



HEATH & ASSOCIATES

Transportation Planning & Engineering

TRAFFIC IMPACT ANALYSIS

Trailhead Apartments Issaquah, Washington

Revised: July 25, 2025

1011 E Main Ave Suite 453 | Puyallup, WA | 98372
(253) 770-1401 | heathtraffic.com

TRAILHEAD APARTMENTS TRAFFIC IMPACT ANALYSIS

Prepared for:

King County Housing Authority
Attn: Nathan Kraus

Prepared by:

Heath & Associates
PO Box 397
Puyallup, WA 98371
(253) 770 1401
Heathtraffic.com

License:



Date: July 25, 2025

To: City of Issaquah

Subject: Revisions to The Trailhead Apartments Traffic Impact Analysis.

This letter is in response to the City of Lacey's June 18, 2025, review comments regarding the TIA for The Trailhead Apartments project.

City Comments

- Beginning fall 2025 the 269 will have weekend service and won't stop at Issaquah TC.
- Route 271 will be discontinued in fall 2025.
- Once the 2 line connects to Seattle, ST 554 will travel to Bellevue.
- 203 Issaquah-South Bellevue, 5 AM to 12 midnight, 7:45 AM to 8:15 AM Begins August 30th.

The Transit Table has been updated accordingly.

- Cougar Mountain Middle School instead of IMS. Also distance is just over a mile mostly along SR 900 and kids will not make that walk.

TIA has been updated to include this information.

Please call if you require anything further.

Sincerely,

Aaron Van Aken, P.E., PTOE



TRAILHEAD APARTMENTS TRAFFIC IMPACT ANALYSIS

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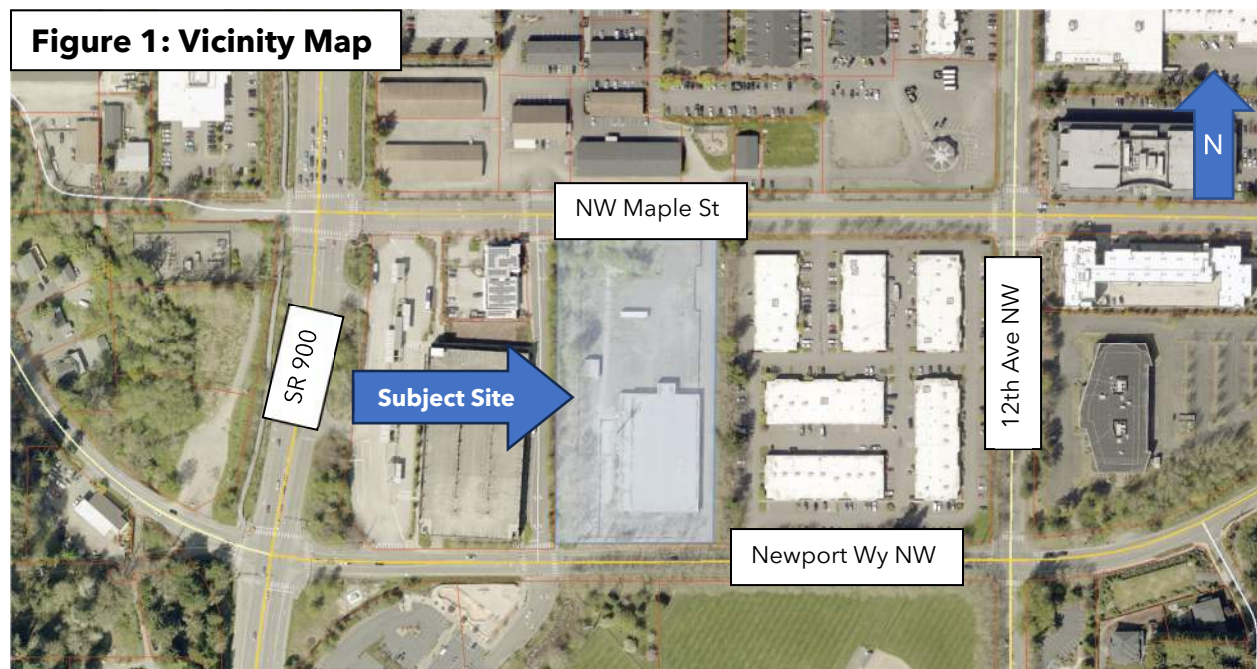
TRAILHEAD APARTMENTS TRAFFIC IMPACT ANALYSIS

1. INTRODUCTION

Heath & Associates has been engaged to prepare a Traffic Impact Analysis (TIA) for a proposed multifamily residential project, located in Issaquah, Washington. The study begins with evaluating current roadway conditions and establishing baseline volumes and traffic operations within a defined study area. The study area is then evaluated without and with the proposed development to determine whether adequate capacity, safety, and other conditions are met. The scope of this TIA is based on our approved scoping report (*Trailhead Apartments – Scoping Memo, February 2025*).

2. PROJECT DESCRIPTION

Trailhead Apartments is a proposed residential development comprised of 373 total apartment units located within the City of Issaquah. The north building will consist of 158 affordable units and the southern building will consist of 215 market rate units. The subject site is bordered to the north via NW Maple Street and to the south via Newport Way NW situated on 4-acres within tax parcel number 2924069002. Existing on-site is a vacant 33,680 industrial building which would be demolished for new construction. Site ingress/egress is proposed via right-of-way dedication of 13th Street bordering the east side of the parcel. The newly constructed 13th Street will extend north to Maple Street and south to Newport Way. **Figure 1** provides a vicinity map of the surrounding street system. **Figure 2** on the following page provides a conceptual site plan.



3. EXISTING CONDITIONS

3.1 Existing Street System

The major roadways in the study area are listed and described below.

Table 1: Roadway Network

Functional Classification	Roadway	Speed Limit (mph)	Lanes	Sidewalk	Bike Facilities
State Route	SR 900	40	2-5	Yes	No
Other Principal Arterial	Maple St	30	2-5	Yes	No
	Newport Way	25-30	2	Yes	No
Minor Arterial	12th Ave	25	2-3	Yes	Some
Local	Issaquah TC Rd	25*	2	Yes	No

*No observed posted speed limit, 25 mph is assumed.

SR 900

- Urban Other Principal Arterial
- Limited Access Partially Controlled
- 2023 ADT is 21,000 vehicles just north of Newport Way

3.2 Roadway Improvements

The City of Issaquah Six Year Transportation Improvement Program (2025-2030) was reviewed for potential improvements in the study area. See **Table 2** below for details.

Table 2: Transportation Improvement Projects

Name	Location	Improvement	Cost
Newport Improvements (ID# TR 022)	SR 900 to SE 54th St	Install intersection control and access management along Newport Way. This includes 1 lane in each direction with non-motorist facilities and a landscaped central median.	\$14,800,000
Newport Way Improvements (ID# TR 023)	Maple to Sunset	This project will add a second southbound lane from Maple St to ~Holly St, construct roundabouts at Juniper St, Holly St, and Dogwood St, construct signal modifications at Sunset Way and Maple St, and construct bicycle and pedestrian access.	\$15,400,000
Newport Way Bike and Ped Improvements (ID# TR 043)	SR 900 to 12th Ave	Constructs protected bike lanes for bicyclists and sidewalk for pedestrians along Newport Way between SR 900 and 12th Avenue NW.	\$8,610,000

Multiple improvements are planned along Newport Way in the area enhancing the corridor with access management, intersection control, roundabouts, signal modifications, and improved pedestrian and bicycle facilities, including protected bike lanes and sidewalks



3.3 Transit Service

The subject site is located next to the Issaquah Transit Center (TC), with multiple transit routes accessible within walking distance of the proposed development. **Table 3** below provides service descriptions for each route.

Table 3: Bus Routes

Route	Description	Weekday Service	Weekend Service	Nearest Stop
Sound Transit Routes				
554	Issaquah-Seattle ¹	4:19 AM to 11:44 PM	6:25 AM to 11:03 PM	Issaquah TC
556	Issaquah-University District	5:12 AM to 7:28 PM ²	N/A	Issaquah TC
King County Routes				
208	North Bend-Snoqualmie-Issaquah	5:04 AM to 9:21 PM	6:59 AM to 10:20 PM	Issaquah TC
269	Issaquah-Overlake	6:02 AM to 7:58 PM	8:35 AM to 6:45 PM ³	Issaquah TC
203	Issaquah-South Bellevue ⁴	5:00 AM to Midnight	N/A	Issaquah TC

3.4 Existing Peak Hour Volumes and Travel Patterns

Traffic counts were collected in February of 2025 at the following eight intersections that were established through the scoping process:

1. SR 900 & NW Maple Street
2. NW Maple Street & Issaquah TC Road
3. NW Maple Street & 13th Street
4. NW Maple Street & 12th Avenue NW
5. SR 900 & Newport Way NW
6. Newport Way NW & Issaquah TC Road
7. Newport Way NW & 13th Street
8. Newport Way NW & 12th Avenue NW

The PM peak hour was targeted for capacity evaluation. Counts were therefore collected between 4:00 PM - 6:00 PM. The one-hour which reflects the highest volumes from each field count, known as the peak hour, is then used for analysis to identify operations at peak congestion. Existing vehicular PM peak hour volumes are illustrated in **Figure 3**. Count sheets are attached in the appendix.

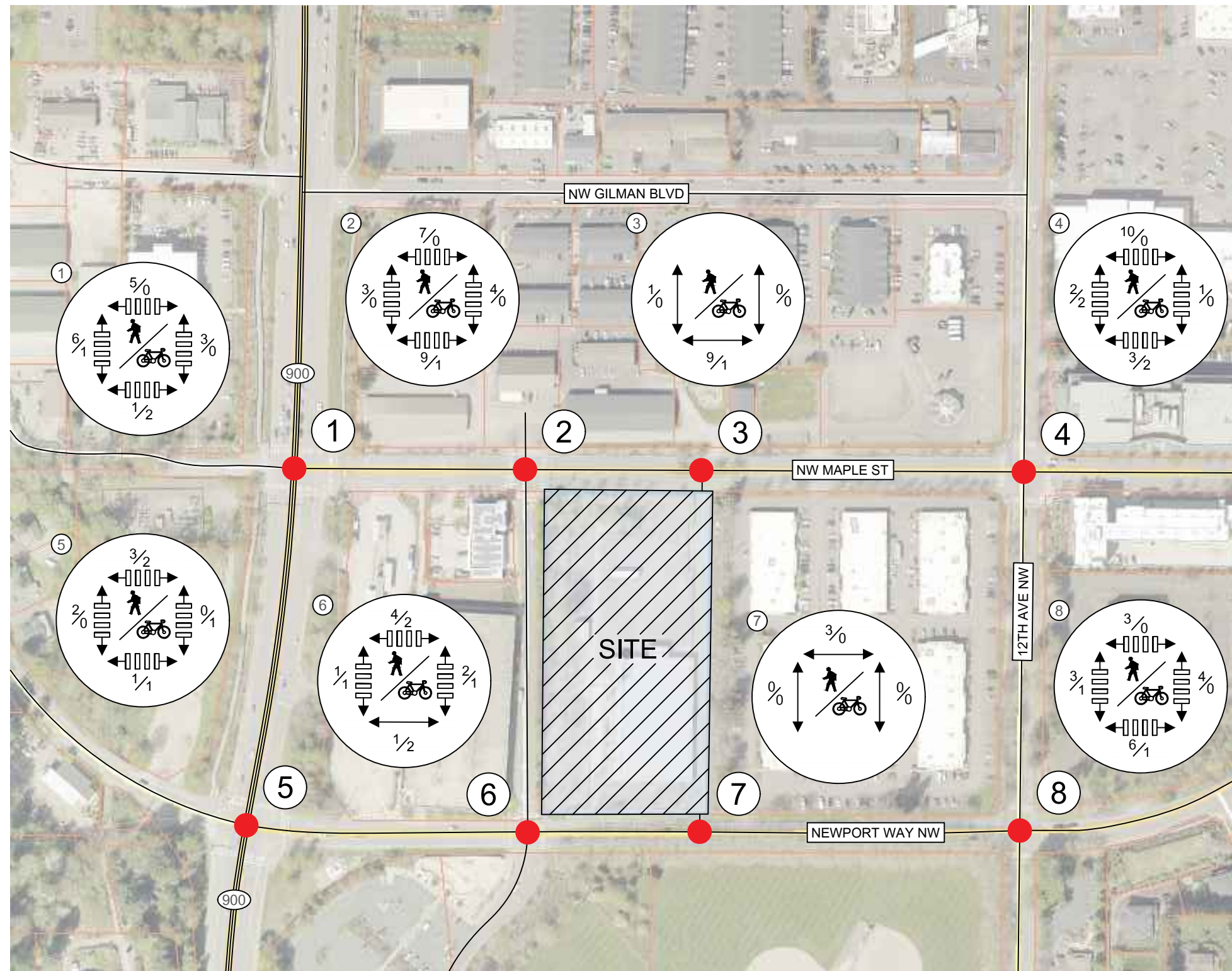
¹ With the 2 line connection to Seattle, 554 will travel to Bellevue.

² Bus route stops running from 10:12 AM to 3:00 PM.

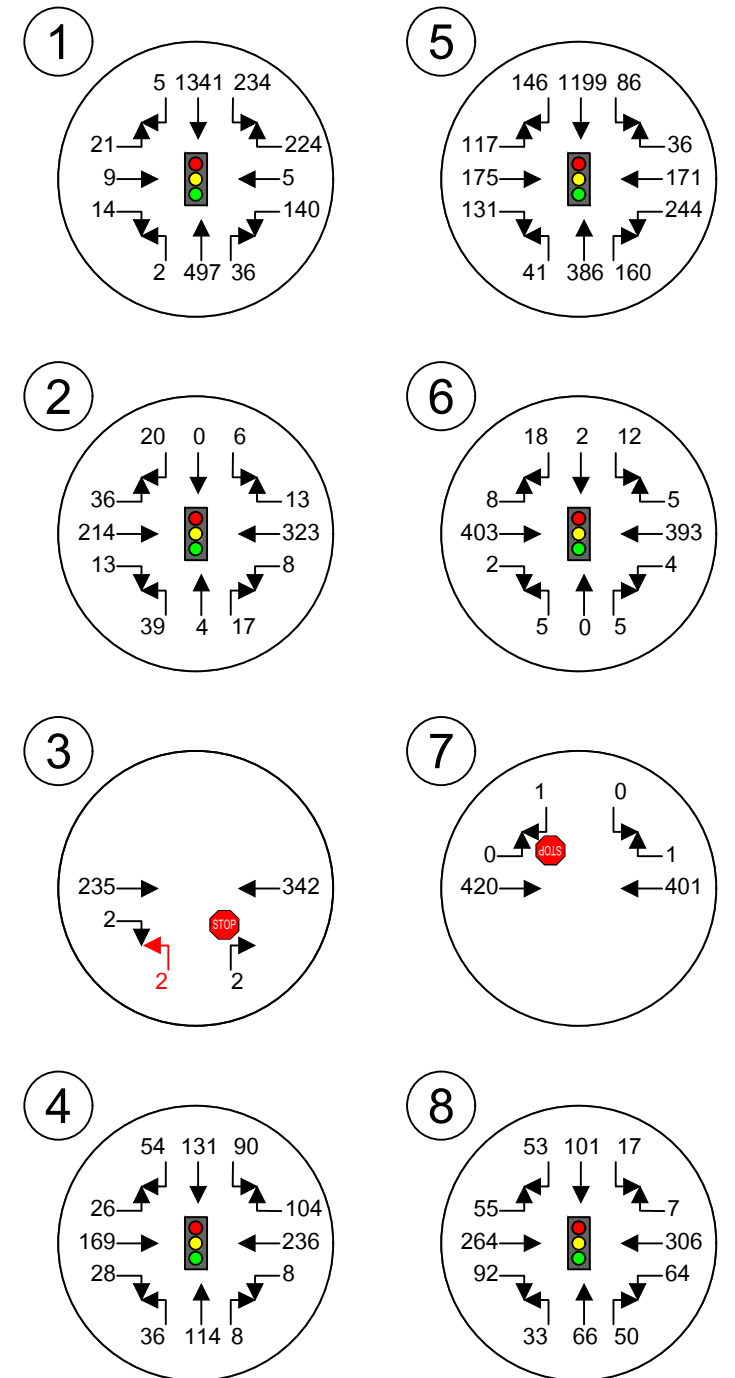
³ Does not stop at Issaquah TC.

⁴ Begins Aug 30th.





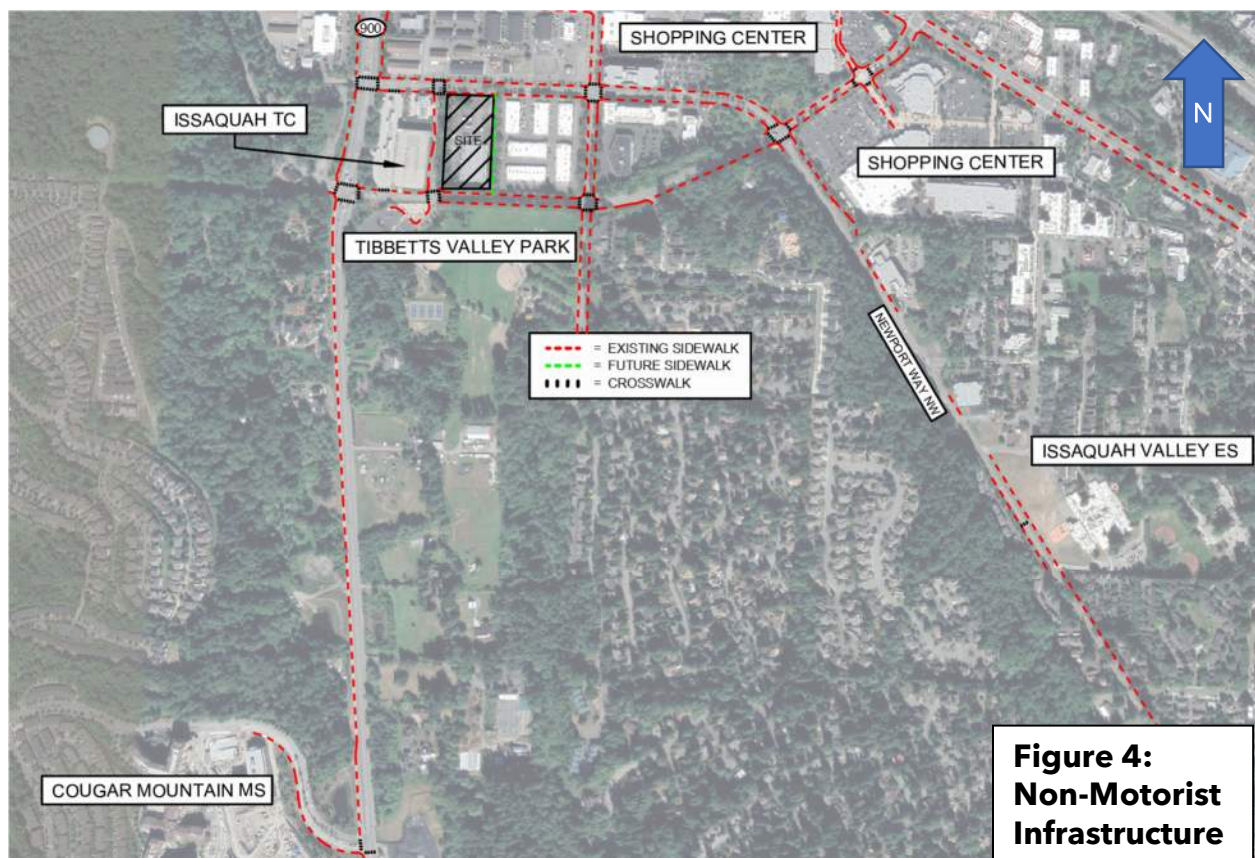
PM PEAK HOUR



3.5 Non-Motorist Activity and Infrastructure

Non-motorist activity was recorded during the PM peak hour at each study intersection as shown in **Figure 3** on the previous page. There is generally sidewalk on at least one side of roadways within the study area with crossing opportunities at the signals. School-aged children residing in the future Trailhead Apartments development would likely attend either Issaquah Valley Elementary School or Cougar Mountain Middle School—both of which are around one-mile or less walking distance from the site.

Figure 4 below illustrates the existing sidewalk/walking routes in the study area. A contiguous sidewalk is available to the middle school from the subject site. However, there are a few missing sidewalk segments to the elementary school along Newport Way. Note that the City's TR 023 Improvement Project (refer to Table 2) intends to upgrade non-motorist infrastructure along Newport Way from Maple to Sunset, which would fill these gaps and establish a continuous walking route from the subject site. Complete sidewalks/walking paths are available to/from Tibbetts Park, the Issaquah Transit Center, Cougar Mountain Middle School and commercial development to the north/east further encouraging multi-modal transport from Trailhead Apartments.



**Figure 4:
Non-Motorist
Infrastructure**



3.6 Existing Level of Service

Level of Service (LOS) rates⁵ the quality of traffic flow and user experience, typically on a scale from A to F, where:

- **LOS A** represents free-flowing traffic with minimal delays and low congestion.
- **LOS B** indicates stable traffic flow with some minor delays.
- **LOS C** shows moderate traffic flow with noticeable delays at peak times.
- **LOS D** is high-density traffic flow with more frequent and longer delays.
- **LOS E** is near-capacity conditions with significant delays and congestion.
- **LOS F** denotes over-capacity conditions, where traffic flow breaks down, resulting in severe congestion and delays.

LOS calculations were performed using Synchro 12. Signalized intersections report the overall LOS, while stop-controlled intersections report the worst approach LOS. **Table 4** below summarizes the PM peak hour LOS results. Signal timing was received from the City of Issaquah and WSDOT.

Table 4: Existing Weekday PM Peak Hour Level of Service

Delays given in seconds per vehicle

Ref. #	Intersection	Control	LOS	Delay
1	SR 900 & NW Maple Street	Signal	C	28.9
2	NW Maple Street & Issaquah TC Road	Signal	A	9.7
3	NW Maple Street & 13th Street	Stop	A	9.2
4	NW Maple Street & 12th Avenue NW	Signal	B	14.1
5	SR 900 & Newport Way NW	Signal	E	61.9
6	Newport Way NW & Issaquah TC Road	Signal	A	8.5
7	Newport Way NW & 13th Street	Stop	B	10.8
8	Newport Way NW & 12th Avenue NW	Signal	B	11.6

WSDOT Level of Service Standards⁶: LOS E Mitigated or better (SR 900).

⁵Signalized Intersections - Level of Service

Control Delay per

Level of Service	Vehicle (sec)
A	[10
B	∃10 and [20
C	∃20 and [35
D	∃35 and [55
E	∃55 and [80
F	∃80

Highway Capacity Manual (HCM), 7th Edition

⁶ WSDOT Level of Service Standards - ArcGIS

Stop Controlled Intersections - Level of Service

Control Delay per

Level of Service	Vehicle (sec)
A	[10
B	∃10 and [15
C	∃15 and [25
D	∃25 and [35
E	∃35 and [50
F	∃50



City of Issaquah Level of Service Standards⁷: LOS D or better.

With the exception of SR 900 & Newport Way NW operating at LOS E, all other intersections operate with LOS C or better conditions. All intersections currently meet LOS standards.

3.7 Collision History Analysis

Collision History Analysis

A list of the recorded incident history for the five most recent full years (beginning of 2019 through end of 2023) for each study intersection was requested from WSDOT.

Table 5 below outlines yearly incidents.

Table 5: Collision History Overview

Intersection/Roadway Segment	2019	2020	2021	2022	2023	Avg/ Yr
1. SR 900 & NW Maple Street	2	4	3	2	2	2.6
2. NW Maple Street & Issaquah TC Road	0	0	0	0	0	0.0
3. NW Maple Street & 13th Street	0	0	0	0	0	0.0
4. NW Maple Street & 12th Avenue NW	2	2	1	0	1	1.2
5. SR 900 & Newport Way NW	7	3	6	2	3	4.2
6. Newport Way NW & Issaquah TC Road	0	0	0	0	0	0.0
7. Newport Way NW & 13th Street	0	0	0	0	0	0.0
8. Newport Way NW & 12th Avenue NW	1	1	1	1	1	1.0

A total of 45 collisions were recorded in the study area. The following sections will summarize the collision types, injury severity, and contributing factors.

Collision Type Analysis

Summaries of collision types that occurred at and/or related to each study intersection are provided in **Table 6** below.

Table 6: Collision History Crash Types

Crash Type	Number of Crashes (2019-2023)			
	I/S #1	#4	#5	#8
Rear-end	1	1	7	2
Entering at angle	2	4	10	0
Vehicle turning left hits ped	0	0	0	1
From opposite direction	10	1	2	2
From same direction	0	0	2	0

⁷ Issaquah Comprehensive Plan – Issaquah 2044.



1. SR 900 & NW Maple Street: 13 collisions were recorded over the 5-year period, resulting in an average of 2.6 incidents per year. The collision types were listed as "rear-end" (1/13), "entering at angle" (2/13), and "from opposite direction" (10/13).

4. NW Maple Street & 12th Avenue NW: 6 collisions were recorded over the 5-year period, resulting in an average of 1.2 incidents per year. The collision types were listed as "rear-end" (1/6), "entering at angle" (4/6), and "from opposite direction" (1/6).

5. SR 900 & Newport Way NW: 21 collisions were recorded over the 5-year period resulting in 4.2 accidents per year. The collision types were listed as "rear-end" (7/21), "entering at angle" (10/21), "from opposite direction" (2/21), and "from same direction" (2/21).

8. Newport Way NW & 12th Avenue NW: 5 collisions were recorded over the 5-year period, resulting in an average of 1.0 incidents per year. The collision types were listed as "rear-end" (2/5), "from opposite direction" (2/5), and "vehicle turning left hits pedestrian" (1/5).

Collision Severity, Contributing Factor Analysis & Trends

A collision severity summary associated with each study intersection is provided below in **Table 7**. No fatalities were recorded at any of the study intersections.

Table 7: Collision History Severity

Number of Crashes (2019-2023)				
Crash Type	#1	#4	#5	#8
Fatal (K)	0	0	0	0
Incapacitating Injury (A)	1	0	0	0
Non-incapacitating Injury (B)	3	0	3	0
Possible Injury (C)	1	1	35	2
Property Damage Only (PDO)/Unknown	8	5	14	3

In review of overall trends, collisions were primarily property damage only and largely contributed to driver error/inattention. However, a single non-motorist collision occurred. An incapacitating injury was also recorded. Each pedestrian (1) and serious injury collision (1) are described in detail on the following page.



Collisions Involving Serious Injury

- A serious injury collision occurred at the intersection of SR 900 & Maple Street in September of 2020 at around 5:45 PM. A southbound vehicle collided with a stopped vehicle (rear-end). The southbound driver that collided with the stopped vehicle was under the influence of drugs and also disregarded traffic signs and signals. The weather is listed as clear with dry roadway conditions, the collision resulted in suspected serious injury.

Collisions Involving Non-Motorist

- The non-motorist collision occurred at the intersection of Newport Way & 12th Avenue in November of 2021 at around 5:25 PM when a left turning vehicle struck a pedestrian. Weather conditions are listed as raining with a wet roadway surface. There is no contributing driver/pedestrian circumstance.



4. FORECAST TRAFFIC DEMAND & ANALYSIS

4.1 Project Trip Generation

Trip generation is defined as the number of vehicle movements that enter or exit the prospective project site during a designated time period such as the PM peak hour or an entire day. Trip estimates were derived from the Institute of Transportation Engineers (ITE) publication, *Trip Generation*, 11th Edition. Both the former and proposed uses are described below. ITE's rates or equations were used in accordance with the Trip Generation Handbook.

Previous: The former use on-site was a dispatch/maintenance center for Lumen service trucks. The building size is 33,680 square feet and is to be demolished for new construction. In review of ITE, Land Use Code (LUC) 110 - General Light Industrial was assigned as a comparable use to estimate previous trip generation from the site.

Proposed: ITE has limited trip generation data for affordable housing. Therefore, all units were assigned under LUC 221 - Multifamily Housing (Mid-Rise) which is for buildings between 4-10 floors. Moreover, the setting/location of "Dense Multi-Use Urban" was selected given the proximity to the Issaquah Transit Center, Tibbetts Valley Park, and other commercial amenities to the north.

Refer to **Table 8** below for the estimated project trip generation.

Table 8: Project Trip Generation

Land Use	Variable	AWDT	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Former Use: Light Industrial ⁸	33.68 ksf	-177	-24	-3	-27	-3	-15	-18
Proposed Use: Multi-Family ⁹	373 units	1,093	14	85	99	75	27	102
Net New Trips		916	-10	82	72	72	12	84

Based on ITE data, the project is estimated to generate 916 net new average weekday daily trips with 72 net new AM peak hour trips (-10 inbound / 82 outbound) and 84 net new PM peak hour trips (72 inbound / 12 outbound). However, for analysis purposes, the total project trips are applied.

⁸ ITE Equations

⁹ ITE Rates



4.2 Distribution and Assignment

Trip distribution describes the process by which project generated trips are dispersed on the roadway network surrounding the site. No trip reductions from the previous user were considered in the trip distribution.

Trip distribution assignments are illustrated in **Figure 5** which are based on a review of the adjacent street network, proximity to major routes (SR 900, I-90, etc.), and engineering judgement. All site-generated traffic was assigned from the improved 13th Street. Currently, there is a raised vegetated median along NW Maple Street at the 13th Street intersection. However, as part of a City's future capital improvement project, the median is planned to be removed which would allow for left turns. The trip distribution therefore reflects this modification.

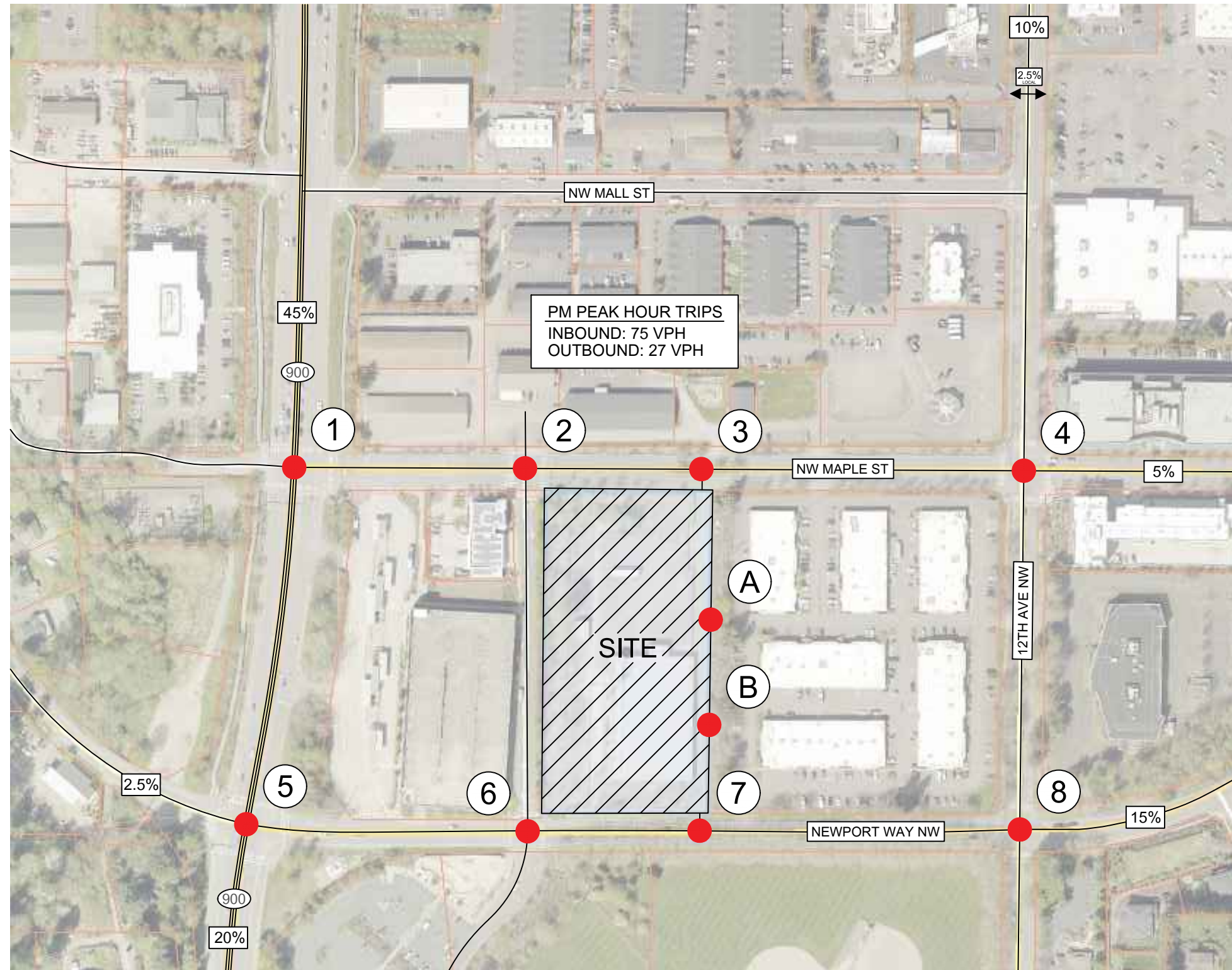
4.3 Future Peak Hour Volumes

A 3-year horizon (2028) was used for future traffic delay analysis, assuming full buildout and occupancy of the Trailhead Apartments development. Forecast background traffic volumes were determined by applying a 2.0%¹⁰ compound annual growth rate to existing PM peak hour volumes shown in Figure 3.

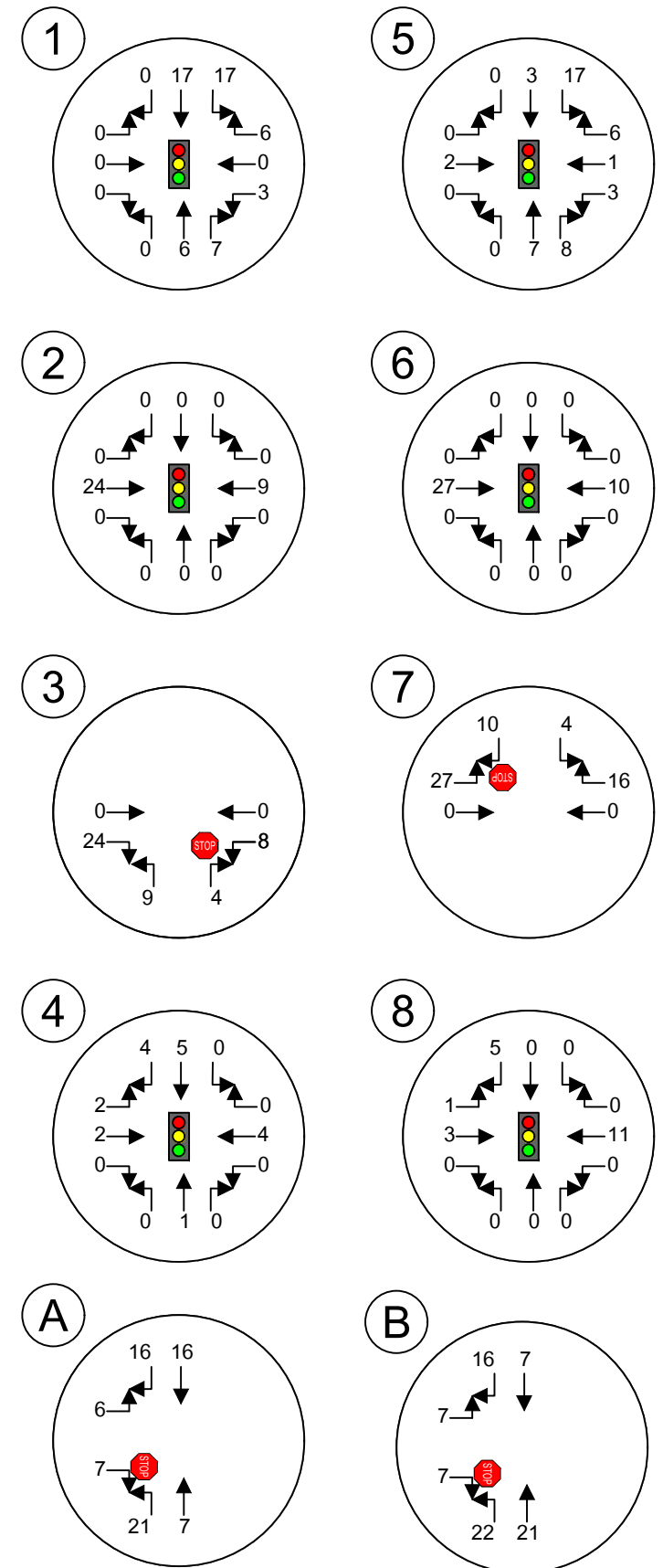
Forecast 2028 PM peak hour background volumes are illustrated in **Figure 6**. **Figure 7** illustrates forecast 2028 PM peak hour volumes with the project.

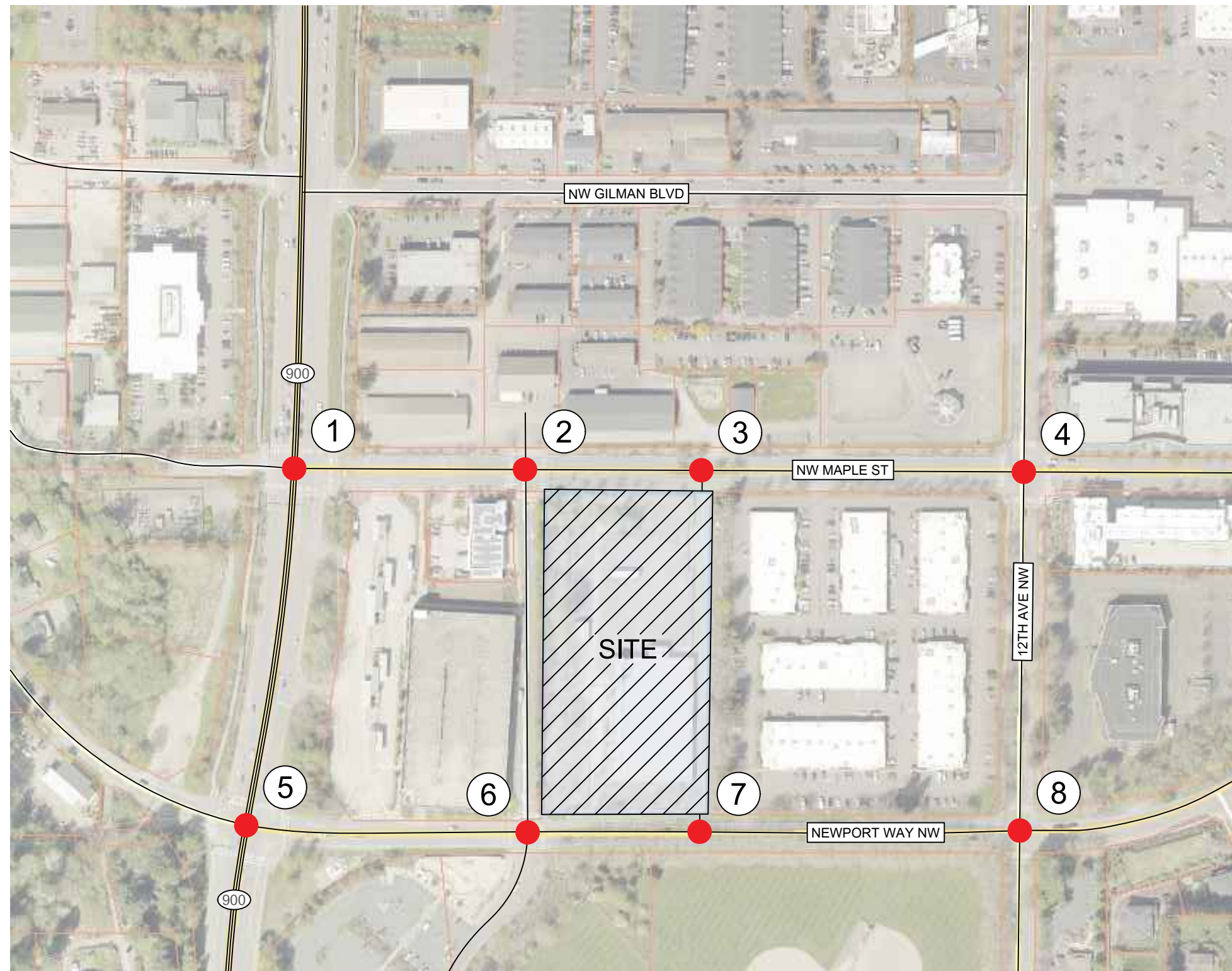
¹⁰ Per City scoping comments.



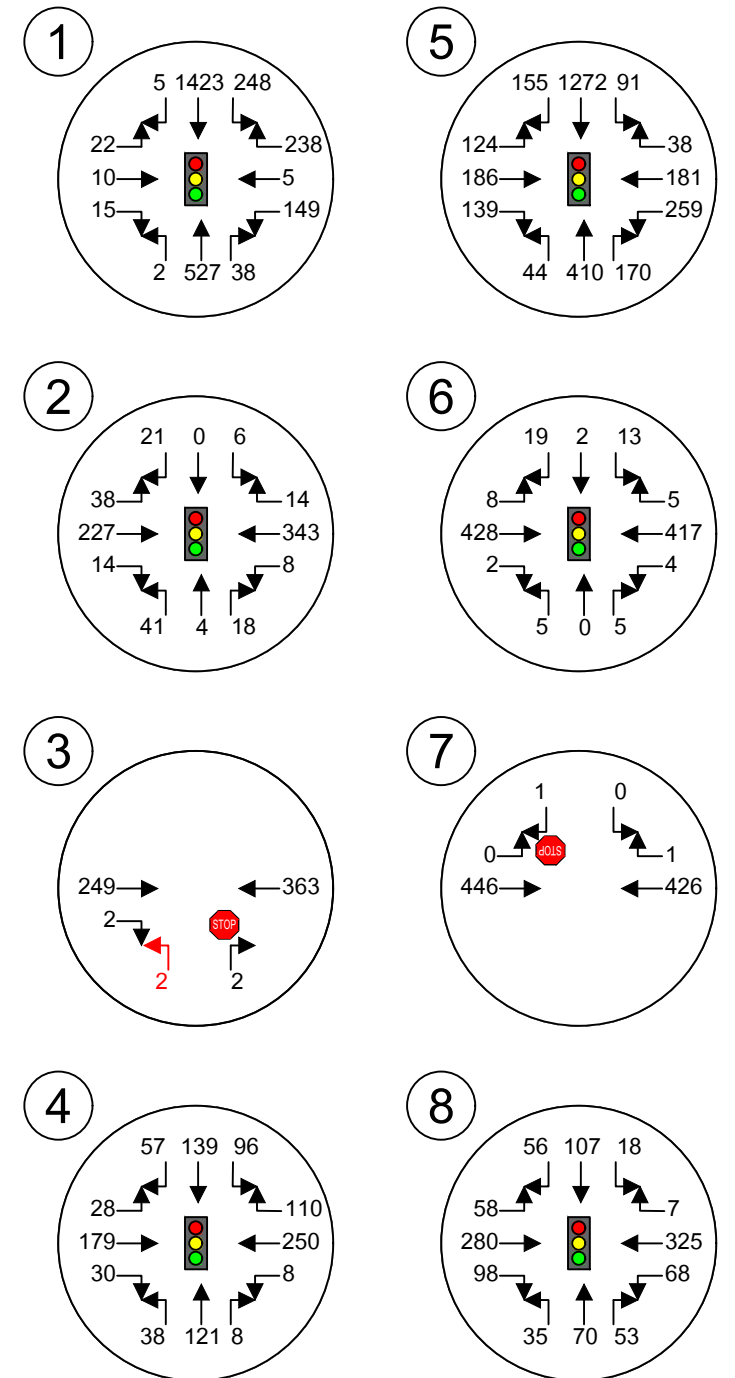


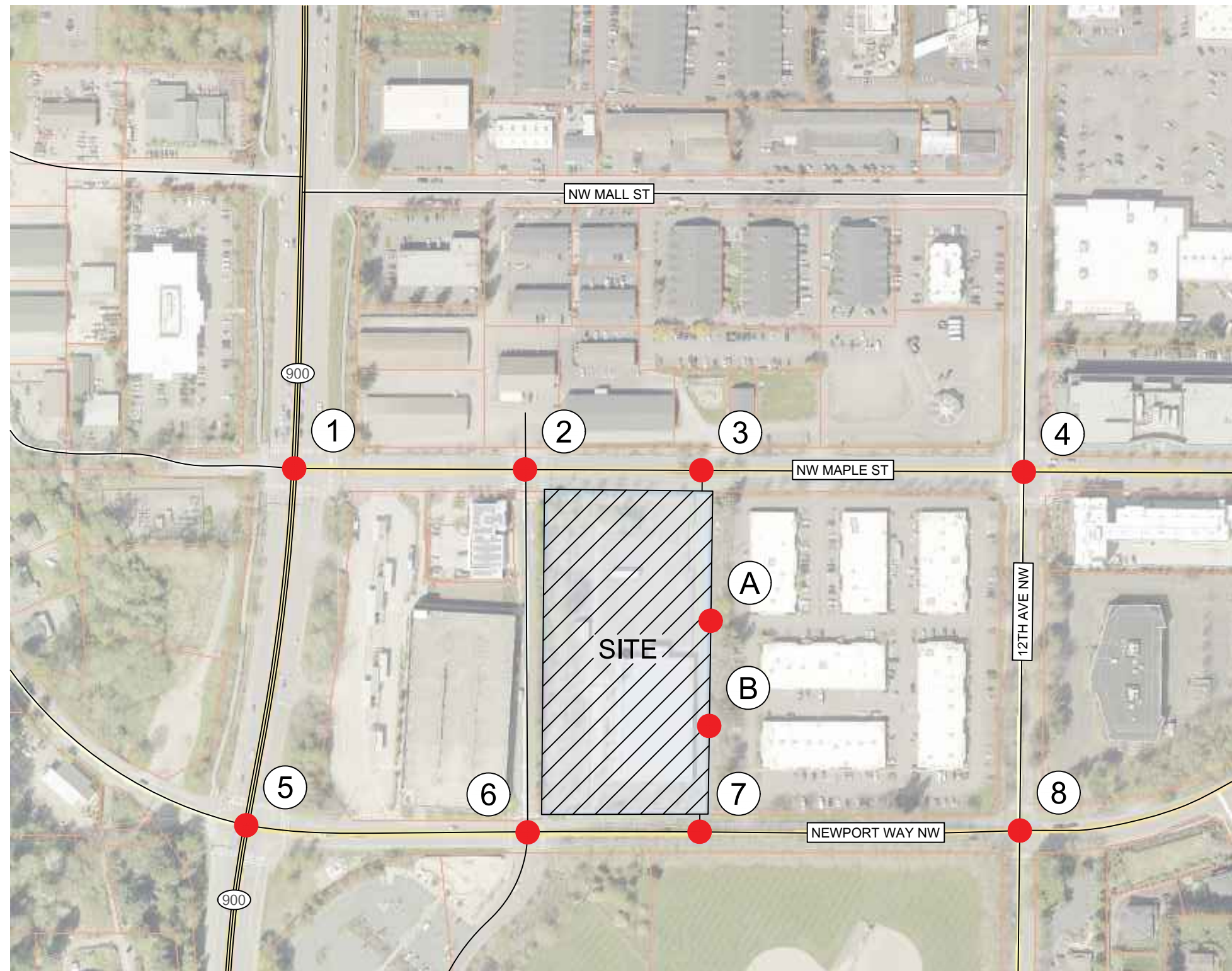
PM PEAK HOUR



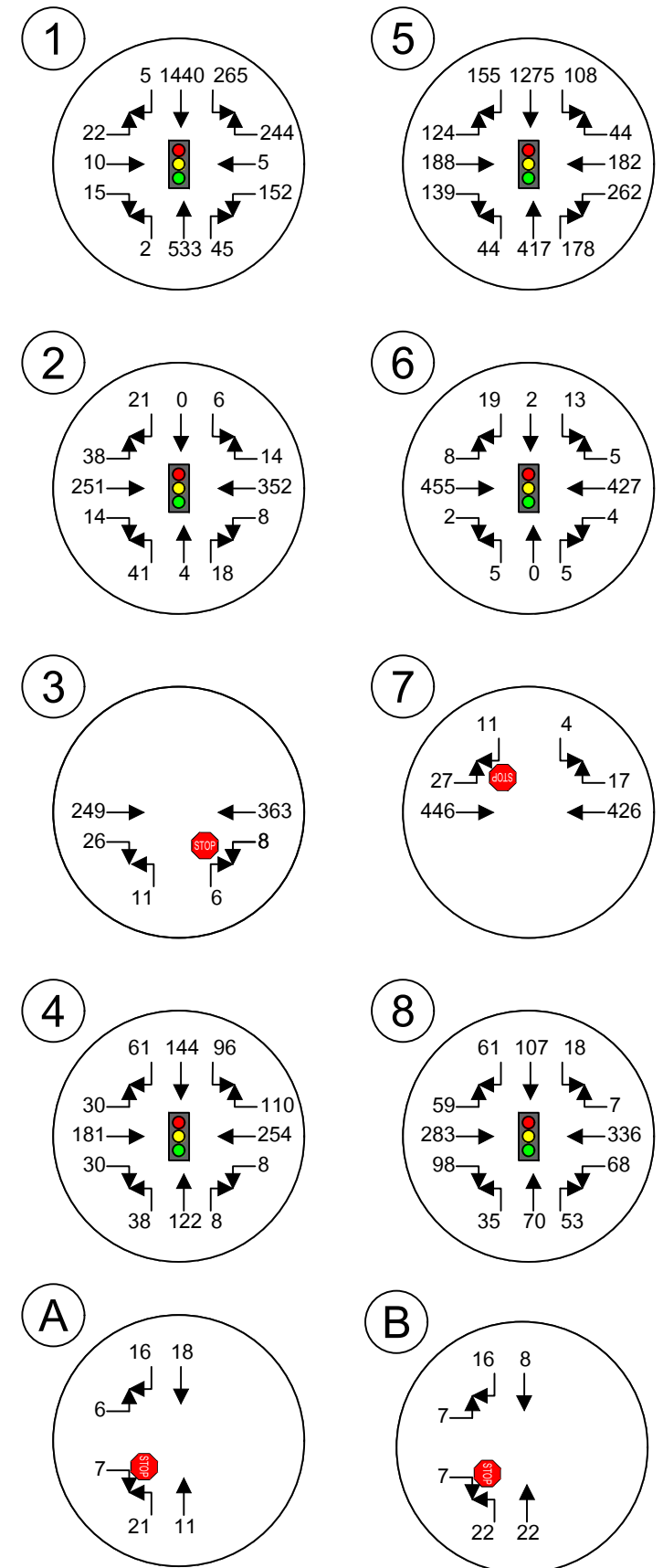


PM PEAK HOUR





PM PEAK HOUR



4.4 Future Level of Service & Queuing

Level of Service

A level of service analysis was conducted for future PM peak hour volumes, both without (background) and with project-generated trips. Consistent with WSDOT protocol, all WSDOT intersections include a future peak hour factor of 1.0. Level of service outputs are provided in **Table 9** below.

Table 9: Forecast 2028 Weekday PM Peak Hour Level of Service

Delays given in seconds per vehicle

Intersection	Control	<u>Without Project</u>		<u>With Project</u>	
		LOS	Delay	LOS	Delay
1. SR 900 & NW Maple Street	Signal	C	28.5	C	29.0
2. NW Maple Street & Issaquah TC Rd	Signal	A	9.8	A	9.9
3. NW Maple Street & 13th Street	Stop	A	9.3	B	10.9
4. NW Maple Street & 12th Ave NW	Signal	B	14.3	B	14.5
5. SR 900 & Newport Way NW	Signal	E	62.3	E	62.7
6. Newport Way NW & Issaquah TC Rd	Signal	A	8.8	A	8.9
7. Newport Way NW & 13th Street	Stop	B	11.0	B	13.6
8. Newport Way NW & 12th Ave NW	Signal	B	11.9	B	11.9
A. 13th Street & North Access	Stop	--	--	A	8.7
B. 13th Street & South Access	Stop	--	--	A	8.8

As illustrated in **Table 9**, all study intersections are projected to continue to meet level of service standards. The intersection of SR 900 & Newport Way is estimated to continue operating with LOS E conditions with or without the project traffic, meeting WSDOT standards (LOS E Mitigated).

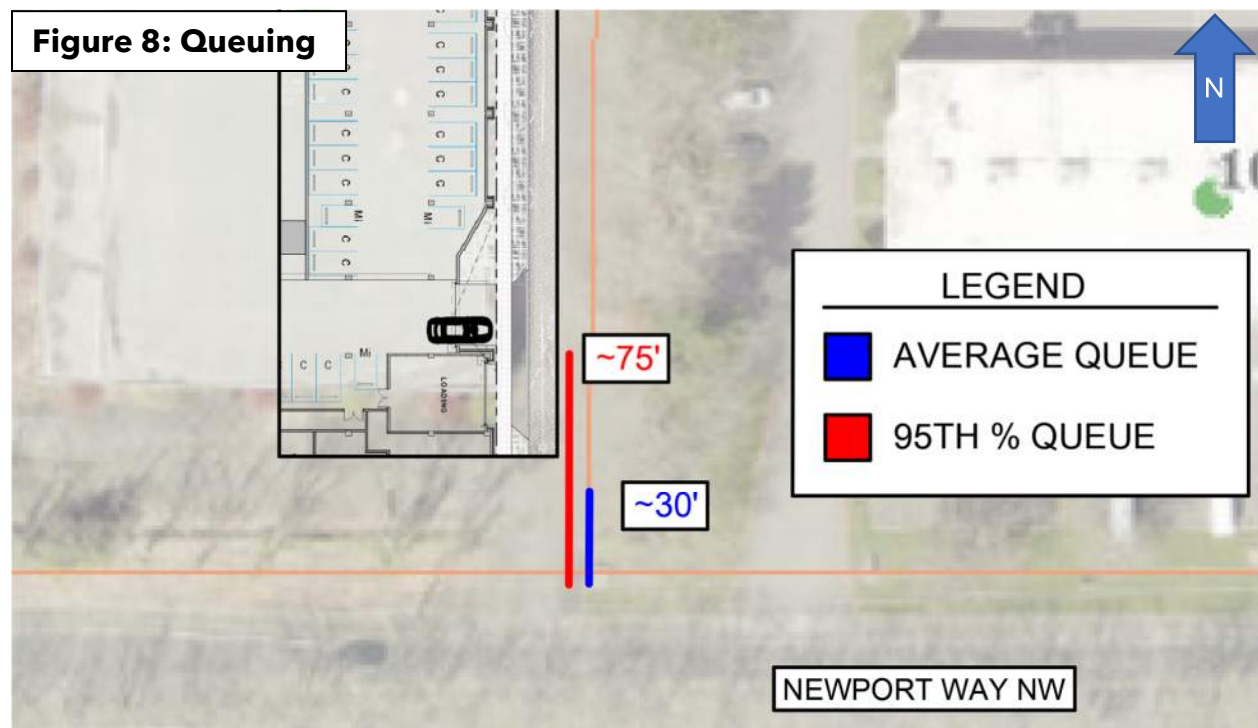


Queuing

Per City scoping comments, a queuing analysis was conducted for the intersection of Newport Way & 13th Street to evaluate whether the site's south driveway would be blocked during the PM peak hour. Queues were estimated using SimTraffic by running five peak hour simulations. The southern edge of the site driveway is approximately 85 feet from Newport Way. Based on the forecasted 2028 queuing results:

- Average southbound queue: 30 feet
- 95th percentile queue: 75 feet

The analysis indicates that the southern access point would remain unblocked during the PM peak hour. In the rare event that the queue exceeds three vehicles and momentarily blocks the driveway, the queue would quickly dissipate, allowing site ingress. Refer to **Figure 8** below.



4.5 Left Turn Lane Guidelines

Left turn lanes provide necessary storage for vehicles turning left at intersections. To determine storage requirements at the proposed Newport Way & 13th Street intersection, procedures from WSDOT Design Manual Exhibit 1310-9 were applied. Based on forecasted 2028 PM peak hour volumes with project traffic, a left turn lane does not meet the minimum warrant thresholds. Refer to the appendix for the left turn warrant nomograph.

Based on the low number of through volumes anticipated along 13th Street, both the north and south access points would also not meet WSDOT's left turn threshold.

4.6 Access Sight Distance & Spacing

Sight Distance

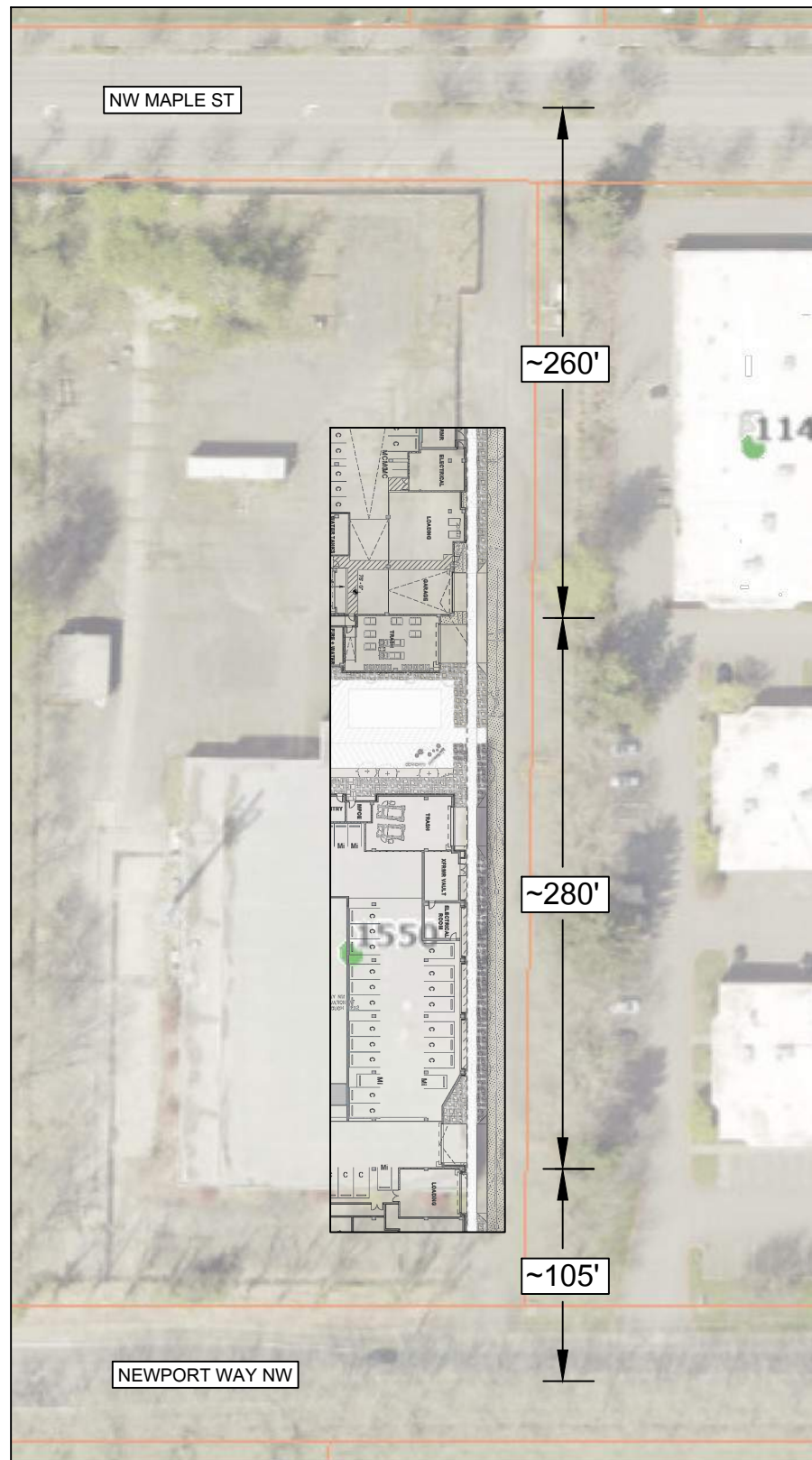
Site ingress/egress is proposed via two new access points which are both to extend west via 13th Street. Sight lines would need to meet the minimum distances outlined in the City's Roadway Standards¹¹. However, given the flat grades and no horizontal curvature, no sight distance deficiencies are identified. Both vehicle and pedestrian sight lines should be verified with the final civil plans.

Spacing

The City's design standards states that local accesses should be offset from center-to-center by 200-feet. **Figure 9** shows the spacing between the proposed driveways and from NW Maple Street and Newport Way NW. The southern driveway would be around 105-feet north from Newport Way NE. However, per the queuing analysis, this driveway is anticipated to remain unblocked during the peak hour. Moreover, the volumes along 13th Street are projected to be low with little to no other curb cuts along the street thereby reducing the potential conflicts.

¹¹ City of Issaquah Street Standards, June 8, 2023.





5. CONCLUSIONS & MITIGATION

Trailhead Apartments is a proposed 373-unit multifamily development located in the City of Issaquah, situated on a 4-acre parcel south of Maple Street and north of Newport Way. The site currently contains a vacant industrial building, which will be demolished for new construction. Access will be provided via two access points extending west from an improved 13th Street.

A total of eight intersections were analyzed for level of service (LOS). All currently operate at LOS E or better, meeting agency standards, which vary by location. Collision history, summarized in Tables 5-7, shows the highest incident rates at SR 900 & Newport Way (4.2 incidents per year) and SR 900 & Maple Street (2.6 incidents per year), though no fatal crashes were reported at these locations within the past five years.

Based on ITE data, the Trailhead Apartments development is projected to generate 916 net new average weekday daily trips, with 72 net new trips during the AM peak hour and 84 net new trips during the PM peak hour. The existing infrastructure, along with planned improvements in the City's Six-Year Transportation Improvement Plan, will provide continuous walking routes to the local elementary and middle schools.

A three-year buildout horizon (2028) was used for the forecast PM peak hour analysis. By 2028, all study intersections are expected to continue meeting LOS standards. Based on WSDOT left turn guidelines, a left turn lane was found not warranted at the intersection of 13th Street & Newport. While the site's southern access does not meet the 200-foot spacing requirement from Newport Way NW, southbound queuing on 13th Street is not expected to extend beyond the site driveway.

The following mitigation measures are identified for Trailhead Apartments:

1. Frontage improvement requirements shall be coordinated with the City of Issaquah.
2. Per Issaquah Municipal Code Chapter 3.71, Traffic Impact Fees (TIF) are required for new development. The City will determine the applicable fees after reviewing the Traffic Impact Analysis. Note that Section 3.71.040 provides exemptions for affordable housing, with eligibility based on the project's compliance with the City's affordable housing criteria. The applicability of this exemption should be further coordinated between the Applicant and the City.

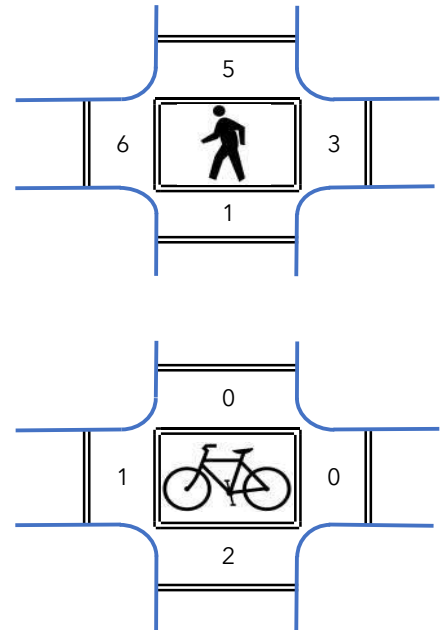
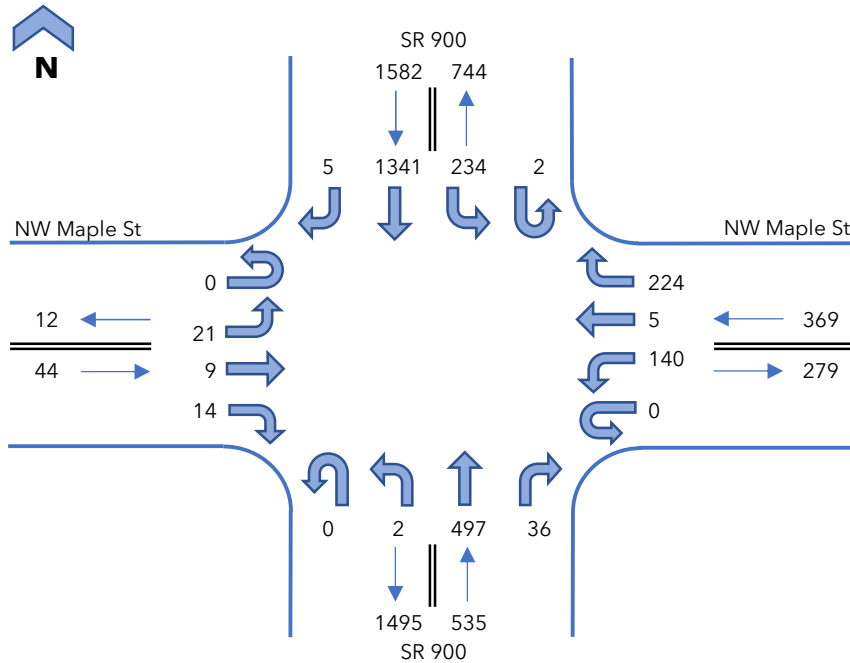


TRAILHEAD APARTMENTS TRAFFIC IMPACT ANALYSIS

APPENDIX



NW Maple St & SR 900



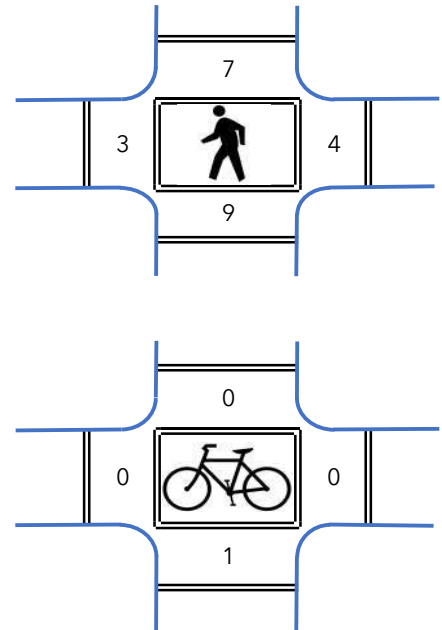
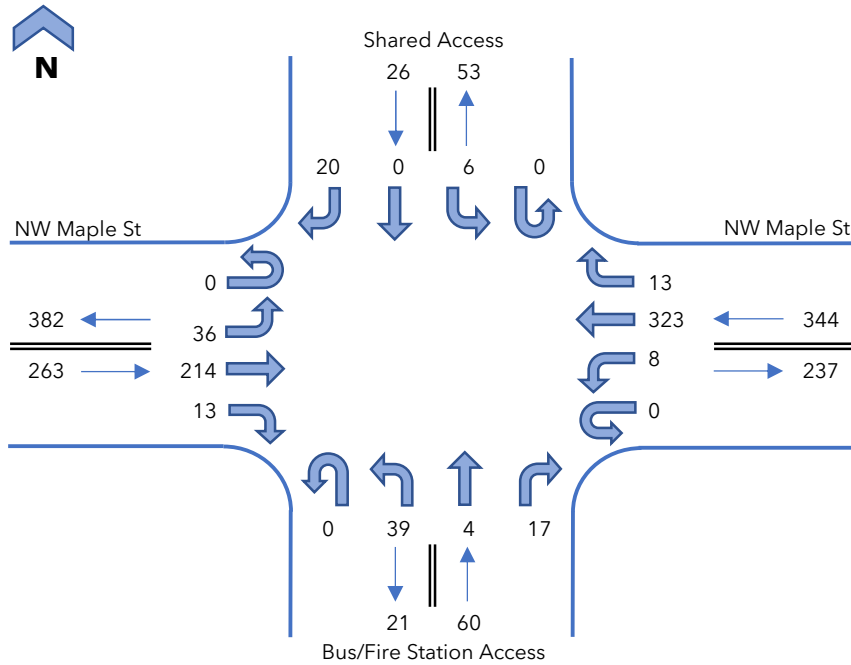
Interval Start Time	NW Maple St Eastbound				NW Maple St Westbound				SR 900 Northbound				SR 900 Southbound				15 Minute Totals	Hourly Totals
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	5	4	1	0	40	0	53	0	2	117	16	0	72	385	2	697	2533
4:15 PM	0	6	0	3	0	36	3	51	0	0	117	5	0	57	295	1	574	
4:30 PM	0	8	4	7	0	33	2	64	0	0	122	8	2	55	356	0	661	
4:45 PM	0	2	1	3	0	31	0	56	0	0	141	7	3	50	305	2	601	
5:00 PM	0	8	3	5	0	38	0	54	0	0	130	7	4	56	340	1	646	
5:15 PM	0	7	2	4	0	33	0	56	0	1	97	7	1	40	319	1	568	
5:30 PM	0	5	3	4	0	21	1	38	0	0	134	12	2	50	265	0	535	
5:45 PM	0	1	2	5	0	27	0	39	0	0	117	2	1	30	282	0	506	
Count Total	0	42	19	32	0	259	6	411	0	3	975	64	13	410	2547	7	4788	--
Peak Hour Total	0	21	9	14	0	140	5	224	0	2	497	36	5	234	1341	5	2533	--
PHF	0.58				0.93				0.90				0.86				0.91	--
Heavy Vehicles	0	0	0	0	0	4	0	2	0	1	23	0	0	4	35	0	69	--
HV %	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.0%	0.9%	0.0%	50.0%	4.6%	0.0%	0.0%	1.7%	2.6%	0.0%	2.7%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	0	4	6	18	28
4:15 PM	0	1	3	8	12
4:30 PM	0	1	9	4	14
4:45 PM	0	0	6	9	15
5:00 PM	0	1	4	8	13
5:15 PM	0	0	4	3	7
5:30 PM	0	1	3	8	12
5:45 PM	0	0	2	10	12
Count Total	0	8	37	68	113
Peak Hour Total	0	6	24	39	69
Peak Hour HV%	0.0%	1.6%	4.5%	2.5%	2.7%

Pedestrians (Leg)				
E	W	N	S	Total
0	1	0	1	2
1	2	0	0	3
1	2	2	0	5
1	1	3	0	5
1	2	0	0	3
1	0	1	0	2
0	0	0	0	0
0	0	0	0	0
5	8	6	1	20
3	6	5	1	15

Bicycles (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	2	3
0	0	0	1	1
0	0	0	0	0
0	3	2	1	6
0	0	0	0	0
0	4	2	4	10
0	1	0	2	3

NW Maple St & Shared Accesses



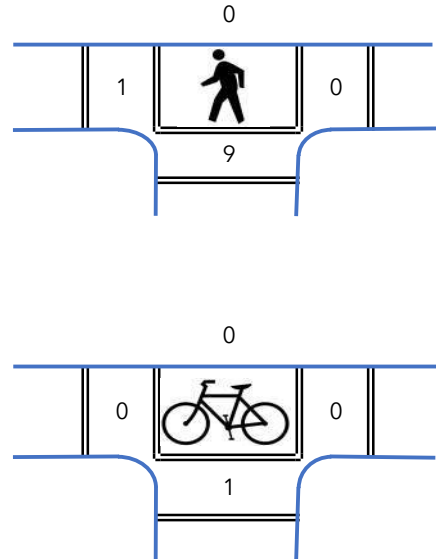
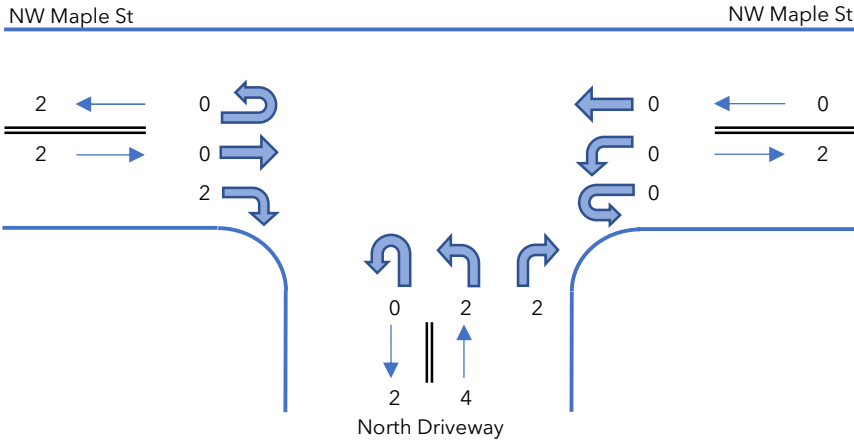
Interval Start Time	NW Maple St Eastbound				NW Maple St Westbound				Bus/Fire Station Access Northbound				Shared Access Southbound				15 Minute Totals	Hourly Totals
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	12	64	4	0	2	92	5	0	8	2	3	0	1	0	5	198	693
4:15 PM	0	11	49	0	0	1	72	4	0	7	1	2	0	1	0	9	157	
4:30 PM	0	9	52	4	0	3	89	3	0	14	1	7	0	3	0	4	189	
4:45 PM	0	4	49	5	0	2	70	1	0	10	0	5	0	1	0	2	149	
5:00 PM	0	15	54	1	0	3	88	1	0	3	0	2	0	2	0	4	173	
5:15 PM	0	8	40	1	0	0	72	3	0	9	0	5	0	2	2	10	152	
5:30 PM	0	10	51	4	0	0	55	4	0	7	0	1	0	0	0	0	132	
5:45 PM	0	2	31	4	0	0	54	3	0	4	0	4	0	4	1	9	116	
Count Total	0	71	390	23	0	11	592	24	0	62	4	29	0	14	3	43	1266	--
Peak Hour Total	0	36	214	13	0	8	323	13	0	39	4	17	0	6	0	20	693	--
PHF	0.82				0.87				0.68				0.65				0.88	--
Heavy Vehicles	0	0	5	2	0	0	6	0	0	1	0	0	0	0	0	0	14	--
HV %	0.0%	0.0%	2.3%	15.4%	0.0%	0.0%	1.9%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	3	5	1	0	9
4:15 PM	1	0	0	0	1
4:30 PM	2	1	0	0	3
4:45 PM	1	0	0	0	1
5:00 PM	2	2	0	0	4
5:15 PM	1	0	0	0	1
5:30 PM	2	1	1	0	4
5:45 PM	4	0	0	0	4
Count Total	16	9	2	0	27
Peak Hour Total	7	6	1	0	14
Peak Hour HV%	2.7%	1.7%	1.7%	0.0%	2.0%

Pedestrians (Leg)				
E	W	N	S	Total
0	2	1	0	3
1	1	0	2	4
1	0	2	2	5
2	0	4	5	11
0	2	0	3	5
0	4	3	2	9
0	0	0	0	0
0	1	1	2	4
4	10	11	16	41
4	3	7	9	23

Bicycles (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	0	2	1	3
0	0	0	1	1

NW Maple St & North Driveway



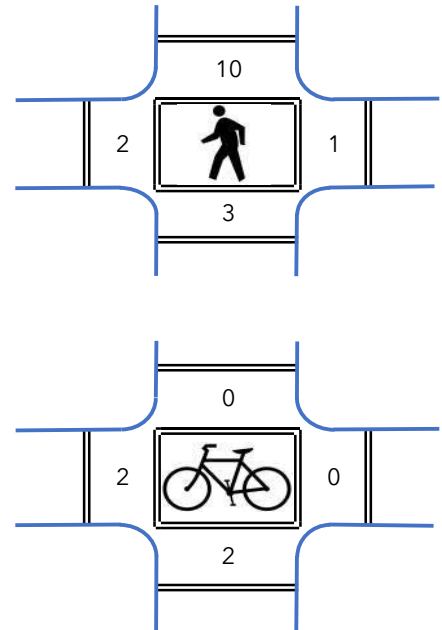
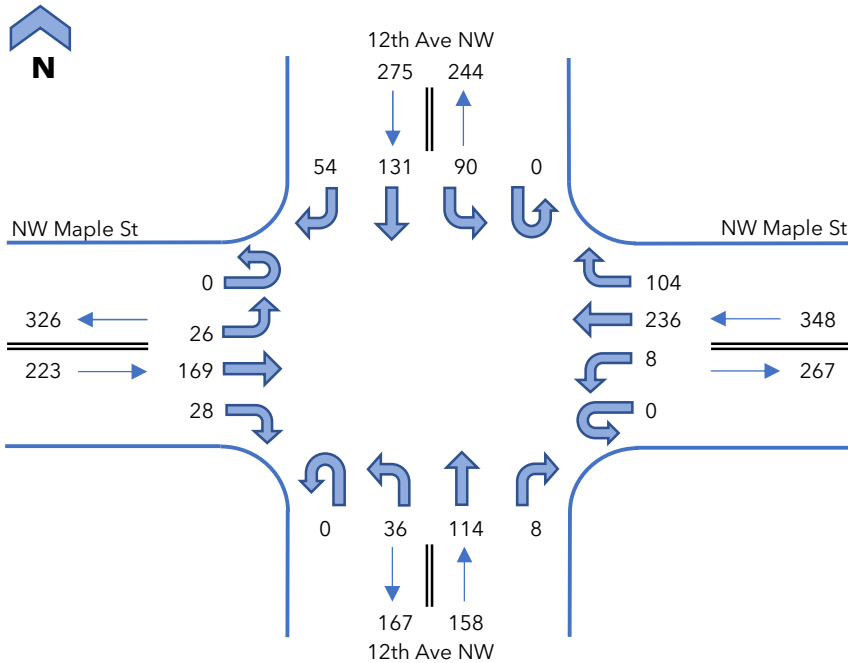
Interval Start Time	NW Maple St Eastbound				NW Maple St Westbound				North Driveway Northbound								15 Minute Totals	Hourly Totals
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT						
4:00 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	
4:15 PM	0	--	0	1	0	0	0	--	0	0	--	2	--	--	--	--	3	
4:30 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	
4:45 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	3
5:00 PM	0	--	0	1	0	0	0	--	0	2	--	0	--	--	--	--	3	6
5:15 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	3
5:30 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	3
5:45 PM	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	3
Count Total	0	--	0	2	0	0	0	--	0	2	--	2	--	--	--	--	6	--
Peak Hour Total	0	--	0	2	0	0	0	--	0	2	--	2	--	--	--	--	6	--
PHF	0.50				#DIV/0!				0.50				--				0.50	--
Heavy Vehicles	0	--	0	0	0	0	0	--	0	0	--	0	--	--	--	--	0	--
HV %	0.0%	--	0.0%	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	--	0.0%	--	--	--	--	0.0%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	0	0	0	--	0
4:15 PM	0	0	0	--	0
4:30 PM	0	0	0	--	0
4:45 PM	0	0	0	--	0
5:00 PM	0	0	0	--	0
5:15 PM	0	0	0	--	0
5:30 PM	0	0	0	--	0
5:45 PM	0	0	0	--	0
Count Total	0	0	0	--	0
Peak Hour Total	0	0	0	--	0
Peak Hour HV%	0.0%	0.0%	0.0%	--	0.0%

Pedestrians (Leg)					
E	W	N	S	Total	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	1	1	
0	1	0	6	7	
0	0	0	1	1	
0	0	0	2	2	
0	0	0	0	0	
0	0	0	1	1	
0	1	0	12	13	
0	1	0	9	10	

Bicycles (Leg)					
E	W	N	S	Total	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	1	1	
0	0	0	1	1	

NW Maple St & 12th Ave NW



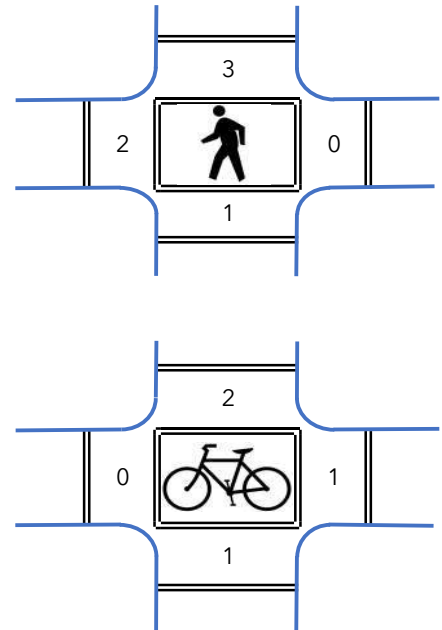
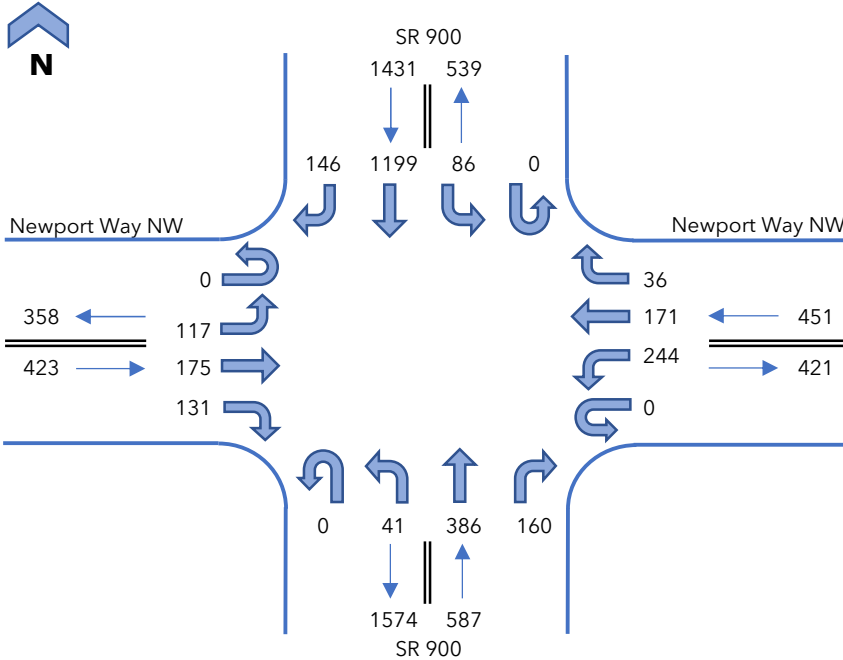
Interval Start Time	NW Maple St Eastbound				NW Maple St Westbound				12th Ave NW Northbound				12th Ave NW Southbound				15 Minute Totals	Hourly Totals
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	8	50	10	0	2	74	27	0	8	25	2	0	29	37	6	278	1004
4:15 PM	0	5	43	3	0	4	48	28	0	9	30	2	0	20	46	16	254	
4:30 PM	0	8	36	7	0	1	69	20	0	7	29	3	0	24	20	17	241	
4:45 PM	0	5	40	8	0	1	45	29	0	12	30	1	0	17	28	15	231	
5:00 PM	0	7	35	6	0	2	53	27	0	7	19	0	0	31	33	17	237	
5:15 PM	0	7	42	7	0	2	55	27	0	6	34	2	0	23	42	10	257	
5:30 PM	0	7	42	3	0	4	40	19	0	3	23	3	0	26	32	13	215	
5:45 PM	0	4	32	2	0	1	37	18	0	5	26	1	0	24	32	17	199	
Count Total	0	51	320	46	0	17	421	195	0	57	216	14	0	194	270	111	1912	--
Peak Hour Total	0	26	169	28	0	8	236	104	0	36	114	8	0	90	131	54	1004	--
PHF	0.82				0.84				0.92				0.84				0.90	--
Heavy Vehicles	0	1	6	0	0	0	6	1	0	0	0	1	0	1	1	0	17	--
HV %	0.0%	3.8%	3.6%	0.0%	0.0%	0.0%	2.5%	1.0%	0.0%	0.0%	0.0%	12.5%	0.0%	1.1%	0.8%	0.0%	1.7%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	4	5	0	1	10
4:15 PM	1	1	1	0	3
4:30 PM	1	1	0	1	3
4:45 PM	1	0	0	0	1
5:00 PM	3	2	0	0	5
5:15 PM	1	0	0	2	3
5:30 PM	2	2	0	0	4
5:45 PM	3	0	0	0	3
Count Total	16	11	1	4	32
Peak Hour Total	7	7	1	2	17
Peak Hour HV%	3.1%	2.0%	0.6%	0.7%	1.7%

Pedestrians (Leg)				
E	W	N	S	Total
0	0	2	1	3
1	0	1	0	2
0	0	3	1	4
0	2	4	1	7
1	1	1	1	4
3	0	2	2	7
0	0	0	0	0
1	0	3	1	5
6	3	16	7	32
1	2	10	3	16

Bicycles (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	2	4
0	0	0	0	0
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
0	2	2	2	6
0	2	0	2	4

Newport Way NW & SR 900



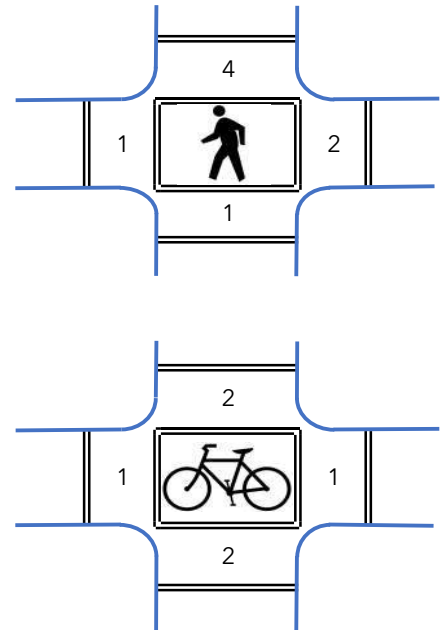
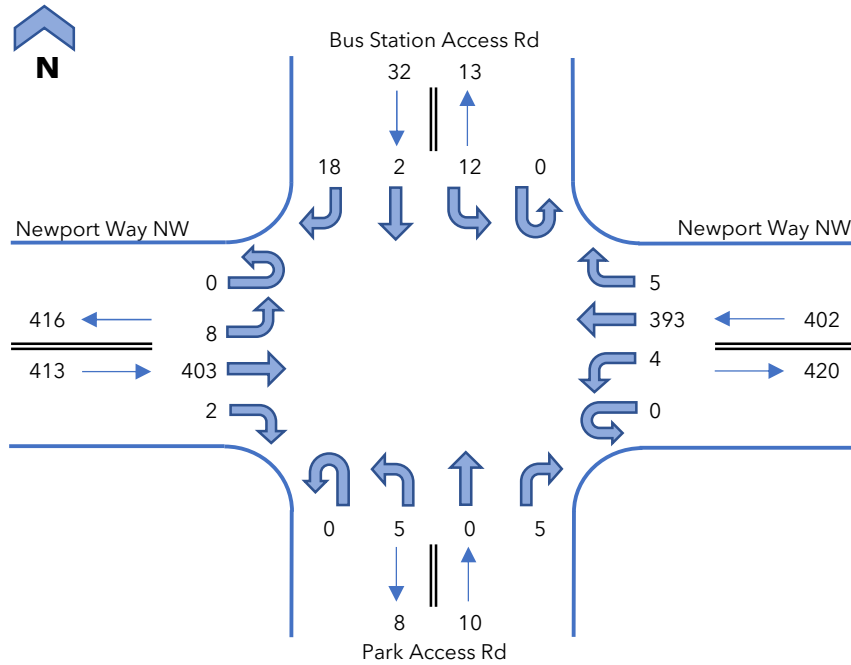
Interval Start Time	Newport Way NW				Newport Way NW				SR 900				SR 900				15 Minute Totals	Hourly Totals
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	26	54	36	0	61	35	10	0	6	88	29	0	19	360	35	759	2893
4:15 PM	0	31	47	33	0	71	41	3	0	9	97	47	1	22	260	32	694	
4:30 PM	0	27	38	35	0	59	39	9	0	14	94	37	0	25	310	40	727	
4:45 PM	0	33	36	27	0	53	56	14	0	12	107	47	0	20	269	39	713	
5:00 PM	0	21	44	36	0	47	37	11	0	8	97	38	0	19	291	44	693	
5:15 PM	0	20	42	27	0	60	32	4	0	9	82	44	0	31	288	46	685	
5:30 PM	0	21	46	23	0	68	40	14	0	4	117	46	0	16	236	32	663	
5:45 PM	0	17	36	23	0	43	45	8	0	12	80	27	0	27	280	39	637	
Count Total	0	196	343	240	0	462	325	73	0	74	762	315	1	179	2294	307	5571	--
Peak Hour Total	0	117	175	131	0	244	171	36	0	41	386	160	1	86	1199	146	2893	--
PHF	0.91				0.92				0.88				0.86				0.95	--
Heavy Vehicles	0	2	7	3	0	1	3	2	0	1	12	9	0	0	25	5	70	--
HV %	0.0%	1.7%	4.0%	2.3%	0.0%	0.4%	1.8%	5.6%	0.0%	2.4%	3.1%	5.6%	0.0%	0.0%	2.1%	3.4%	2.4%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	4	1	4	17	26
4:15 PM	5	2	6	6	19
4:30 PM	1	3	10	2	16
4:45 PM	2	0	2	5	9
5:00 PM	1	0	2	5	8
5:15 PM	1	0	2	1	4
5:30 PM	2	0	1	5	8
5:45 PM	0	0	0	4	4
Count Total	16	6	27	45	94
Peak Hour Total	12	6	22	30	70
Peak Hour HV%	2.8%	1.3%	3.7%	2.1%	2.4%

Pedestrians (Leg)				
E	W	N	S	Total
0	0	1	0	1
0	0	1	0	1
0	1	0	0	1
0	1	1	1	3
0	1	2	0	3
0	1	0	0	1
0	0	2	0	2
0	0	0	0	0
0	4	7	1	12
0	2	3	1	6

Bicycles (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	2	0	2
0	0	0	0	0
1	0	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	2	1	4
1	0	2	1	4

Newport Way NW & Access Roads



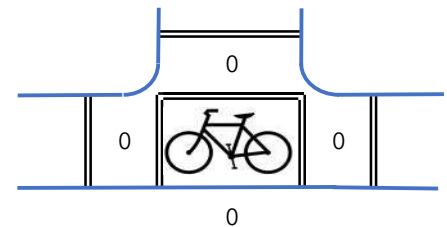
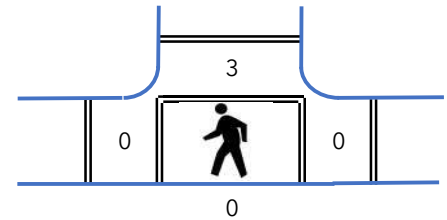
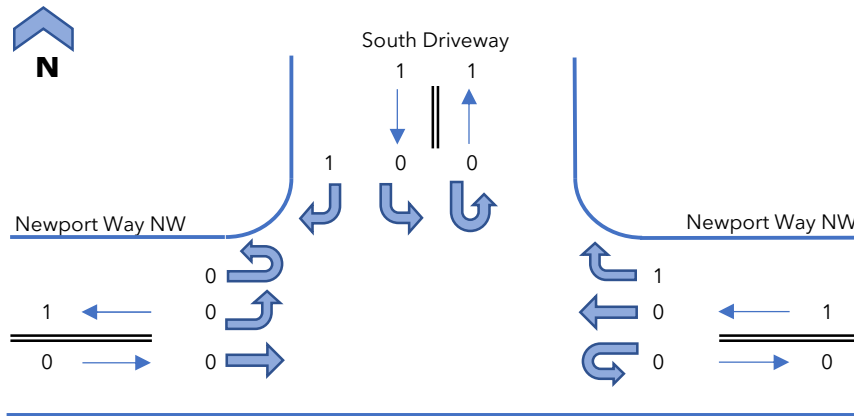
Interval Start Time	Newport Way NW				Newport Way NW				Park Access Rd				Bus Station Access Rd				15 Minute Totals	Hourly Totals
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	3	87	0	0	0	105	1	0	0	0	2	0	3	0	5	206	857
4:15 PM	0	3	111	1	0	3	94	0	0	2	0	0	0	1	1	3	219	
4:30 PM	0	0	105	0	0	0	100	2	0	2	0	0	0	2	0	4	215	
4:45 PM	0	2	100	1	0	1	94	2	0	1	0	3	0	6	1	6	217	
5:00 PM	0	1	103	0	0	1	88	1	0	0	1	1	0	1	0	2	199	
5:15 PM	0	2	109	0	0	2	92	0	0	0	0	2	0	5	0	3	215	
5:30 PM	0	1	105	1	0	0	99	1	0	1	1	0	0	2	0	1	212	
5:45 PM	0	4	85	3	0	1	89	0	0	1	0	3	0	4	0	4	194	
Count Total	0	16	805	6	0	8	761	7	0	7	2	11	0	24	2	28	1677	--
Peak Hour Total	0	8	403	2	0	4	393	5	0	5	0	5	0	12	2	18	857	--
PHF	0.90				0.95				0.63				0.62				0.98	--
Heavy Vehicles	0	1	15	0	0	0	5	0	0	0	0	1	0	1	0	2	25	--
HV %	0.0%	12.5%	3.7%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	8.3%	0.0%	11.1%	2.9%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	2	0	1	2	5
4:15 PM	7	2	0	0	9
4:30 PM	5	3	0	1	9
4:45 PM	2	0	0	0	2
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	2	0	0	0	2
5:45 PM	1	0	0	0	1
Count Total	20	5	1	3	29
Peak Hour Total	16	5	1	3	25
Peak Hour HV%	3.9%	1.2%	10.0%	9.4%	2.9%

Pedestrians (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	0	0	0
0	0	1	1	2
2	1	3	0	6
0	1	0	0	1
0	1	0	0	1
0	3	0	0	3
0	0	0	0	0
2	6	4	1	13
2	1	4	1	8

Bicycles (Leg)				
E	W	N	S	Total
1	0	1	0	2
0	0	1	0	1
0	0	0	1	1
0	1	0	1	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	2	2	6
1	1	2	2	6

Newport Way NW & South Driveway



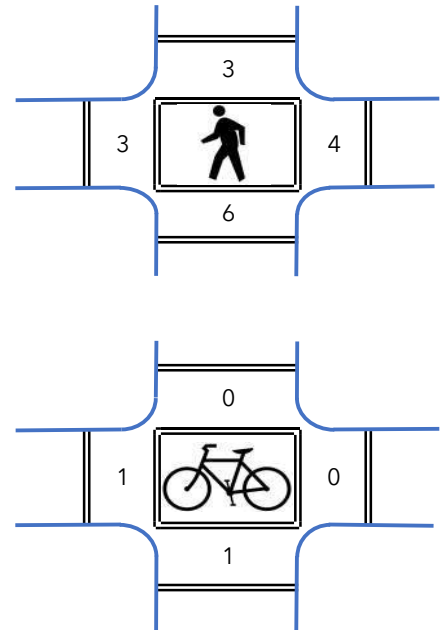
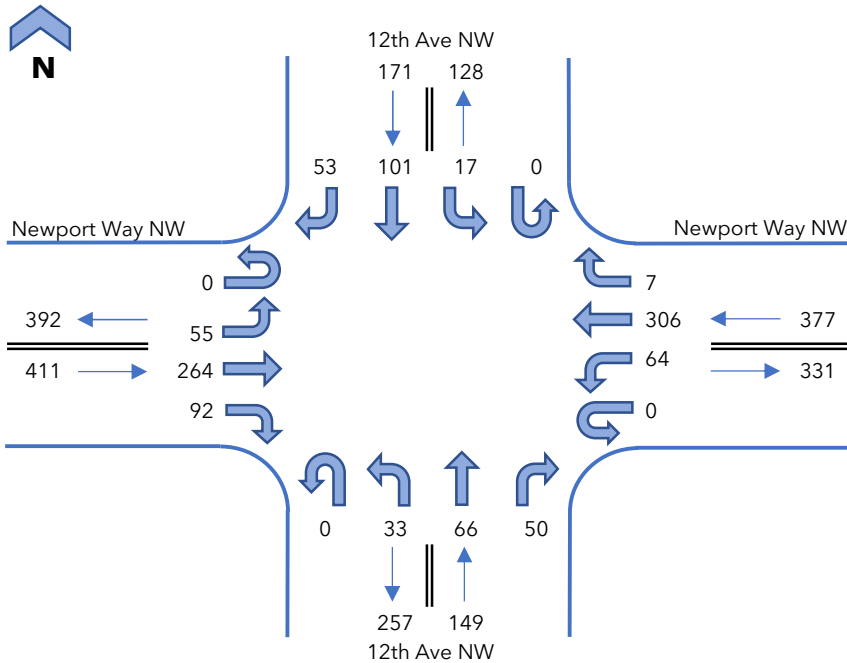
Interval Start Time	Newport Way NW Eastbound				Newport Way NW Westbound				South Driveway Southbound				15 Minute Totals	Hourly Totals
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	0	0	--	0	--	0	1	0	0	--	0	1	
4:15 PM	0	0	0	--	0	--	0	0	0	0	--	0	0	
4:30 PM	0	0	0	--	0	--	0	0	0	0	--	1	1	
4:45 PM	0	0	0	--	0	--	0	0	0	0	--	0	0	2
5:00 PM	0	0	0	--	0	--	0	0	0	0	--	0	0	1
5:15 PM	0	0	0	--	0	--	0	1	0	0	--	0	1	2
5:30 PM	0	0	0	--	0	--	0	0	0	0	--	1	1	2
5:45 PM	0	0	0	--	0	--	0	0	0	0	--	0	0	2
Count Total	0	0	0	--	0	--	0	2	0	0	--	2	4	--
Peak Hour Total	0	0	0	--	0	--	0	1	0	0	--	1	2	--
PHF	#DIV/0!				0.25				0.25				0.50	--
Heavy Vehicles	0	0	0	--	0	--	0	0	0	0	--	0	0	--
HV %	0.0%	0.0%	0.0%	--	0.0%	--	0.0%	0.0%	0.0%	0.0%	--	0.0%	0.0%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	0	0	--	0	0
4:15 PM	0	0	--	0	0
4:30 PM	0	0	--	0	0
4:45 PM	0	0	--	0	0
5:00 PM	0	0	--	0	0
5:15 PM	0	0	--	0	0
5:30 PM	0	0	--	0	0
5:45 PM	0	0	--	0	0
Count Total	0	0	--	0	0
Peak Hour Total	0	0	--	0	0
Peak Hour HV%	0.0%	0.0%	--	0.0%	0.0%

Interval Start Time	Pedestrians (Leg)				
	E	W	N	S	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	2	0	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
Count Total	0	0	3	0	3
Peak Hour Total	0	0	3	0	3

Interval Start Time	Bicycles (Leg)				
	E	W	N	S	Total
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
Count Total	0	0	0	0	0
Peak Hour Total	0	0	0	0	0

Newport Way NW & 12th Ave NW



Interval Start Time	Newport Way NW				Newport Way NW				12th Ave NW				12th Ave NW				15 Minute Totals	Hourly Totals
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT	UT	LT	T	RT		
4:00 PM	0	13	60	20	0	11	94	4	0	6	10	7	0	6	38	10	279	1108
4:15 PM	0	16	72	22	0	14	68	1	0	5	17	17	0	3	32	18	285	
4:30 PM	0	13	71	26	0	23	81	2	0	8	15	17	0	2	13	12	283	
4:45 PM	0	13	61	24	0	16	63	0	0	14	24	9	0	6	18	13	261	
5:00 PM	0	12	73	21	0	16	59	1	0	10	12	15	0	6	23	13	261	
5:15 PM	0	11	70	27	0	21	77	2	0	3	20	11	0	4	30	14	290	
5:30 PM	0	14	60	26	0	15	82	4	0	10	12	5	0	2	26	8	264	
5:45 PM	0	13	61	27	0	14	72	1	0	5	17	6	0	3	18	11	248	
Count Total	0	105	528	193	0	130	596	15	0	61	127	87	0	32	198	99	2171	--
Peak Hour Total	0	55	264	92	0	64	306	7	0	33	66	50	0	17	101	53	1108	--
PHF	0.93				0.86				0.79				0.79				0.97	--
Heavy Vehicles	0	0	20	2	0	0	5	0	0	0	1	1	0	0	2	1	32	--
HV %	0.0%	0.0%	7.6%	2.2%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	1.5%	2.0%	0.0%	0.0%	2.0%	1.9%	2.9%	--

Interval Start Time	Heavy Vehicles				
	EB	WB	NB	SB	Total
4:00 PM	4	0	0	1	5
4:15 PM	8	2	1	0	11
4:30 PM	7	3	1	2	13
4:45 PM	3	0	0	0	3
5:00 PM	1	0	0	0	1
5:15 PM	1	0	0	0	1
5:30 PM	2	0	0	1	3
5:45 PM	3	1	0	0	4
Count Total	29	6	2	4	41
Peak Hour Total	22	5	2	3	32
Peak Hour HV%	5.4%	1.3%	1.3%	1.8%	2.9%

Pedestrians (Leg)				
E	W	N	S	Total
1	0	0	0	1
2	1	1	2	6
0	0	0	0	0
1	2	2	4	9
0	2	2	3	7
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
4	5	5	10	24
4	3	3	6	16

Bicycles (Leg)				
E	W	N	S	Total
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	1	3
0	1	0	1	2

General Light Industrial (110)

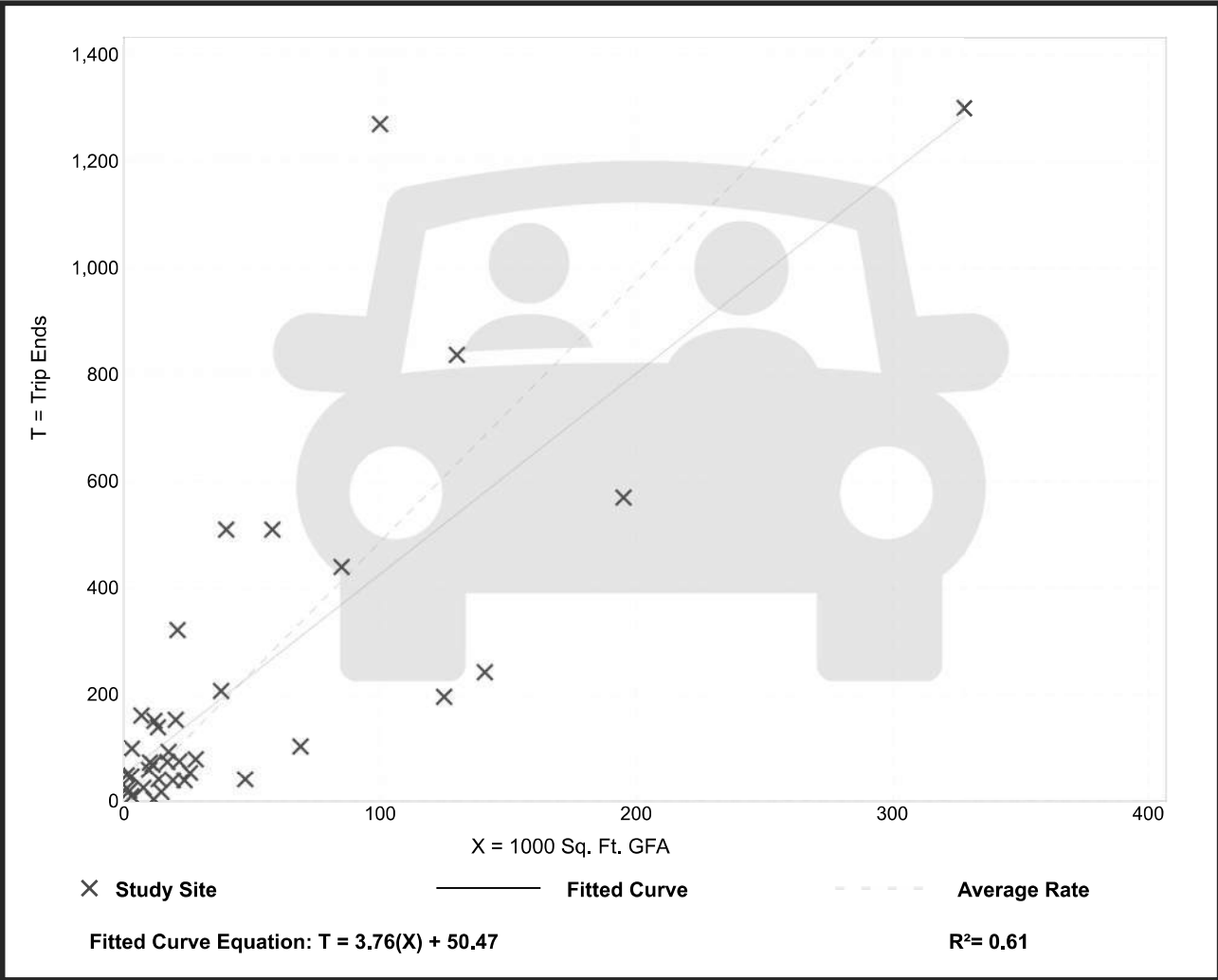
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 37
Avg. 1000 Sq. Ft. GFA: 45
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.87	0.34 - 43.86	4.08

Data Plot and Equation



General Light Industrial

(110)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 41

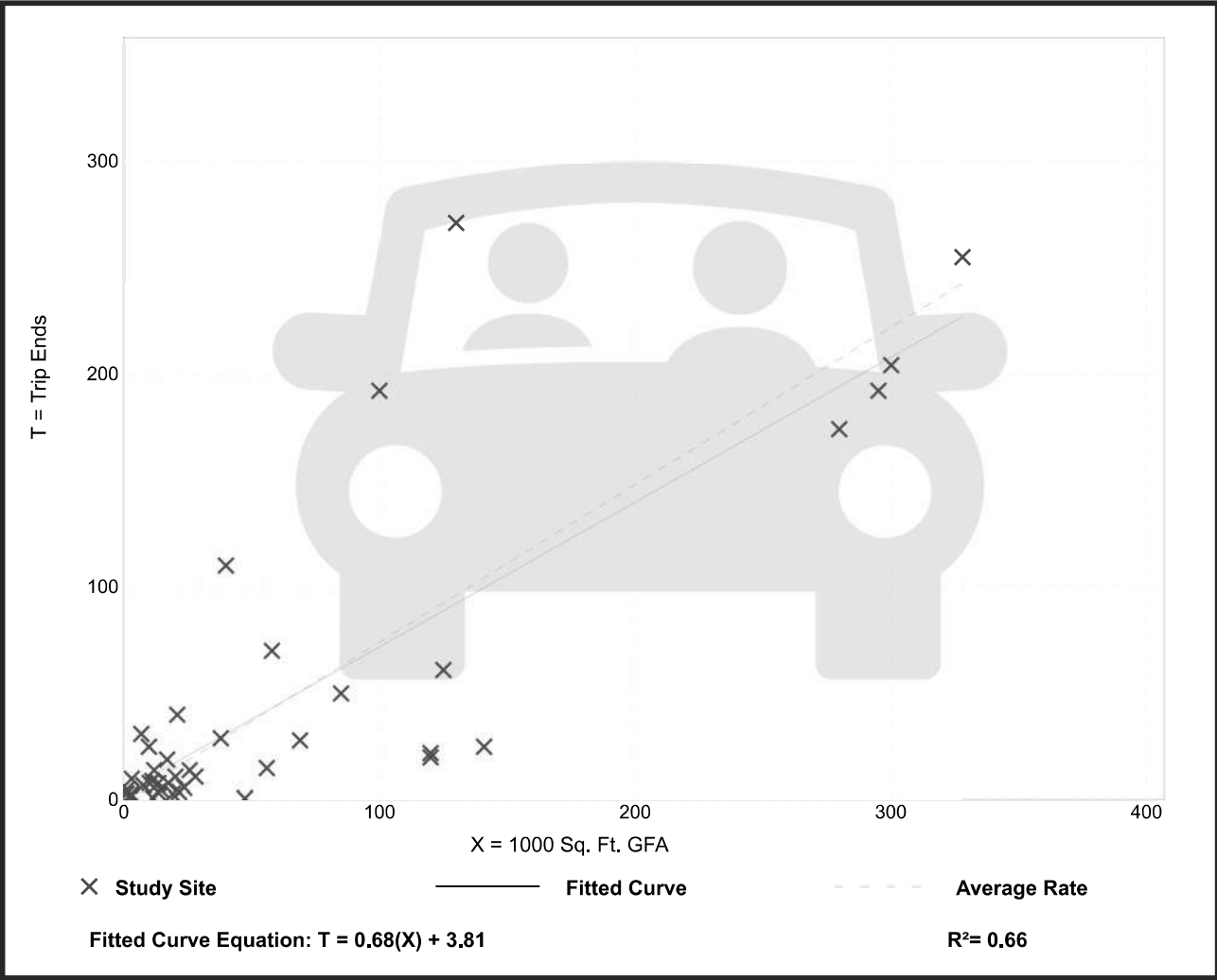
Avg. 1000 Sq. Ft. GFA: 65

Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.02 - 4.46	0.61

Data Plot and Equation



General Light Industrial (110)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 40

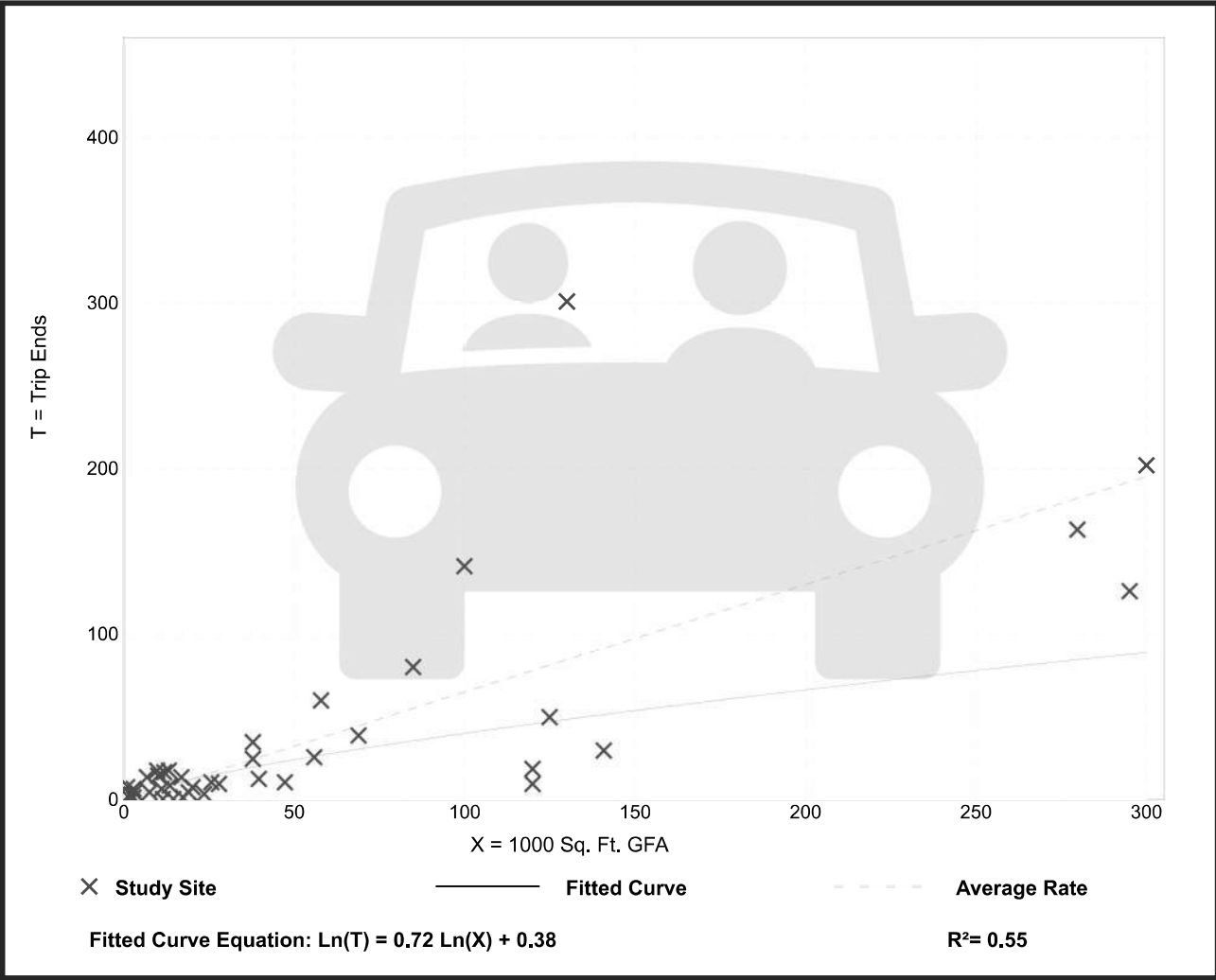
Avg. 1000 Sq. Ft. GFA: 58

Directional Distribution: 14% entering, 86% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.65	0.07 - 7.02	0.56

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

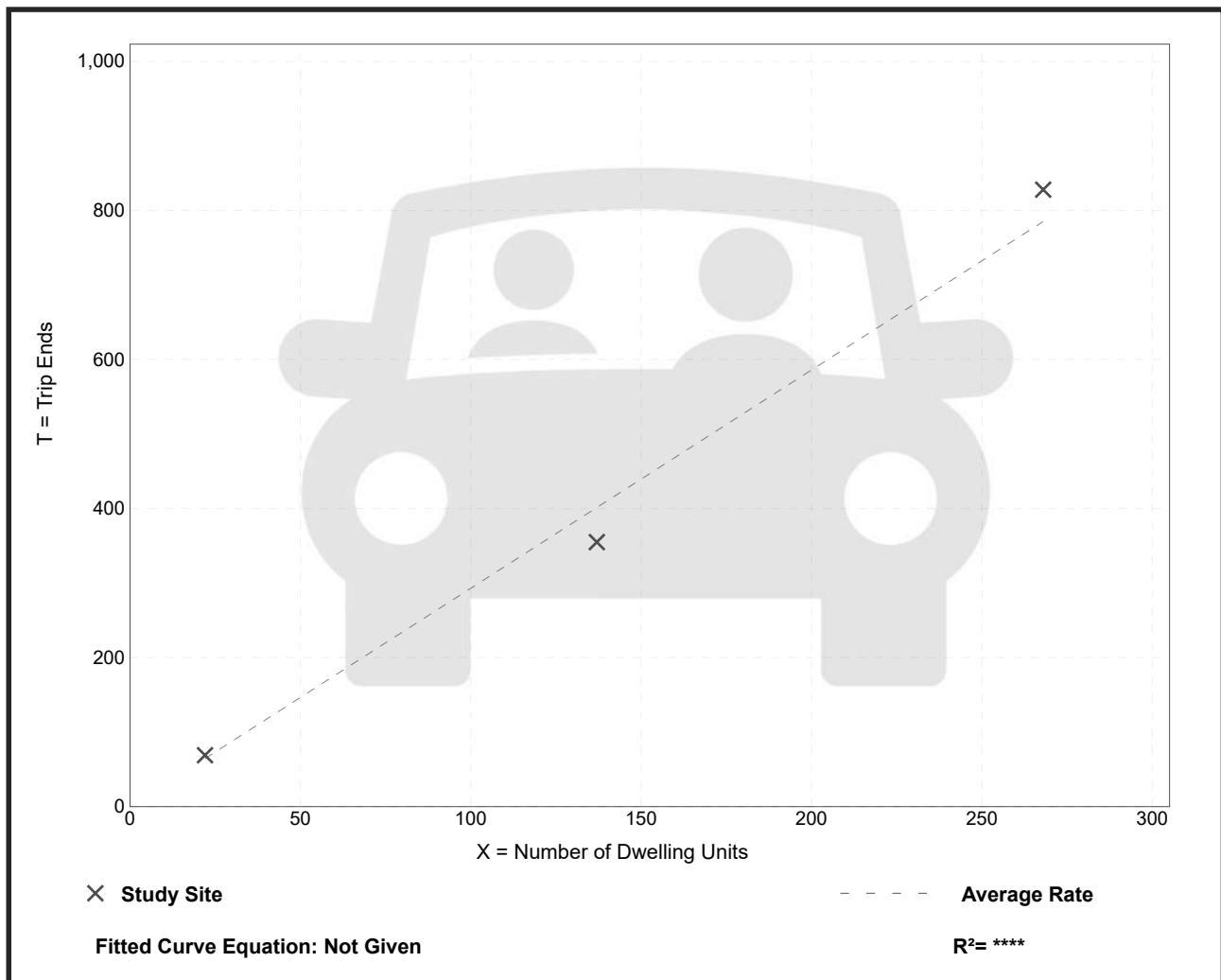
Setting/Location: Dense Multi-Use Urban
Number of Studies: 3
Avg. Num. of Dwelling Units: 142
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
2.93	2.59 - 3.14	0.29

Data Plot and Equation

Caution – Small Sample Size



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: Dense Multi-Use Urban

Number of Studies: 15

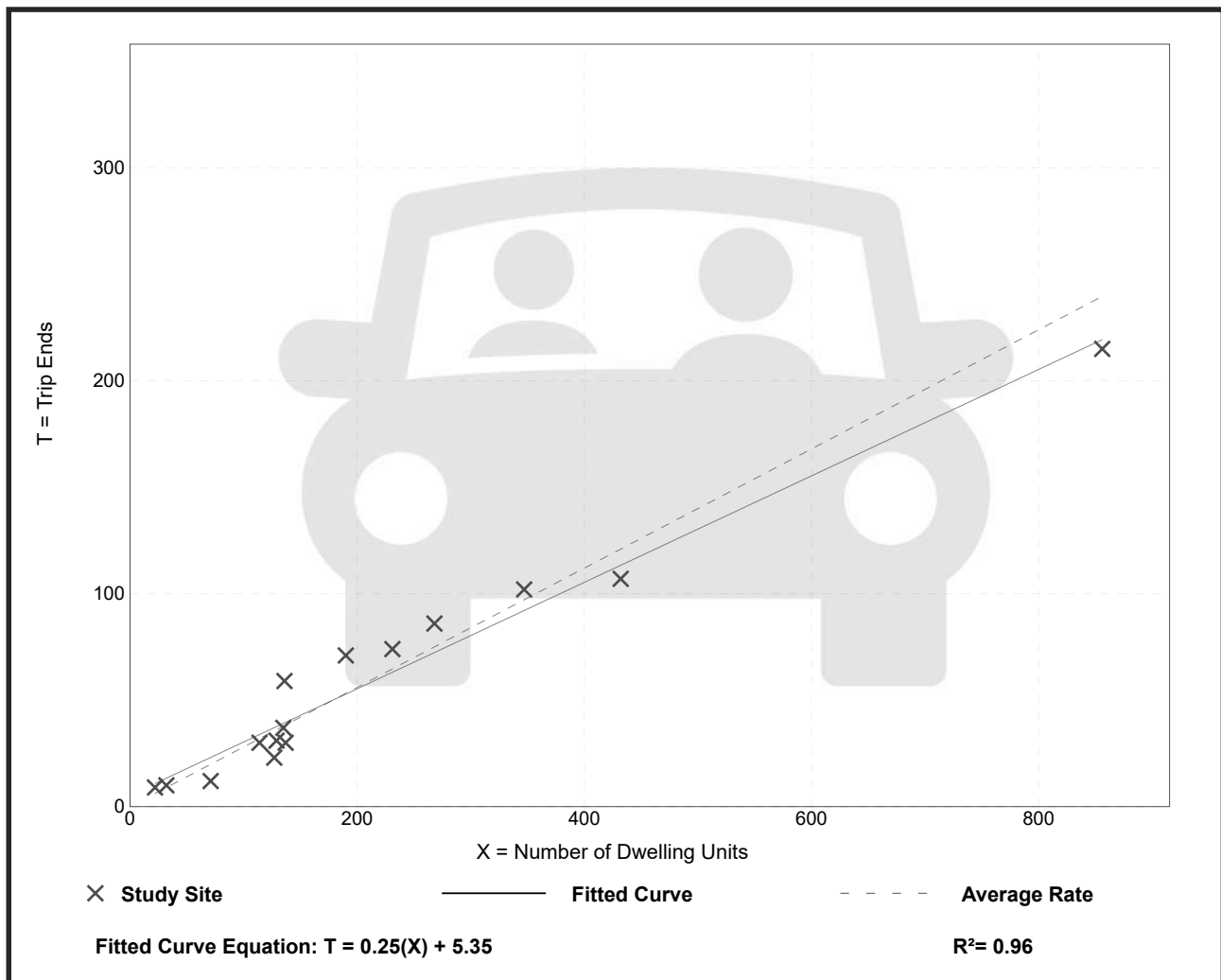
Avg. Num. of Dwelling Units: 215

Directional Distribution: 14% entering, 86% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.28	0.17 - 0.43	0.06

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: Dense Multi-Use Urban

Number of Studies: 13

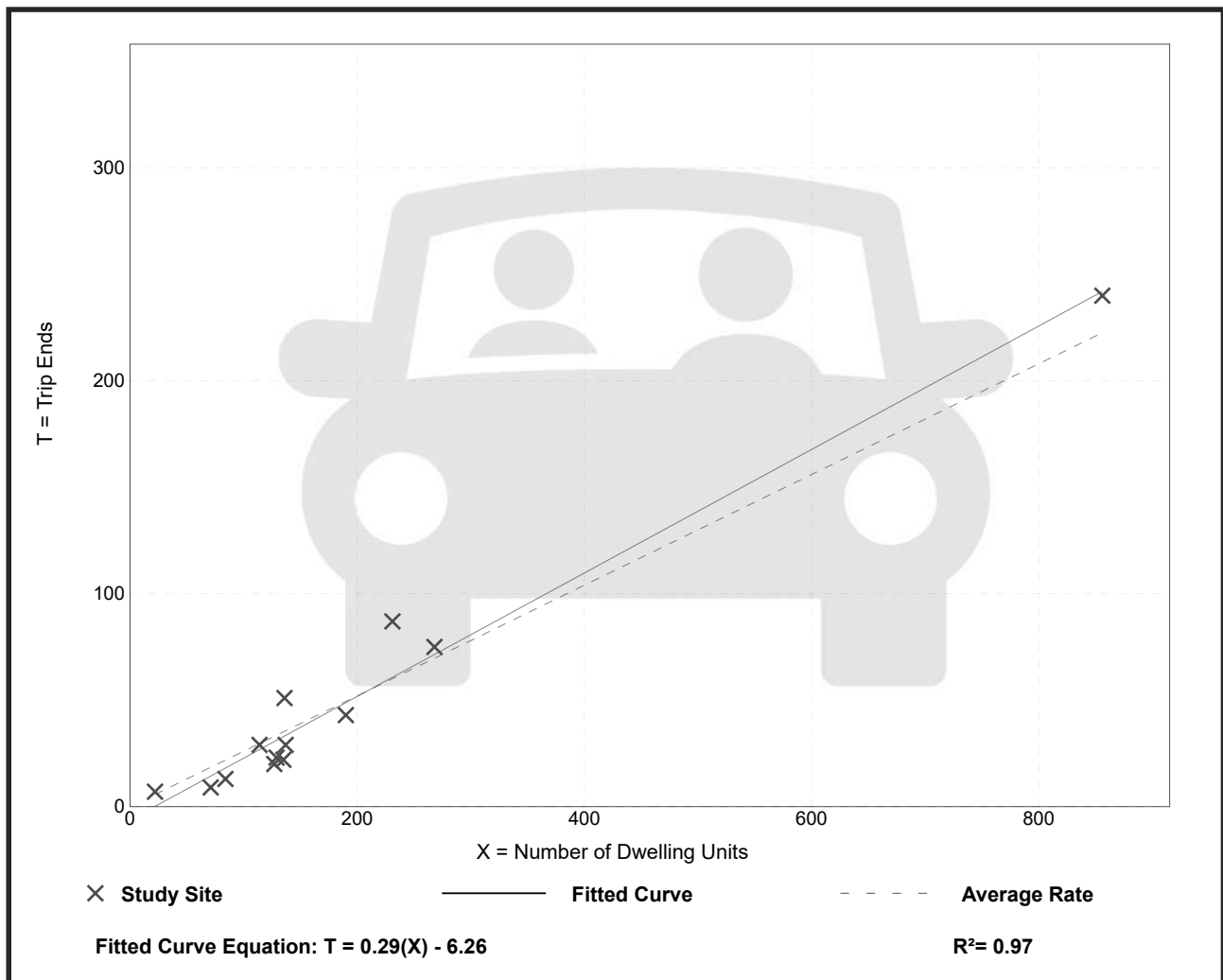
Avg. Num. of Dwelling Units: 192

Directional Distribution: 74% entering, 26% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.26	0.13 - 0.38	0.07

Data Plot and Equation



PM Peak Hour Forecast Intersection Volumes

Annual Growth Rate: 2 %
of Years to Horizon: 3

2028

1. SR 900 & Maple St

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	5	1341	234	224	5	140	36	497	2	14	9	21
Project Trips	0	17	17	6	0	3	7	6	0	0	0	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	5	1,423	248	238	5	149	38	527	2	15	10	22
With	5	1,440	265	244	5	152	45	533	2	15	10	22

2. Maple St & TC Road

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	20	0	6	13	323	8	17	4	39	13	214	36
Project Trips	0	0	0	0	9	0	0	0	0	0	24	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	21	0	6	14	343	8	18	4	41	14	227	38
With	21	0	6	14	352	8	18	4	41	14	251	38

3. Maple St & 13th Ave

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	0	0	0	0	342	0	2	0	2	2	235	0
Project Trips	0	0	0	0	8	4	0	0	9	24	0	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	0	0	0	0	363	0	2	0	2	2	249	0
With	0	0	0	0	363	8	6	0	11	26	249	0

4. Maple St & 12th Ave

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	54	131	90	104	236	8	8	114	36	28	169	26
Project Trips	4	5	0	0	4	0	0	1	0	0	2	2
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	57	139	96	110	250	8	8	121	38	30	179	28
With	61	144	96	110	254	8	8	122	38	30	181	30

5. SR 900 & Newport

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	146	1199	86	36	171	244	160	386	41	131	175	117
Project Trips	0	3	17	6	1	3	8	7	0	0	2	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	155	1,272	91	38	181	259	170	410	44	139	186	124
With	155	1,275	108	44	182	262	178	417	44	139	188	124

6. Newport & TC Road

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	18	2	12	5	393	4	5	0	5	2	403	8
Project Trips	0	0	0	0	10	0	0	0	0	0	27	0
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	19	2	13	5	417	4	5	0	5	2	428	8
With	19	2	13	5	427	4	5	0	5	2	455	8

7. Newport & 13th St

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	1	0	0	1	401	0	0	0	0	0	420	0
Project Trips	10	0	4	16	0	0	0	0	0	0	0	27
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	1	0	0	1	426	0	0	0	0	0	446	0
With	11	0	4	17	426	0	0	0	0	0	446	27

8. Newport & 12th Ave

	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL
Existing	53	101	17	7	306	64	50	66	33	92	264	55
Project Trips	5	0	0	0	11	0	0	0	0	0	3	1
Pipeline	0	0	0	0	0	0	0	0	0	0	0	0
Without	56	107	18	7	325	68	53	70	35	98	280	58
With	61	107	18	7	336	68	53	70	35	98	283	59

HCM 7th Signalized Intersection Summary 6: SR 900 & NW Maple St

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	9	14	140	5	224	2	497	36	234	1341	5
Future Volume (veh/h)	21	9	14	140	5	224	2	497	36	234	1341	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	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	1786	1786	1786	1758	1786	1786	1098	1730	1786	1772	1758	1786
Adj Flow Rate, veh/h	23	10	15	154	5	246	2	546	40	257	1474	5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	1	1	3	1	1	50	5	1	2	3	1
Cap, veh/h	168	74	93	352	406	333	3	1814	817	318	3190	11
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.00	0.18	0.18	0.10	0.65	0.65
Sat Flow, veh/h	571	327	408	1279	1786	1462	1046	3287	1481	3274	4937	17
Grp Volume(v), veh/h	48	0	0	154	5	246	2	546	40	257	955	524
Grp Sat Flow(s),veh/h/ln	1307	0	0	1279	1786	1462	1046	1643	1481	1637	1600	1754
Q Serve(g_s), s	1.4	0.0	0.0	10.1	0.3	21.9	0.3	20.1	3.1	10.8	21.1	21.1
Cycle Q Clear(g_c), s	3.5	0.0	0.0	13.7	0.3	21.9	0.3	20.1	3.1	10.8	21.1	21.1
Prop In Lane	0.48		0.31	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	335	0	0	352	406	333	3	1814	817	318	2068	1134
V/C Ratio(X)	0.14	0.00	0.00	0.44	0.01	0.74	0.72	0.30	0.05	0.81	0.46	0.46
Avail Cap(c_a), veh/h	433	0	0	449	542	444	56	1814	817	854	2068	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.99	0.99	0.99	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	0.0	46.7	41.9	50.2	69.9	33.9	26.9	61.9	12.5	12.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	4.4	140.3	0.4	0.1	4.9	0.7	1.4
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	1.4	0.0	0.0	4.8	0.1	8.4	0.2	9.0	1.1	4.6	7.3	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.2	0.0	0.0	47.6	41.9	54.7	210.2	34.2	27.0	66.8	13.2	13.8
LnGrp LOS	D			D	D	D	F	C	C	E	B	B
Approach Vol, veh/h	48			405			588			1736		
Approach Delay, s/veh	43.2			51.8			34.4			21.3		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.1	83.6		37.3	5.9	96.8		37.3				
Change Period (Y+Rc), s	5.5	6.3		5.5	5.5	6.3		5.5				
Max Green Setting (Gmax), s	36.5	43.7		42.5	7.5	72.7		42.5				
Max Q Clear Time (g_c+I1), s	12.8	22.1		5.5	2.3	23.1		23.9				
Green Ext Time (p_c), s	0.8	3.5		0.3	0.0	13.6		1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	28.9											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 7th Signalized Intersection Summary
14: Transit Center Access/Driveway & NW Maple St

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	214	13	8	323	13	39	4	17	6	0	20
Future Volume (veh/h)	36	214	13	8	323	13	39	4	17	6	0	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.97		0.94	0.95		0.96	0.97		0.93
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	1870	1678	1885	1870	1885	1856	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	41	243	15	9	367	15	44	5	19	7	0	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	2	15	1	2	1	3	1	1	1	1	1
Cap, veh/h	485	1056	65	517	959	39	504	78	295	515	0	348
Arrive On Green	0.05	0.31	0.31	0.01	0.28	0.28	0.23	0.23	0.23	0.23	0.00	0.23
Sat Flow, veh/h	1795	3388	207	1795	3469	141	1314	332	1261	1359	0	1486
Grp Volume(v), veh/h	41	127	131	9	187	195	44	0	24	7	0	23
Grp Sat Flow(s),veh/h/ln	1795	1777	1818	1795	1777	1834	1314	0	1593	1359	0	1486
Q Serve(g_s), s	0.5	1.8	1.8	0.1	2.9	2.9	0.9	0.0	0.4	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.5	1.8	1.8	0.1	2.9	2.9	1.3	0.0	0.4	0.5	0.0	0.4
Prop In Lane	1.00		0.11	1.00		0.08	1.00		0.79	1.00		1.00
Lane Grp Cap(c), veh/h	485	554	567	517	491	507	504	0	373	515	0	348
V/C Ratio(X)	0.08	0.23	0.23	0.02	0.38	0.38	0.09	0.00	0.06	0.01	0.00	0.07
Avail Cap(c_a), veh/h	877	1100	1125	972	1100	1135	1164	0	1174	1198	0	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	8.7	8.7	8.6	9.9	9.9	10.6	0.0	10.1	10.3	0.0	10.1
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.5	0.5	0.0	0.9	0.9	0.2	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	8.8	8.8	8.6	10.3	10.3	10.6	0.0	10.1	10.3	0.0	10.1
LnGrp LOS	A	A	A	A	B	B	B		B	B		B
Approach Vol, veh/h	299			391			68			30		
Approach Delay, s/veh	8.7			10.3			10.5			10.2		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	14.4		12.9	5.4	15.6		12.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	21.0		25.0	9.0	21.0		25.0				
Max Q Clear Time (g_c+I1), s	2.5	4.9		3.3	2.1	3.8		2.5				
Green Ext Time (p_c), s	0.0	1.6		0.1	0.0	1.1		0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				9.7								
HCM 7th LOS				A								

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑		↑
Traffic Vol, veh/h	235	2	0	342	0	2
Future Vol, veh/h	235	2	0	342	0	2
Conflicting Peds, #/hr	0	10	10	0	10	10
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	255	2	0	372	0	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 149
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.32
Pot Cap-1 Maneuver	-	-	0 - 0 871
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 855
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.22
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	855	-	-	-
HCM Lane V/C Ratio	0.003	-	-	-
HCM Ctrl Dly (s/v)	9.2	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

HCM 7th Signalized Intersection Summary
10: 12th Ave NW & NW Maple St

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	169	28	8	236	104	36	114	8	90	131	54
Future Volume (veh/h)	26	169	28	8	236	104	36	114	8	90	131	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.98		0.94	0.98		0.96	0.98		0.96
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	1841	1841	1885	1885	1856	1885	1885	1885	1707	1885	1885	1885
Adj Flow Rate, veh/h	29	188	31	9	262	116	40	127	9	100	146	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	1	1	3	1	1	1	13	1	1	1
Cap, veh/h	348	730	118	412	523	223	393	324	23	470	281	116
Arrive On Green	0.03	0.24	0.24	0.01	0.22	0.22	0.04	0.19	0.19	0.08	0.22	0.22
Sat Flow, veh/h	1753	2987	481	1795	2357	1003	1795	1734	123	1795	1254	515
Grp Volume(v), veh/h	29	108	111	9	193	185	40	0	136	100	0	206
Grp Sat Flow(s),veh/h/ln	1753	1749	1719	1795	1763	1597	1795	0	1857	1795	0	1769
Q Serve(g_s), s	0.5	2.1	2.2	0.2	4.0	4.3	0.7	0.0	2.7	1.8	0.0	4.3
Cycle Q Clear(g_c), s	0.5	2.1	2.2	0.2	4.0	4.3	0.7	0.0	2.7	1.8	0.0	4.3
Prop In Lane	1.00		0.28	1.00		0.63	1.00		0.07	1.00		0.29
Lane Grp Cap(c), veh/h	348	427	420	412	391	355	393	0	347	470	0	397
V/C Ratio(X)	0.08	0.25	0.26	0.02	0.49	0.52	0.10	0.00	0.39	0.21	0.00	0.52
Avail Cap(c_a), veh/h	746	873	858	775	796	721	569	0	971	664	0	1009
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	12.8	12.8	12.4	14.3	14.4	12.8	0.0	15.0	12.0	0.0	14.3
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.4	0.4	0.0	0.0	0.3	0.1	0.0	0.4
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	0.7	0.7	0.1	1.4	1.3	0.3	0.0	1.0	0.6	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.1	12.9	13.0	12.4	14.7	14.8	12.9	0.0	15.3	12.1	0.0	14.7
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h	248				387				176		306	
Approach Delay, s/veh	12.8				14.7				14.7		13.9	
Approach LOS	B				B				B		B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	14.3	8.4	12.9	5.5	15.3	6.9	14.4				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	11.0	19.0	8.0	22.0	9.0	21.0	6.0	24.0				
Max Q Clear Time (g_c+I1), s	2.5	6.3	3.8	4.7	2.2	4.2	2.7	6.3				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.0	0.7	0.0	0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh			14.1									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary 3: SR 900 & Newport Way NW

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	175	131	244	171	36	41	386	160	86	1199	146
Future Volume (veh/h)	117	175	131	244	171	36	41	386	160	86	1199	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	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	1772	1744	1772	1786	1772	1716	1772	1758	1716	1786	1772	1758
Adj Flow Rate, veh/h	123	184	138	257	180	38	43	406	168	91	1262	154
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	4	2	1	2	6	2	3	6	1	2	3
Cap, veh/h	145	269	225	237	368	295	55	545	226	637	1721	740
Arrive On Green	0.09	0.15	0.15	0.14	0.21	0.21	0.03	0.16	0.16	0.12	0.17	0.17
Sat Flow, veh/h	1688	1744	1458	1701	1772	1418	1688	3340	1386	1701	3367	1447
Grp Volume(v), veh/h	123	184	138	257	180	38	43	406	168	91	1262	154
Grp Sat Flow(s),veh/h/ln	1688	1744	1458	1701	1772	1418	1688	1670	1386	1701	1683	1447
Q Serve(g_s), s	10.1	14.0	12.4	19.5	12.5	1.3	3.5	16.2	11.8	6.7	49.8	12.8
Cycle Q Clear(g_c), s	10.1	14.0	12.4	19.5	12.5	1.3	3.5	16.2	11.8	6.7	49.8	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	269	225	237	368	295	55	545	226	637	1721	740
V/C Ratio(X)	0.85	0.68	0.61	1.08	0.49	0.13	0.79	0.74	0.74	0.14	0.73	0.21
Avail Cap(c_a), veh/h	175	492	411	237	563	451	175	923	383	637	1721	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	63.1	56.0	55.3	60.3	48.9	8.0	67.3	55.8	29.9	41.3	49.1	33.8
Incr Delay (d2), s/veh	26.8	3.1	2.7	82.0	1.0	0.2	21.5	8.9	19.6	0.1	2.5	0.6
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	5.4	6.4	4.8	13.9	5.7	1.1	1.8	7.4	5.3	2.9	23.1	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	89.9	59.0	58.0	142.3	49.9	8.2	88.8	64.7	49.5	41.4	51.6	34.3
LnGrp LOS	F	E	E	F	D	A	F	E	D	D	D	C
Approach Vol, veh/h	445				475			617			1507	
Approach Delay, s/veh	67.2				96.5			62.3			49.2	
Approach LOS	E				F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.7	29.2	25.0	27.1	10.0	77.9	17.5	34.6				
Change Period (Y+Rc), s	6.3	* 6.3	5.5	5.5	5.5	6.3	5.5	5.5				
Max Green Setting (Gmax), s	19.5	* 39	19.5	39.5	14.5	43.7	14.5	44.5				
Max Q Clear Time (g_c+I1), s	8.7	18.2	21.5	16.0	5.5	51.8	12.1	14.5				
Green Ext Time (p_c), s	0.1	3.0	0.0	1.5	0.0	0.0	0.1	1.2				
Intersection Summary												
HCM 7th Control Delay, s/veh	61.9											
HCM 7th LOS	E											
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary
 13: Park Access/Transit Center Access & Newport Way NW

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	403	2	4	393	5	5	0	5	12	2	18
Future Volume (veh/h)	8	403	2	4	393	5	5	0	5	12	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	0.97		0.95	0.96		0.95
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	1707	1841	1885	1885	1885	1885	1885	1885	1604	1781	1885	1737
Adj Flow Rate, veh/h	8	411	2	4	401	5	5	0	5	12	2	18
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	13	4	1	1	1	1	1	1	20	8	1	11
Cap, veh/h	432	674	3	438	674	8	382	0	169	387	17	155
Arrive On Green	0.01	0.37	0.37	0.01	0.36	0.36	0.11	0.00	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1626	1830	9	1795	1857	23	1357	0	1525	1297	155	1399
Grp Volume(v), veh/h	8	0	413	4	0	406	5	0	5	12	0	20
Grp Sat Flow(s),veh/h/ln	1626	0	1839	1795	0	1880	1357	0	1525	1297	0	1555
Q Serve(g_s), s	0.1	0.0	5.3	0.0	0.0	5.1	0.1	0.0	0.1	0.2	0.0	0.3
Cycle Q Clear(g_c), s	0.1	0.0	5.3	0.0	0.0	5.1	0.4	0.0	0.1	0.3	0.0	0.3
Prop In Lane	1.00		0.00	1.00		0.01	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	432	0	678	438	0	683	382	0	169	387	0	172
V/C Ratio(X)	0.02	0.00	0.61	0.01	0.00	0.59	0.01	0.00	0.03	0.03	0.00	0.12
Avail Cap(c_a), veh/h	749	0	1389	798	0	1420	1257	0	1152	1223	0	1175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	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	7.5	6.3	0.0	7.5	11.9	0.0	11.5	11.7	0.0	11.7
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1
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	0.0	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.2	0.0	8.4	6.3	0.0	8.4	11.9	0.0	11.6	11.7	0.0	11.8
LnGrp LOS	A		A	A		A	B		B	B		B
Approach Vol, veh/h	421			410			10			32		
Approach Delay, s/veh	8.3			8.3			11.7			11.7		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	15.7		8.2	5.3	15.6		8.2				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	22.0		22.0	6.0	22.0		22.0				
Max Q Clear Time (g_c+I1), s	2.0	7.3		2.3	2.1	7.1		2.4				
Green Ext Time (p_c), s	0.0	2.2		0.1	0.0	2.2		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	8.5											
HCM 7th LOS	A											

HCM 7th TWSC
17: Newport Way NW & 13th Street

Existing PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	420	401	1	0	1
Future Vol, veh/h	0	420	401	1	0	1
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	0	457	436	1	0	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	437	0	-	0	893	436
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	457	-
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	1123	-	-	-	312	620
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1123	-	-	-	312	620
Mov Cap-2 Maneuver	-	-	-	-	312	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	638	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	0	0		10.82		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1123	-	-	-	620	
HCM Lane V/C Ratio	-	-	-	-	0.002	
HCM Ctrl Dly (s/v)	0	-	-	-	10.8	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM 7th Signalized Intersection Summary 9: 12th Ave NW & Newport Way NW

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	264	92	64	306	7	33	66	50	17	101	53
Future Volume (veh/h)	55	264	92	64	306	7	33	66	50	17	101	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.98		0.94	0.97		0.94
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	1781	1870	1885	1870	1885	1885	1870	1870	1885	1870	1870
Adj Flow Rate, veh/h	57	272	95	66	315	7	34	68	52	18	104	55
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	8	2	1	2	1	1	2	2	1	2	2
Cap, veh/h	487	399	140	435	596	13	366	219	167	397	258	136
Arrive On Green	0.06	0.32	0.32	0.07	0.33	0.33	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	1244	434	1795	1820	40	1208	956	731	1249	1125	595
Grp Volume(v), veh/h	57	0	367	66	0	322	34	0	120	18	0	159
Grp Sat Flow(s),veh/h/ln	1795	0	1678	1795	0	1861	1208	0	1686	1249	0	1721
Q Serve(g_s), s	0.8	0.0	7.4	0.9	0.0	5.5	1.0	0.0	2.3	0.5	0.0	3.1
Cycle Q Clear(g_c), s	0.8	0.0	7.4	0.9	0.0	5.5	4.0	0.0	2.3	2.8	0.0	3.1
Prop In Lane	1.00		0.26	1.00		0.02	1.00		0.43	1.00		0.35
Lane Grp Cap(c), veh/h	487	0	539	435	0	610	366	0	386	397	0	394
V/C Ratio(X)	0.12	0.00	0.68	0.15	0.00	0.53	0.09	0.00	0.31	0.05	0.00	0.40
Avail Cap(c_a), veh/h	749	0	989	823	0	1239	739	0	907	782	0	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	11.5	8.4	0.0	10.7	14.5	0.0	12.5	13.6	0.0	12.8
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.1	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.2
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	0.0	2.2	0.3	0.0	1.8	0.2	0.0	0.8	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.2	0.0	12.1	8.4	0.0	10.9	14.5	0.0	12.7	13.7	0.0	13.0
LnGrp LOS	A		B	A		B	B		B	B		B
Approach Vol, veh/h	424			388			154			177		
Approach Delay, s/veh	11.6			10.5			13.1			13.1		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	17.8		13.9	7.6	17.5		13.9				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	26.0		21.0	11.0	23.0		21.0				
Max Q Clear Time (g_c+I1), s	2.8	7.5		6.0	2.9	9.4		5.1				
Green Ext Time (p_c), s	0.0	1.2		0.4	0.0	1.3		0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				11.6								
HCM 7th LOS				B								

HCM 7th Signalized Intersection Summary 6: SR 900 & NW Maple St

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	10	15	149	5	238	2	527	38	248	1423	5
Future Volume (veh/h)	22	10	15	149	5	238	2	527	38	248	1423	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	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	1786	1786	1786	1758	1786	1786	1098	1730	1786	1772	1758	1786
Adj Flow Rate, veh/h	22	10	15	149	5	238	2	527	38	248	1423	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	3	1	1	50	5	1	2	3	1
Cap, veh/h	163	76	94	347	401	328	3	1833	826	308	3205	11
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.00	0.18	0.18	0.09	0.65	0.65
Sat Flow, veh/h	560	337	421	1279	1786	1461	1046	3287	1482	3274	4936	17
Grp Volume(v), veh/h	47	0	0	149	5	238	2	527	38	248	922	506
Grp Sat Flow(s),veh/h/ln	1318	0	0	1279	1786	1461	1046	1643	1482	1637	1600	1754
Q Serve(g_s), s	1.1	0.0	0.0	9.8	0.3	21.1	0.3	19.3	3.0	10.4	19.9	19.9
Cycle Q Clear(g_c), s	3.4	0.0	0.0	13.2	0.3	21.1	0.3	19.3	3.0	10.4	19.9	19.9
Prop In Lane	0.47		0.32	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	333	0	0	347	401	328	3	1833	826	308	2078	1139
V/C Ratio(X)	0.14	0.00	0.00	0.43	0.01	0.73	0.72	0.29	0.05	0.80	0.44	0.44
Avail Cap(c_a), veh/h	436	0	0	448	542	444	56	1833	826	854	2078	1139
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.99	0.99	0.99	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	0.0	0.0	46.9	42.2	50.3	69.9	33.1	26.5	62.1	12.1	12.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.8	0.0	3.8	140.3	0.3	0.1	4.9	0.7	1.3
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	1.3	0.0	0.0	4.6	0.1	8.1	0.2	8.6	1.0	4.5	6.9	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.6	0.0	0.0	47.8	42.2	54.1	210.2	33.5	26.5	67.0	12.8	13.3
LnGrp LOS	D			D	D	D	F	C	C	E	B	B
Approach Vol, veh/h	47		392				567			1676		
Approach Delay, s/veh	43.6		51.6				33.6			21.0		
Approach LOS	D		D				C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.7	84.4		36.9	5.9	97.2		36.9				
Change Period (Y+Rc), s	5.5	6.3		5.5	5.5	6.3		5.5				
Max Green Setting (Gmax), s	36.5	43.7		42.5	7.5	72.7		42.5				
Max Q Clear Time (g_c+I1), s	12.4	21.3		5.4	2.3	21.9		23.1				
Green Ext Time (p_c), s	0.8	3.4		0.3	0.0	12.9		1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	28.5											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 7th Signalized Intersection Summary
14: Transit Center Access/Driveway & NW Maple St

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	227	14	8	343	14	41	4	18	6	0	21
Future Volume (veh/h)	38	227	14	8	343	14	41	4	18	6	0	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.97		0.94	0.95		0.96	0.97		0.93
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	1870	1678	1885	1870	1885	1856	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	43	258	16	9	390	16	47	5	20	7	0	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	2	15	1	2	1	3	1	1	1	1	1
Cap, veh/h	476	1057	65	508	954	39	505	75	301	516	0	352
Arrive On Green	0.05	0.31	0.31	0.01	0.28	0.28	0.24	0.24	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1795	3386	208	1795	3469	142	1313	318	1273	1359	0	1487
Grp Volume(v), veh/h	43	134	140	9	199	207	47	0	25	7	0	24
Grp Sat Flow(s),veh/h/ln	1795	1777	1818	1795	1777	1834	1313	0	1591	1359	0	1487
Q Serve(g_s), s	0.6	1.9	2.0	0.1	3.1	3.1	1.0	0.0	0.4	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.6	1.9	2.0	0.1	3.1	3.1	1.4	0.0	0.4	0.6	0.0	0.4
Prop In Lane	1.00		0.11	1.00		0.08	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	476	555	567	508	489	504	505	0	377	516	0	352
V/C Ratio(X)	0.09	0.24	0.25	0.02	0.41	0.41	0.09	0.00	0.07	0.01	0.00	0.07
Avail Cap(c_a), veh/h	861	1093	1118	960	1093	1128	1156	0	1165	1189	0	1089
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	8.7	8.8	8.7	10.1	10.1	10.7	0.0	10.1	10.3	0.0	10.1
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.6	0.0	1.0	1.0	0.2	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.2	8.9	8.9	8.7	10.5	10.5	10.7	0.0	10.1	10.3	0.0	10.1
LnGrp LOS	A	A	A	A	B	B	B		B	B		B
Approach Vol, veh/h	317			415			72			31		
Approach Delay, s/veh	8.8			10.5			10.5			10.2		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	14.4		13.1	5.4	15.7		13.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	21.0		25.0	9.0	21.0		25.0				
Max Q Clear Time (g_c+l1), s	2.6	5.1		3.4	2.1	4.0		2.6				
Green Ext Time (p_c), s	0.0	1.7		0.1	0.0	1.1		0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				9.8								
HCM 7th LOS				A								

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	249	2	0	363	0	2
Future Vol, veh/h	249	2	0	363	0	2
Conflicting Peds, #/hr	0	10	10	0	10	10
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	271	2	0	395	0	2
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	156
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	861
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	845
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Ctrl Dly, s/v	0		0		9.27	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	845	-	-	-		
HCM Lane V/C Ratio	0.003	-	-	-		
HCM Ctrl Dly (s/v)	9.3	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0	-	-	-		

HCM 7th Signalized Intersection Summary 10: 12th Ave NW & NW Maple St

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	179	30	8	250	110	38	121	8	96	139	57
Future Volume (veh/h)	28	179	30	8	250	110	38	121	8	96	139	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.98		0.94	0.98		0.96	0.98		0.96
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	1841	1841	1885	1885	1856	1885	1885	1885	1707	1885	1885	1885
Adj Flow Rate, veh/h	31	199	33	9	278	122	42	134	9	107	154	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	1	1	3	1	1	1	13	1	1	1
Cap, veh/h	343	746	121	409	534	226	388	331	22	469	286	117
Arrive On Green	0.04	0.25	0.25	0.01	0.23	0.23	0.05	0.19	0.19	0.08	0.23	0.23
Sat Flow, veh/h	1753	2984	484	1795	2362	1000	1795	1741	117	1795	1256	514
Grp Volume(v), veh/h	31	115	117	9	205	195	42	0	143	107	0	217
Grp Sat Flow(s),veh/h/ln	1753	1749	1719	1795	1763	1599	1795	0	1858	1795	0	1770
Q Serve(g_s), s	0.6	2.3	2.4	0.2	4.4	4.6	0.8	0.0	2.9	2.0	0.0	4.6
Cycle Q Clear(g_c), s	0.6	2.3	2.4	0.2	4.4	4.6	0.8	0.0	2.9	2.0	0.0	4.6
Prop In Lane	1.00		0.28	1.00		0.63	1.00		0.06	1.00		0.29
Lane Grp Cap(c), veh/h	343	437	430	409	398	361	388	0	353	469	0	403
V/C Ratio(X)	0.09	0.26	0.27	0.02	0.51	0.54	0.11	0.00	0.41	0.23	0.00	0.54
Avail Cap(c_a), veh/h	728	853	838	763	778	705	556	0	949	652	0	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	13.0	13.0	12.6	14.6	14.7	13.0	0.0	15.3	12.2	0.0	14.6
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.4	0.5	0.0	0.0	0.3	0.1	0.0	0.4
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	0.8	0.8	0.1	1.5	1.5	0.3	0.0	1.1	0.7	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.2	13.1	13.1	12.6	15.0	15.2	13.0	0.0	15.6	12.3	0.0	15.0
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h	263				409				185		324	
Approach Delay, s/veh	13.0				15.0				15.0		14.1	
Approach LOS	B				B				B		B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	14.7	8.6	13.2	5.5	15.8	7.0	14.8				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	11.0	19.0	8.0	22.0	9.0	21.0	6.0	24.0				
Max Q Clear Time (g_c+I1), s	2.6	6.6	4.0	4.9	2.2	4.4	2.8	6.6				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	0.7	0.0	0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			14.3									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary

3: SR 900 & Newport Way NW

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	186	139	259	181	38	44	410	170	91	1272	155
Future Volume (veh/h)	124	186	139	259	181	38	44	410	170	91	1272	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	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	1772	1744	1772	1786	1772	1716	1772	1758	1716	1786	1772	1758
Adj Flow Rate, veh/h	124	186	139	259	181	38	44	410	170	91	1272	155
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	4	2	1	2	6	2	3	6	1	2	3
Cap, veh/h	146	271	226	237	369	295	56	549	228	634	1715	737
Arrive On Green	0.09	0.16	0.16	0.14	0.21	0.21	0.03	0.16	0.16	0.12	0.17	0.17
Sat Flow, veh/h	1688	1744	1458	1701	1772	1418	1688	3340	1386	1701	3367	1447
Grp Volume(v), veh/h	124	186	139	259	181	38	44	410	170	91	1272	155
Grp Sat Flow(s),veh/h/ln	1688	1744	1458	1701	1772	1418	1688	1670	1386	1701	1683	1447
Q Serve(g_s), s	10.1	14.1	12.5	19.5	12.6	1.3	3.6	16.4	12.0	6.7	50.3	12.9
Cycle Q Clear(g_c), s	10.1	14.1	12.5	19.5	12.6	1.3	3.6	16.4	12.0	6.7	50.3	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	271	226	237	369	295	56	549	228	634	1715	737
V/C Ratio(X)	0.85	0.69	0.61	1.09	0.49	0.13	0.79	0.75	0.75	0.14	0.74	0.21
Avail Cap(c_a), veh/h	175	492	411	237	563	451	175	923	383	634	1715	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	63.1	55.9	55.2	60.3	48.9	8.1	67.2	55.7	29.9	41.5	49.5	33.9
Incr Delay (d2), s/veh	27.1	3.1	2.7	84.7	1.0	0.2	21.1	9.0	19.8	0.1	2.6	0.6
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	5.5	6.5	4.8	14.1	5.8	1.1	1.9	7.5	5.3	2.9	23.3	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	90.2	59.0	57.9	145.0	49.9	8.3	88.3	64.7	49.7	41.5	52.1	34.5
LnGrp LOS	F	E	E	F	D	A	F	E	D	D	D	C
Approach Vol, veh/h	449			478			624			1518		
Approach Delay, s/veh	67.3			98.1			62.3			49.7		
Approach LOS	E			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.5	29.3	25.0	27.2	10.1	77.6	17.6	34.6				
Change Period (Y+Rc), s	6.3	* 6.3	5.5	5.5	5.5	6.3	5.5	5.5				
Max Green Setting (Gmax), s	19.5	* 39	19.5	39.5	14.5	43.7	14.5	44.5				
Max Q Clear Time (g_c+I1), s	8.7	18.4	21.5	16.1	5.6	52.3	12.1	14.6				
Green Ext Time (p_c), s	0.1	3.0	0.0	1.5	0.0	0.0	0.1	1.2				

Intersection Summary

HCM 7th Control Delay, s/veh	62.3
HCM 7th LOS	E

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 7th Signalized Intersection Summary
13: Park Access/Transit Center Access & Newport Way NW

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	428	2	4	417	5	5	0	5	13	2	19
Future Volume (veh/h)	8	428	2	4	417	5	5	0	5	13	2	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	0.97		0.95	0.97		0.95
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	1707	1841	1885	1885	1885	1885	1885	1885	1604	1781	1885	1737
Adj Flow Rate, veh/h	8	437	2	4	426	5	5	0	5	13	2	19
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	13	4	1	1	1	1	1	1	20	8	1	11
Cap, veh/h	414	673	3	418	673	8	384	0	173	390	17	159
Arrive On Green	0.01	0.37	0.37	0.01	0.36	0.36	0.11	0.00	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1626	1830	8	1795	1858	22	1356	0	1525	1298	148	1405
Grp Volume(v), veh/h	8	0	439	4	0	431	5	0	5	13	0	21
Grp Sat Flow(s),veh/h/ln	1626	0	1839	1795	0	1880	1356	0	1525	1298	0	1553
Q Serve(g_s), s	0.1	0.0	5.8	0.0	0.0	5.5	0.1	0.0	0.1	0.3	0.0	0.4
Cycle Q Clear(g_c), s	0.1	0.0	5.8	0.0	0.0	5.5	0.5	0.0	0.1	0.3	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.01	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	414	0	676	418	0	681	384	0	173	390	0	176
V/C Ratio(X)	0.02	0.00	0.65	0.01	0.00	0.63	0.01	0.00	0.03	0.03	0.00	0.12
Avail Cap(c_a), veh/h	731	0	1385	777	0	1417	1252	0	1149	1220	0	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.3	0.0	7.7	6.4	0.0	7.7	11.8	0.0	11.5	11.7	0.0	11.6
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.1
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	0.0	1.5	0.0	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.3	0.0	8.7	6.4	0.0	8.7	11.8	0.0	11.5	11.7	0.0	11.7
LnGrp LOS	A		A	A		A	B		B	B		B
Approach Vol, veh/h	447			435			10			34		
Approach Delay, s/veh	8.7			8.7			11.7			11.7		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	15.7		8.3	5.3	15.6		8.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	22.0		22.0	6.0	22.0		22.0				
Max Q Clear Time (g_c+I1), s	2.0	7.8		2.4	2.1	7.5		2.5				
Green Ext Time (p_c), s	0.0	2.3		0.1	0.0	2.3		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				8.8								
HCM 7th LOS				A								

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	446	426	1	0	1
Future Vol, veh/h	0	446	426	1	0	1
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	0	485	463	1	0	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	464	0	-	0	948	464
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	485	-
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	1097	-	-	-	289	598
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	619	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1097	-	-	-	289	598
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	619	-
Approach	EB	WB		SB		
HCM Ctrl Dly, s/v	0	0		11.03		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1097	-	-	-	598	
HCM Lane V/C Ratio	-	-	-	-	0.002	
HCM Ctrl Dly (s/v)	0	-	-	-	11	
HCM Lane LOS	A	-	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM 7th Signalized Intersection Summary 9: 12th Ave NW & Newport Way NW

Forecast 2028 PM Peak Hour
Without Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	280	98	68	325	7	35	70	53	18	107	56
Future Volume (veh/h)	58	280	98	68	325	7	35	70	53	18	107	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.98		0.94	0.97		0.94
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	1781	1870	1885	1870	1885	1885	1870	1870	1885	1870	1870
Adj Flow Rate, veh/h	60	289	101	70	335	7	36	72	55	19	110	58
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	8	2	1	2	1	1	2	2	1	2	2
Cap, veh/h	484	411	144	429	615	13	351	216	165	383	255	134
Arrive On Green	0.06	0.33	0.33	0.07	0.34	0.34	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	1244	435	1795	1823	38	1199	956	730	1241	1126	594
Grp Volume(v), veh/h	60	0	390	70	0	342	36	0	127	19	0	168
Grp Sat Flow(s),veh/h/ln	1795	0	1679	1795	0	1861	1199	0	1686	1241	0	1720
Q Serve(g_s), s	0.8	0.0	8.1	1.0	0.0	6.0	1.1	0.0	2.5	0.5	0.0	3.3
Cycle Q Clear(g_c), s	0.8	0.0	8.1	1.0	0.0	6.0	4.4	0.0	2.5	3.0	0.0	3.3
Prop In Lane	1.00		0.26	1.00		0.02	1.00		0.43	1.00		0.35
Lane Grp Cap(c), veh/h	484	0	555	429	0	628	351	0	381	383	0	389
V/C Ratio(X)	0.12	0.00	0.70	0.16	0.00	0.54	0.10	0.00	0.33	0.05	0.00	0.43
Avail Cap(c_a), veh/h	735	0	967	802	0	1212	710	0	887	755	0	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	11.7	8.4	0.0	10.7	15.1	0.0	12.9	14.2	0.0	13.2
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.1	0.0	0.3	0.0	0.0	0.2	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	0.0	2.4	0.3	0.0	1.9	0.3	0.0	0.8	0.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	0.0	12.3	8.5	0.0	11.0	15.2	0.0	13.1	14.2	0.0	13.5
LnGrp LOS	A		B	A		B	B		B	B		B
Approach Vol, veh/h	450			412			163			187		
Approach Delay, s/veh	11.7			10.6			13.6			13.6		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	18.5		14.0	7.7	18.2		14.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	8.0	26.0		21.0	11.0	23.0		21.0				
Max Q Clear Time (g_c+I1), s	2.8	8.0		6.4	3.0	10.1		5.3				
Green Ext Time (p_c), s	0.0	1.2		0.5	0.0	1.4		0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				11.9								
HCM 7th LOS				B								

HCM 7th Signalized Intersection Summary 6: SR 900 & NW Maple St

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	10	15	152	5	244	2	533	45	265	1440	5
Future Volume (veh/h)	22	10	15	152	5	244	2	533	45	265	1440	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	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	1786	1786	1786	1758	1786	1786	1098	1730	1786	1772	1758	1786
Adj Flow Rate, veh/h	22	10	15	152	5	244	2	533	45	265	1440	5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	3	1	1	50	5	1	2	3	1
Cap, veh/h	165	76	95	350	405	331	3	1808	815	326	3194	11
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.00	0.18	0.18	0.10	0.65	0.65
Sat Flow, veh/h	559	335	419	1279	1786	1462	1046	3287	1481	3274	4936	17
Grp Volume(v), veh/h	47	0	0	152	5	244	2	533	45	265	933	512
Grp Sat Flow(s),veh/h/ln	1314	0	0	1279	1786	1462	1046	1643	1481	1637	1600	1754
Q Serve(g_s), s	1.1	0.0	0.0	10.1	0.3	21.7	0.3	19.6	3.5	11.1	20.4	20.4
Cycle Q Clear(g_c), s	3.4	0.0	0.0	13.5	0.3	21.7	0.3	19.6	3.5	11.1	20.4	20.4
Prop In Lane	0.47		0.32	1.00		1.00	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	336	0	0	350	405	331	3	1808	815	326	2070	1135
V/C Ratio(X)	0.14	0.00	0.00	0.43	0.01	0.74	0.72	0.29	0.06	0.81	0.45	0.45
Avail Cap(c_a), veh/h	435	0	0	449	542	444	56	1808	815	854	2070	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.99	0.99	0.99	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	0.0	46.8	42.0	50.2	69.9	33.8	27.2	61.7	12.3	12.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.8	0.0	4.3	140.3	0.3	0.1	4.9	0.7	1.3
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	1.3	0.0	0.0	4.7	0.1	8.4	0.2	8.7	1.3	4.8	7.0	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	0.0	0.0	47.6	42.0	54.5	210.2	34.2	27.3	66.6	13.0	13.6
LnGrp LOS	D			D	D	D	F	C	C	E	B	B
Approach Vol, veh/h	47				401				580			
Approach Delay, s/veh	43.3				51.7				34.2			
Approach LOS	D				D				C			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.5	83.3		37.2	5.9	96.9		37.2				
Change Period (Y+Rc), s	5.5	6.3		5.5	5.5	6.3		5.5				
Max Green Setting (Gmax), s	36.5	43.7		42.5	7.5	72.7		42.5				
Max Q Clear Time (g_c+I1), s	13.1	21.6		5.4	2.3	22.4		23.7				
Green Ext Time (p_c), s	0.9	3.5		0.3	0.0	13.2		1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	29.0											
HCM 7th LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 7th Signalized Intersection Summary
14: Transit Center Access/Driveway & NW Maple St

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	251	14	8	352	14	41	4	18	6	0	21
Future Volume (veh/h)	38	251	14	8	352	14	41	4	18	6	0	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.97		0.94	0.95		0.96	0.97		0.93
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	1870	1678	1885	1870	1885	1856	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	43	285	16	9	400	16	47	5	20	7	0	24
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	2	15	1	2	1	3	1	1	1	1	1
Cap, veh/h	472	1065	59	496	956	38	505	75	301	516	0	352
Arrive On Green	0.05	0.31	0.31	0.01	0.28	0.28	0.24	0.24	0.24	0.24	0.00	0.24
Sat Flow, veh/h	1795	3409	190	1795	3473	138	1313	318	1273	1359	0	1487
Grp Volume(v), veh/h	43	148	153	9	204	212	47	0	25	7	0	24
Grp Sat Flow(s),veh/h/ln	1795	1777	1823	1795	1777	1835	1313	0	1591	1359	0	1487
Q Serve(g_s), s	0.6	2.1	2.2	0.1	3.2	3.2	1.0	0.0	0.4	0.1	0.0	0.4
Cycle Q Clear(g_c), s	0.6	2.1	2.2	0.1	3.2	3.2	1.4	0.0	0.4	0.6	0.0	0.4
Prop In Lane	1.00		0.10	1.00		0.08	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	472	555	569	496	489	505	505	0	377	516	0	352
V/C Ratio(X)	0.09	0.27	0.27	0.02	0.42	0.42	0.09	0.00	0.07	0.01	0.00	0.07
Avail Cap(c_a), veh/h	857	1092	1120	947	1092	1128	1155	0	1164	1188	0	1088
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	8.8	8.8	8.7	10.1	10.1	10.7	0.0	10.1	10.3	0.0	10.1
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.6	0.0	1.0	1.0	0.2	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.2	9.0	9.0	8.7	10.6	10.6	10.7	0.0	10.1	10.3	0.0	10.1
LnGrp LOS	A	A	A	A	B	B	B		B	B		B
Approach Vol, veh/h	344			425			72			31		
Approach Delay, s/veh	8.9			10.5			10.5			10.2		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	14.4		13.1	5.4	15.7		13.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	9.0	21.0		25.0	9.0	21.0		25.0				
Max Q Clear Time (g_c+I1), s	2.6	5.2		3.4	2.1	4.2		2.6				
Green Ext Time (p_c), s	0.0	1.8		0.1	0.0	1.3		0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				9.9								
HCM 7th LOS				A								

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	
Traffic Vol, veh/h	249	26	8	363	11	6
Future Vol, veh/h	249	26	8	363	11	6
Conflicting Peds, #/hr	0	10	10	0	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	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	271	28	9	395	12	7
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	309	0	519	169
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1248	-	486	845
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1237	-	474	829
Mov Cap-2 Maneuver	-	-	-	-	557	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	778	-
Approach	EB	WB		NB		
HCM Ctrl Dly, s/v	0	0.17		10.88		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	630	-	-	1237	-	
HCM Lane V/C Ratio	0.029	-	-	0.007	-	
HCM Ctrl Dly (s/v)	10.9	-	-	7.9	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 7th Signalized Intersection Summary 10: 12th Ave NW & NW Maple St

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	181	30	8	254	110	38	122	8	96	144	61
Future Volume (veh/h)	30	181	30	8	254	110	38	122	8	96	144	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.98		0.94	0.98		0.94	0.99		0.96	0.98		0.96
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	1841	1841	1885	1885	1856	1885	1885	1885	1707	1885	1885	1885
Adj Flow Rate, veh/h	33	201	33	9	282	122	42	136	9	107	160	68
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	1	1	3	1	1	1	13	1	1	1
Cap, veh/h	342	752	121	408	536	224	383	340	22	471	288	123
Arrive On Green	0.04	0.25	0.25	0.01	0.23	0.23	0.05	0.19	0.19	0.08	0.23	0.23
Sat Flow, veh/h	1753	2989	480	1795	2373	991	1795	1743	115	1795	1240	527
Grp Volume(v), veh/h	33	116	118	9	207	197	42	0	145	107	0	228
Grp Sat Flow(s),veh/h/ln	1753	1749	1720	1795	1763	1601	1795	0	1859	1795	0	1767
Q Serve(g_s), s	0.6	2.3	2.4	0.2	4.5	4.7	0.8	0.0	3.0	2.0	0.0	5.0
Cycle Q Clear(g_c), s	0.6	2.3	2.4	0.2	4.5	4.7	0.8	0.0	3.0	2.0	0.0	5.0
Prop In Lane	1.00		0.28	1.00		0.62	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	342	440	433	408	398	361	383	0	362	471	0	411
V/C Ratio(X)	0.10	0.26	0.27	0.02	0.52	0.55	0.11	0.00	0.40	0.23	0.00	0.56
Avail Cap(c_a), veh/h	718	842	828	757	768	697	548	0	937	650	0	972
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	13.1	13.1	12.8	14.8	14.9	13.0	0.0	15.3	12.2	0.0	14.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.4	0.5	0.0	0.0	0.3	0.1	0.0	0.4
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	0.8	0.8	0.1	1.6	1.5	0.3	0.0	1.1	0.7	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.4	13.2	13.2	12.8	15.2	15.4	13.1	0.0	15.6	12.3	0.0	15.2
LnGrp LOS	B	B	B	B	B	B	B		B	B		B
Approach Vol, veh/h	267				413				187			
Approach Delay, s/veh	13.1				15.2				15.0			
Approach LOS	B				B				B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	14.8	8.6	13.5	5.5	16.0	7.0	15.1				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	11.0	19.0	8.0	22.0	9.0	21.0	6.0	24.0				
Max Q Clear Time (g_c+I1), s	2.6	6.7	4.0	5.0	2.2	4.4	2.8	7.0				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	0.8	0.0	0.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			14.5									
HCM 7th LOS			B									

HCM 7th Signalized Intersection Summary 3: SR 900 & Newport Way NW

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	188	139	262	182	44	44	417	178	108	1275	155
Future Volume (veh/h)	124	188	139	262	182	44	44	417	178	108	1275	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.95	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	1772	1744	1772	1786	1772	1716	1772	1758	1716	1786	1772	1758
Adj Flow Rate, veh/h	124	188	139	262	182	44	44	417	178	108	1275	155
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	4	2	1	2	6	2	3	6	1	2	3
Cap, veh/h	146	272	228	237	370	296	56	555	231	629	1712	736
Arrive On Green	0.09	0.16	0.16	0.14	0.21	0.21	0.03	0.17	0.17	0.12	0.17	0.17
Sat Flow, veh/h	1688	1744	1458	1701	1772	1418	1688	3340	1387	1701	3367	1447
Grp Volume(v), veh/h	124	188	139	262	182	44	44	417	178	108	1275	155
Grp Sat Flow(s),veh/h/ln	1688	1744	1458	1701	1772	1418	1688	1670	1387	1701	1683	1447
Q Serve(g_s), s	10.1	14.3	12.4	19.5	12.7	1.5	3.6	16.7	12.6	8.0	50.4	12.9
Cycle Q Clear(g_c), s	10.1	14.3	12.4	19.5	12.7	1.5	3.6	16.7	12.6	8.0	50.4	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	146	272	228	237	370	296	56	555	231	629	1712	736
V/C Ratio(X)	0.85	0.69	0.61	1.11	0.49	0.15	0.79	0.75	0.77	0.17	0.74	0.21
Avail Cap(c_a), veh/h	175	492	411	237	563	451	175	923	383	629	1712	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	63.1	55.9	55.1	60.3	48.8	8.2	67.2	55.6	29.9	42.2	49.6	34.0
Incr Delay (d2), s/veh	27.1	3.1	2.6	88.9	1.0	0.2	21.1	9.0	21.8	0.1	2.7	0.6
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	5.5	6.5	4.8	14.3	5.8	1.3	1.9	7.6	5.7	3.5	23.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	90.2	59.0	57.7	149.2	49.8	8.4	88.3	64.6	51.7	42.4	52.3	34.6
LnGrp LOS	F	E	E	F	D	A	F	E	D	D	D	C
Approach Vol, veh/h	451				488				639		1538	
Approach Delay, s/veh	67.2				99.4				62.6		49.8	
Approach LOS	E				F				E		D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	58.0	29.6	25.0	27.4	10.1	77.5	17.6	34.8				
Change Period (Y+Rc), s	6.3	* 6.3	5.5	5.5	5.5	6.3	5.5	5.5				
Max Green Setting (Gmax), s	19.5	* 39	19.5	39.5	14.5	43.7	14.5	44.5				
Max Q Clear Time (g_c+I1), s	10.0	18.7	21.5	16.3	5.6	52.4	12.1	14.7				
Green Ext Time (p_c), s	0.1	3.1	0.0	1.5	0.0	0.0	0.1	1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh	62.7											
HCM 7th LOS	E											
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 7th Signalized Intersection Summary 13: Park Access/Transit Center Access & Newport Way NW

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	455	2	4	427	5	5	0	5	13	2	19
Future Volume (veh/h)	8	455	2	4	427	5	5	0	5	13	2	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	0.97		0.95	0.97		0.95
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	1707	1841	1885	1885	1885	1885	1885	1885	1604	1781	1885	1737
Adj Flow Rate, veh/h	8	464	2	4	436	5	5	0	5	13	2	19
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	13	4	1	1	1	1	1	1	20	8	1	11
Cap, veh/h	414	689	3	405	690	8	379	0	172	385	17	159
Arrive On Green	0.01	0.38	0.38	0.01	0.37	0.37	0.11	0.00	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1626	1831	8	1795	1859	21	1356	0	1524	1297	148	1405
Grp Volume(v), veh/h	8	0	466	4	0	441	5	0	5	13	0	21
Grp Sat Flow(s),veh/h/ln	1626	0	1839	1795	0	1880	1356	0	1524	1297	0	1553
Q Serve(g_s), s	0.1	0.0	6.3	0.0	0.0	5.7	0.1	0.0	0.1	0.3	0.0	0.4
Cycle Q Clear(g_c), s	0.1	0.0	6.3	0.0	0.0	5.7	0.5	0.0	0.1	0.4	0.0	0.4
Prop In Lane	1.00		0.00	1.00		0.01	1.00		1.00	1.00		0.90
Lane Grp Cap(c), veh/h	414	0	692	405	0	698	379	0	172	385	0	176
V/C Ratio(X)	0.02	0.00	0.67	0.01	0.00	0.63	0.01	0.00	0.03	0.03	0.00	0.12
Avail Cap(c_a), veh/h	725	0	1362	758	0	1393	1231	0	1129	1200	0	1150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.3	0.0	7.7	6.4	0.0	7.7	12.0	0.0	11.7	11.9	0.0	11.8
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.1
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	0.0	1.6	0.0	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.3	0.0	8.9	6.4	0.0	8.6	12.1	0.0	11.7	11.9	0.0	12.0
LnGrp LOS	A		A	A		A	B		B	B		B
Approach Vol, veh/h	474			445			10			34		
Approach Delay, s/veh	8.8			8.6			11.9			11.9		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	16.2		8.4	5.3	16.0		8.4				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	22.0		22.0	6.0	22.0		22.0				
Max Q Clear Time (g_c+I1), s	2.0	8.3		2.4	2.1	7.7		2.5				
Green Ext Time (p_c), s	0.0	2.5		0.1	0.0	2.4		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	8.9											
HCM 7th LOS	A											

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	446	426	17	4	11
Future Vol, veh/h	27	446	426	17	4	11
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	29	485	463	18	4	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	482	0	0 1016 472
Stage 1	-	-	- 472 -
Stage 2	-	-	- 543 -
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	1081	-	- 264 592
Stage 1	-	-	- 627 -
Stage 2	-	-	- 582 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1081	-	- 254 592
Mov Cap-2 Maneuver	-	-	- 254 -
Stage 1	-	-	- 604 -
Stage 2	-	-	- 582 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.48	0	13.56
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	103	-	-	-	437
HCM Lane V/C Ratio	0.027	-	-	-	0.037
HCM Ctrl Dly (s/v)	8.4	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 7th Signalized Intersection Summary 9: 12th Ave NW & Newport Way NW

Forecast 2028 PM Peak Hour
With Project

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	283	98	68	336	7	35	70	53	18	107	61
Future Volume (veh/h)	59	283	98	68	336	7	35	70	53	18	107	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.99		0.95	0.99		0.95	0.98		0.94	0.97		0.94
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	1781	1870	1885	1870	1885	1885	1870	1870	1885	1870	1870
Adj Flow Rate, veh/h	61	292	101	70	346	7	36	72	55	19	110	63
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	8	2	1	2	1	1	2	2	1	2	2
Cap, veh/h	480	418	145	430	622	13	344	215	164	380	245	141
Arrive On Green	0.06	0.33	0.33	0.07	0.34	0.34	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1795	1248	432	1795	1825	37	1194	956	730	1241	1089	624
Grp Volume(v), veh/h	61	0	393	70	0	353	36	0	127	19	0	173
Grp Sat Flow(s),veh/h/ln	1795	0	1679	1795	0	1862	1194	0	1686	1241	0	1713
Q Serve(g_s), s	0.9	0.0	8.2	1.0	0.0	6.2	1.1	0.0	2.5	0.5	0.0	3.5
Cycle Q Clear(g_c), s	0.9	0.0	8.2	1.0	0.0	6.2	4.6	0.0	2.5	3.1	0.0	3.5
Prop In Lane	1.00		0.26	1.00		0.02	1.00		0.43	1.00		0.36
Lane Grp Cap(c), veh/h	480	0	562	430	0	635	344	0	380	380	0	386
V/C Ratio(X)	0.13	0.00	0.70	0.16	0.00	0.56	0.10	0.00	0.33	0.05	0.00	0.45
Avail Cap(c_a), veh/h	593	0	1251	532	0	1387	668	0	837	717	0	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	11.6	8.4	0.0	10.8	15.4	0.0	13.1	14.4	0.0	13.4
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.1	0.0	0.3	0.0	0.0	0.2	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	0.0	2.4	0.3	0.0	2.0	0.3	0.0	0.8	0.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.1	0.0	12.2	8.4	0.0	11.1	15.5	0.0	13.3	14.4	0.0	13.7
LnGrp LOS	A		B	A		B	B		B	B		B
Approach Vol, veh/h	454			423			163			192		
Approach Delay, s/veh	11.7			10.6			13.8			13.8		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	18.7		14.1	7.7	18.5		14.1				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	5.0	30.0		20.0	5.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s	2.9	8.2		6.6	3.0	10.2		5.5				
Green Ext Time (p_c), s	0.0	1.3		0.4	0.0	1.6		0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh	11.9											
HCM 7th LOS	B											

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	7	21	11	18	16
Future Vol, veh/h	6	7	21	11	18	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	8	23	12	20	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	86	28	37	0	-	0
Stage 1	28	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	915	1047	1574	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	902	1047	1574	-	-	-
Mov Cap-2 Maneuver	902	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	8.75	4.8		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1181	-	975	-	-	
HCM Lane V/C Ratio	0.015	-	0.014	-	-	
HCM Ctrl Dly (s/v)	7.3	0	8.7	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	7	22	22	8	16
Future Vol, veh/h	7	7	22	22	8	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	8	24	24	9	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	89	17	26	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	911	1061	1588	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	898	1061	1588	-	-	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	8.76	3.65		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	900	-	973	-	-	
HCM Lane V/C Ratio	0.015	-	0.016	-	-	
HCM Ctrl Dly (s/v)	7.3	0	8.8	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection: 17: Newport Way NW & 13th Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	221	456	70
Average Queue (ft)	38	317	28
95th Queue (ft)	148	701	74
Link Distance (ft)	252	521	175
Upstream Blk Time (%)	0	17	
Queuing Penalty (veh)	1	77	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

