180
Arrive On Green	0.08	1.00	0.24	0.24	0.11	0.11
Sat Flow, veh/h	1795	3676	2941	702	1795	1598
Grp Volume(v), veh/h	147	478	269	268	166	88
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1758	1795	1598
Q Serve(g_s), s	2.3	0.0	14.4	14.6	10.8	6.2
Cycle Q Clear(g_c), s	2.3	0.0	14.4	14.6	10.8	6.2
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	669	2909	1313	1289	203	180
V/C Ratio(X)	0.22	0.16	0.20	0.21	0.82	0.49
Avail Cap(c_a), veh/h	932	2909	1313	1289	531	473
HCM Platoon Ratio	2.00	2.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.94	0.94	1.00	1.00
Uniform Delay (d), s/veh	4.0	0.0	17.6	17.7	52.0	50.0
Incr Delay (d2), s/veh	0.2	0.1	0.3	0.3	7.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	7.0	7.0	5.3	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.2	0.1	17.9	18.0	59.9	52.0
LnGrp LOS	A	A	B	B	E	D
Approach Vol, veh/h		625	537		254	
Approach Delay, s/veh		1.1	18.0		57.2	
Approach LOS		A	B		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		101.9		18.1	9.5	92.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		75.5		35.5	22.5	48.5
Max Q Clear Time (g_c+11), s		2.0		12.8	4.3	16.6
Green Ext Time (p_c), s		3.5		0.7	0.3	3.4
Intersection Summary						
HCM 6th Ctrl Delay			17.5			
HCM 6th LOS			B			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (veh/h)	6	297	255	47	313	2	129	0	50	4	0	10
Future Volume (veh/h)	6	297	255	47	313	2	129	0	50	4	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	7	341	293	54	360	2	148	0	57	5	0	11
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	0	0	0
Cap, veh/h	712	1227	1036	655	1298	7	178	0	100	153	0	77
Arrive On Green	0.02	1.00	1.00	0.03	0.69	0.69	0.10	0.00	0.06	0.08	0.00	0.05
Sat Flow, veh/h	1795	1840	1553	1795	1873	10	1795	0	1575	1810	0	1581
Grp Volume(v), veh/h	7	332	302	54	0	362	148	0	57	5	0	11
Grp Sat Flow(s),veh/h/ln	1795	1791	1602	1795	0	1883	1795	0	1575	1810	0	1581
Q Serve(g_s), s	0.2	0.0	0.0	1.1	0.0	8.8	9.7	0.0	4.2	0.3	0.0	0.8
Cycle Q Clear(g_c), s	0.2	0.0	0.0	1.1	0.0	8.8	9.7	0.0	4.2	0.3	0.0	0.8
Prop In Lane	1.00		0.97	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	712	1195	1068	655	0	1305	178	0	100	153	0	77
V/C Ratio(X)	0.01	0.28	0.28	0.08	0.00	0.28	0.83	0.00	0.57	0.03	0.00	0.14
Avail Cap(c_a), veh/h	794	1195	1068	720	0	1305	382	0	492	153	0	244
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	0.0	5.3	0.0	7.0	53.0	0.0	54.6	50.4	0.0	54.7
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.1	0.0	0.5	9.5	0.0	5.0	0.1	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.2	0.4	0.0	3.3	4.8	0.0	1.8	0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	0.6	0.6	5.4	0.0	7.5	62.5	0.0	59.7	50.5	0.0	55.5
LnGrp LOS	A	A	A	A	A	A	E	A	E	D	A	E
Approach Vol, veh/h		641			416			205				16
Approach Delay, s/veh		0.7			7.2			61.7				53.9
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	84.5	16.4	10.4	5.5	87.7	14.7	12.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	49.5	25.5	18.5	6.5	51.5	6.5	37.5				
Max Q Clear Time (g_c+I1), s	3.1	2.0	11.7	2.8	2.2	10.8	2.3	6.2				
Green Ext Time (p_c), s	0.0	4.3	0.3	0.0	0.0	2.2	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay				13.3								
HCM 6th LOS				B								

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	↕
Traffic Vol, veh/h	198	107	68	84	44	99
Future Vol, veh/h	198	107	68	84	44	99
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	1	1	1	1	1	3
Mvmt Flow	236	127	81	100	52	118
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	11.9	8.8	9.1
HCM LOS	B	A	A

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	65%	0%	100%	0%
Vol Thru, %	35%	45%	0%	0%
Vol Right, %	0%	55%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	305	152	44	99
LT Vol	198	0	44	0
Through Vol	107	68	0	0
RT Vol	0	84	0	99
Lane Flow Rate	363	181	52	118
Geometry Grp	2	2	7	7
Degree of Util (X)	0.473	0.224	0.091	0.166
Departure Headway (Hd)	4.688	4.451	6.255	5.077
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	766	803	570	702
Service Time	2.73	2.499	4.018	2.839
HCM Lane V/C Ratio	0.474	0.225	0.091	0.168
HCM Control Delay	11.9	8.8	9.6	8.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.6	0.9	0.3	0.6

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔		↔	↔		↔	↔	
Traffic Vol, veh/h	2	4	7	32	1	21	10	187	56	17	89	4
Future Vol, veh/h	2	4	7	32	1	21	10	187	56	17	89	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	8	35	1	23	11	203	61	18	97	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	403	421	99	397	393	234	101	0	0	264	0	0
Stage 1	135	135	-	256	256	-	-	-	-	-	-	-
Stage 2	268	286	-	141	137	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	558	524	957	563	543	805	1491	-	-	1300	-	-
Stage 1	868	785	-	749	696	-	-	-	-	-	-	-
Stage 2	738	675	-	862	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	532	513	957	546	532	805	1491	-	-	1300	-	-
Mov Cap-2 Maneuver	532	513	-	546	532	-	-	-	-	-	-	-
Stage 1	862	774	-	744	691	-	-	-	-	-	-	-
Stage 2	711	670	-	839	772	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	11.4	0.3	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1491	-	-	519	957	624	1300	-	-
HCM Lane V/C Ratio	0.007	-	-	0.013	0.008	0.094	0.014	-	-
HCM Control Delay (s)	7.4	-	-	12	8.8	11.4	7.8	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.3	0	-	-

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	17	51	56	12	18	1	30	720	45	9	435	10
Future Vol, veh/h	17	51	56	12	18	1	30	720	45	9	435	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	6	0	0	9	0	7	0	6	5	13	7	11
Mvmt Flow	19	57	62	13	20	1	33	800	50	10	483	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1411	1425	489	1459	1405	825	494	0	0	850	0	0
Stage 1	509	509	-	891	891	-	-	-	-	-	-	-
Stage 2	902	916	-	568	514	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.2	7.19	6.5	6.27	4.1	-	-	4.23	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.3	3.581	4	3.363	2.2	-	-	2.317	-	-
Pot Cap-1 Maneuver	113	137	583	103	141	365	1080	-	-	743	-	-
Stage 1	539	541	-	328	363	-	-	-	-	-	-	-
Stage 2	327	354	-	496	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	97	131	583	59	135	365	1080	-	-	743	-	-
Mov Cap-2 Maneuver	97	131	-	59	135	-	-	-	-	-	-	-
Stage 1	522	534	-	318	352	-	-	-	-	-	-	-
Stage 2	298	343	-	391	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	63.7	66.9	0.3	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1080	-	-	188	91	743	-
HCM Lane V/C Ratio	0.031	-	-	0.733	0.379	0.013	-
HCM Control Delay (s)	8.4	-	-	63.7	66.9	9.9	-
HCM Lane LOS	A	-	-	F	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	4.7	1.5	0	-

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	69	34	1	3	20
Future Vol, veh/h	8	69	34	1	3	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	75	37	1	3	22

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	38	0	-	0	131 38
Stage 1	-	-	-	-	38 -
Stage 2	-	-	-	-	93 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1572	-	-	-	863 1034
Stage 1	-	-	-	-	984 -
Stage 2	-	-	-	-	931 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1572	-	-	-	858 1034
Mov Cap-2 Maneuver	-	-	-	-	858 -
Stage 1	-	-	-	-	978 -
Stage 2	-	-	-	-	931 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1572	-	-	-	1007
HCM Lane V/C Ratio	0.006	-	-	-	0.025
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

SIM-TRAFFIC QUEUING REPORT

Intersection: 6: NE 72nd Avenue & NE 159th Street

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	101	179	77	26	22
Average Queue (ft)	46	65	25	2	1
95th Queue (ft)	79	129	47	12	7
Link Distance (ft)	4669	481			704
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			100	100	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: NE 72nd Avenue & NE 159th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	132	73	43	35
Average Queue (ft)	64	26	11	6
95th Queue (ft)	115	61	35	25
Link Distance (ft)	4463	481		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			100	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

DSHS NE 50TH CLARK COUNTY BEHAVIORAL HEALTH
TRAFFIC IMPACT ANALYSIS

APPENDIX

SIGNAL WARRANTS

MUTCD - 4 Hour Warrant (Warrant 2)

Existing Conditions

Intersection: NE 72nd Ave & NE 159th St

Major Road Posted Speed Limit: 50 MPH

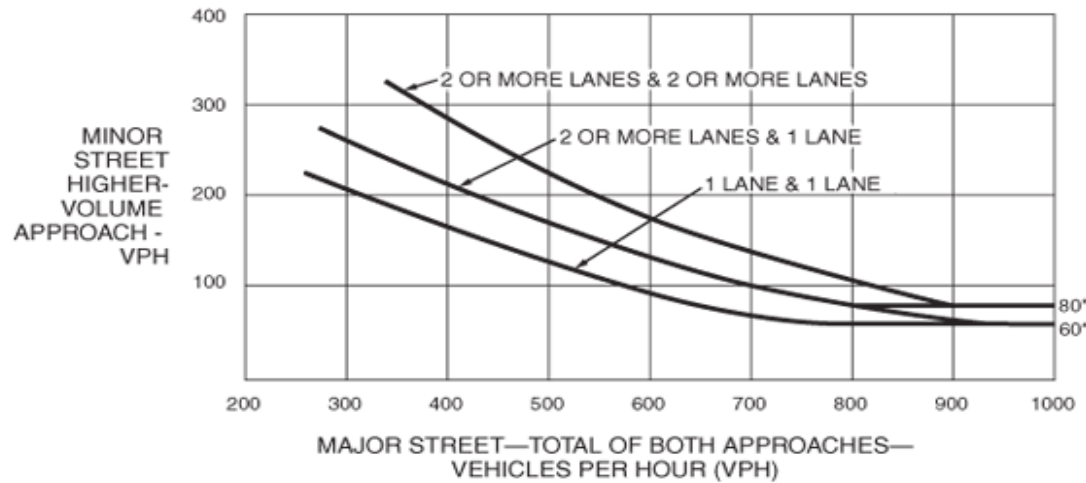
Count Date: 9/17/2019

Time	Total of	
	Major Approaches	Minor Approach
7:00-8:00	1105	69
8:00-9:00	1043	61
4:00-5:00	1130	111
5:00-6:00	1090	74

Warrant Met: **YES/NO**

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Heath & Associates - DSHS Clark County (5/10/2021)

Intersection: NE 72nd Ave & NE 159th St

Project: DSHS Clark County

Time (AM)

	Northbound			Southbound			Eastbound			Westbound			Total	N/S Total Major	EB Total Minor
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
7:00	0	18	0	0	46	0	0	2	1	3	0	1			
7:05	1	21	0	0	62	0	0	1	0	3	2	0			
7:10	1	22	0	0	44	1	0	0	2	4	1	0			
7:15	0	22	1	0	58	1	0	1	2	2	2	1			
7:20	3	34	2	0	63	1	1	1	4	1	3	0			
7:25	1	22	1	2	72	2	1	1	2	2	1	0			
7:30	3	41	2	0	36	2	0	3	2	4	5	1			
7:35	4	32	0	1	63	0	0	0	2	4	2	1			
7:40	4	36	2	0	56	0	0	6	4	3	5	0			
7:45	1	36	0	1	71	2	0	0	1	3	2	0			
7:50	3	25	5	0	81	1	1	0	1	2	2	0			
7:55	2	46	2	1	42	3	1	0	2	2	7	0			
Total 1 Hour	23	355	15	5	694	13	4	15	23	33	32	4	1216	1105	69
8:00	5	29	1	1	67	1	0	3	1	0	1	1			
8:05	2	23	2	0	53	0	1	1	2	4	3	0			
8:10	4	32	2	0	50	3	1	1	1	0	3	3			
8:15	3	34	3	0	59	1	1	1	0	0	2	0			
8:20	2	30	0	1	59	2	2	0	1	1	2	0			
8:25	2	16	0	0	64	3	0	0	2	4	3	0			
8:30	2	17	2	2	47	2	1	3	1	3	4	0			
8:35	4	31	0	0	48	3	0	3	1	3	1	0			
8:40	10	24	0	0	48	4	0	0	2	2	2	1			
8:45	5	24	3	0	46	4	1	0	2	4	1	0			
8:50	9	31	0	0	43	4	1	1	4	2	6	1			
8:55	7	20	0	0	45	4	0	1	3	3	1	0			
Total 1 Hour	55	311	13	4	629	31	8	14	20	26	29	6	1146	1043	61

Intersection: NE 72nd Ave & NE 159th St
 Project: DSHS Clark County

Time (PM)	Northbound			Southbound			Eastbound			Westbound			Total	N/S Total Major	EB Total Minor
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
4:00	1	64	1	2	30	1	1	4	2	0	4	0			
4:05	2	47	1	1	39	0	0	3	3	0	2	0			
4:10	5	56	4	1	37	0	2	4	6	1	2	0			
4:15	2	58	5	1	36	2	3	4	6	0	1	0			
4:20	1	55	1	1	40	1	1	7	11	0	2	0			
4:25	1	51	1	0	25	2	0	6	3	0	3	0			
4:30	1	51	3	1	28	1	3	5	2	2	3	1			
4:35	2	64	3	0	26	0	1	3	1	1	1	0			
4:40	2	65	6	1	26	1	0	3	2	1	1	0			
4:45	1	46	2	0	31	0	4	6	3	1	1	0			
4:50	3	53	6	0	33	0	2	2	3	0	1	0			
4:55	2	49	4	1	43	0	0	3	2	3	0	0			
Total 1 Hour	23	659	37	9	394	8	17	50	44	9	21	1	1272	1130	111
5:00	2	58	3	1	40	2	0	2	2	1	1	0			
5:05	5	56	3	1	35	0	0	1	9	1	1	0			
5:10	0	58	1	0	32	1	1	3	3	0	1	0			
5:15	2	67	6	0	45	1	0	2	7	1	3	0			
5:20	5	48	5	0	25	1	0	2	2	0	3	1			
5:25	1	57	2	0	24	0	0	2	1	0	2	1			
5:30	2	53	3	0	27	0	1	0	3	1	5	1			
5:35	3	54	3	0	33	0	1	2	4	1	0	0			
5:40	3	50	3	0	38	0	0	4	7	0	1	0			
5:45	3	36	1	3	27	2	0	4	5	2	2	0			
5:50	3	46	1	1	28	2	1	3	1	2	4	0			
5:55	2	50	4	1	21	0	0	1	0	0	0	0			
Total 1 Hour	31	633	35	7	375	9	4	26	44	9	23	3	1199	1090	74

SIGNAL WARRANT ANALYSIS, WARRANT 3 – PEAK HOUR

NE 159th Street & NE 72nd Avenue Baseline 2021 PM Peak Hour Volumes

Warrant met if criteria in either of the following two categories A and B are met:

A. If ALL 3 of the following conditions exist for the same 1 hour of an average day: **NOT MET**

1. The total stopped time delay for the minor-street approach equals or exceeds 4 vehicle-hours for a one-lane approach (5 veh-hrs for a two-lane approach).

EB Approach: $((16+47+51)*45.2)/3600 = 1.4 < 4.0$ **NOT MET**

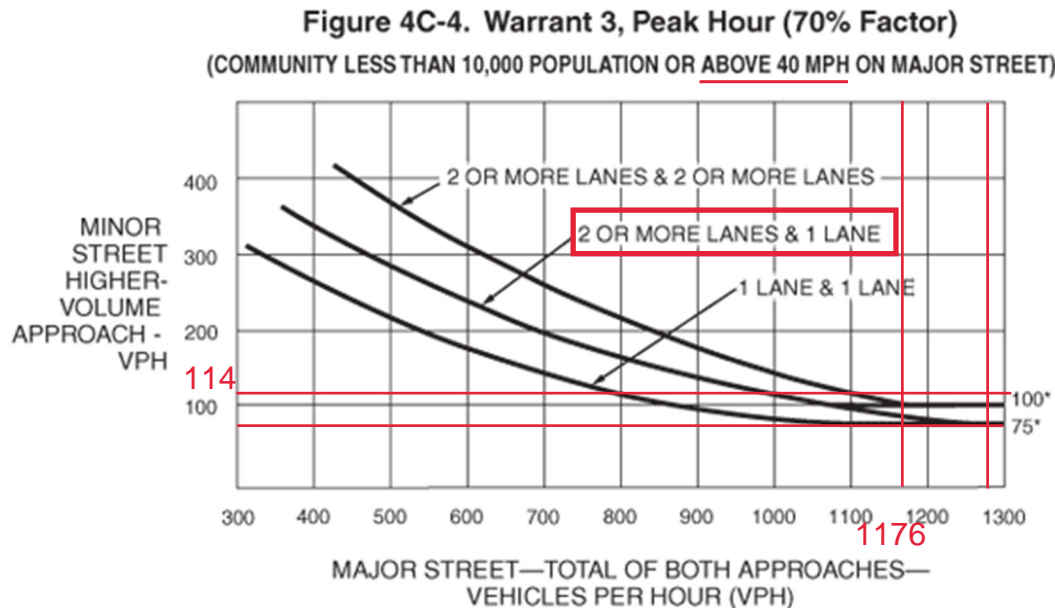
2. The volume on the same minor street approach equals or exceeds 100 vehicles per hour for one moving lane of traffic (150 veh/hr for two moving lanes).

EB Approach: $114 < 100$ **MET**

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with 3 approaches (800 veh/hr for 4 approaches).

$1,319 > 800$ **MET**

B. The plotted point in Figure 4C-2 falls above the applicable curve for the existing combination of approach lanes. **MET**



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.