240 15th Street SE
Puyallup, WA

Traffic Impact Analysis

January 13, 2023

Prepared for:

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FINDINGS & CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the proposed *240 15th Street SE* project located in the City of Puyallup, WA.

Project Proposal. The proposed *240 15th Street SE* project would include up to 135,100 square feet (SF) of building area that is intended for general warehousing use. However, per the request of the City of the Puyallup, since the tenant is unknown, three land use scenarios were evaluated in this Traffic Impact Analysis:

- Scenario A (expected) = General Warehousing use
- Scenario B (low probability) = Manufacturing use
- Scenario C (highly unlikely) = High-Cube Fulfillment Center Warehouse (sort) use

The site was previously occupied by 123,313 SF of high-cube cold-storage warehouse use.

Primary vehicular access to the site is proposed via a single full access driveway on 15th Street SE and also via the existing access shared with the adjacent property to the north. The project is expected to be completed and occupied in 2024.

Project Trip Generation. The new trip generation (after applying trip credit for the existing use) for each of the 3 land use scenarios evaluated for the proposed *240 15th Street SE* project is estimated as follows:

	New Weekday Trips Generated		
Land Use Scenario	Daily	AM Peak Hour	PM Peak Hour
A: Warehousing	-9	26	28
B: Manufacturing	450	78	85
C: High-Cube Fulfillment Center Warehouse (sort)	609	104	147

Intersection LOS Results. Intersection Level of Service (LOS) were evaluated at up to 9 study intersections in the vicinity area for weekday PM peak hour conditions with the project (with each of the 3 land use scenarios). The LOS analysis results indicate that all signalized study intersections are anticipated to meet established LOS standards under 2024 weekday PM peak hour conditions with the project.

Site Access Analysis. Based on the results of the analysis, the individual movements entering and exiting the site at the two proposed stop-controlled site access driveways on 15th Street SE are expected to operate at LOS C or better with minimal queuing during the weekday PM peak hour with the proposed project (with each of the 3 land use scenarios).

Mitigation

Off-Site SEPA Improvements – Based on the results of the analysis shown in this report, no project-specific off-site transportation mitigation is proposed for concurrency or SEPA purposes.

Transportation Impact Fees – To mitigate long-term transportation impacts, the City administers a Transportation Impact Fee (TIF) to new developments to improve the transportation system to accommodate the higher travel demand added by new development. The net impact fee is calculated based on the project's proposed land use less an impact fee credit for the existing land use. The City's current adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation net impact fee (after credit for the existing use) for each of the three land use scenarios evaluated for the proposed *240 15th Street SE* project is as follows:

- Scenario A (Warehousing) = $125,550 ($4,500 X 27.9 net new PM peak hour trips).
- Scenario B (Manufacturing) = $383,400 ($4,500 X 85.2 net new PM peak hour trips).
- Scenario C (High Cube Fulfillment Center Warehouse (sort)) = $662,850 ($4,500 X 147.3 net new PM peak hour trips).

Because of the likely Warehousing use but the potential for the 2 others, the Applicant has proposed that transportation impact fess be paid at the issuance of a shell building permit based on the Warehouse use. At the time of the tenant improvement permit an adjustment can be made to assure that transportation impact fees are assessed based upon the actual use with a credit for the amount paid at the issuance of the shell building permit.

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the *240 15th Street SE* project located in the City of Puyallup, WA (see Figure 1).

Project Description

The proposed *240 15th Street SE* project would include up to 135,100 square feet (SF) of building area that is intended for general warehousing use. However, per the request of the City of the Puyallup, since the tenant is unknown, three land use scenarios were evaluated in this Traffic Impact Analysis:

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The site was previously occupied by 123,313 SF of high-cube cold-storage warehouse use.

Primary vehicular access to the site is proposed via a single full access driveway on 15th Street SE and also via the existing access shared with the adjacent property to the north. The project is expected to be completed and occupied in 2024. A preliminary site plan is provided in Figure 2.

Project Approach

The following tasks were undertaken to evaluate and disclose the traffic impacts associated with the *240 15th Street SE* project:

1. Assessed existing conditions through field reconnaissance and reviewed existing planning documents;
2. Described and assessed existing transportation conditions in the area;
3. Documented planned transportation improvements in the site vicinity;
4. Estimated trip generation and documented trip distribution and assignment of project traffic for three potential land use scenarios;
5. Documented traffic forecasts and assumptions for year 2024 weekday PM peak hour conditions without the project and with the project for three potential land use scenarios;
6. Conducted weekday PM peak hour level of service analyses at up to 9 study intersections for 2022 existing and year 2024 conditions without and with the project for three potential land use scenarios;
7. Assessed operations at the proposed site access driveways, including PM peak hour LOS and queuing, and evaluation of right and left-turn lane pockets.
8. Identified improvements to mitigate impacts of the project onto the adjacent street system.

Primary Data and Information Sources

- Weekday PM Peak Hour traffic counts, 2022.
- Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.
- *Highway Capacity Manual (HCM) 6th Edition,* TRB.
- City of Puyallup *2022-2027 Six Year Transportation Improvement Program.*
- *Pierce County 2022-2027 Transportation Improvement Program.*
- WSDOT *2022-2025 Statewide Transportation Improvement Program (STIP).*
- Pierce Transit website, September 2022.
- City of Puyallup *Comprehensive Plan*, 2015.

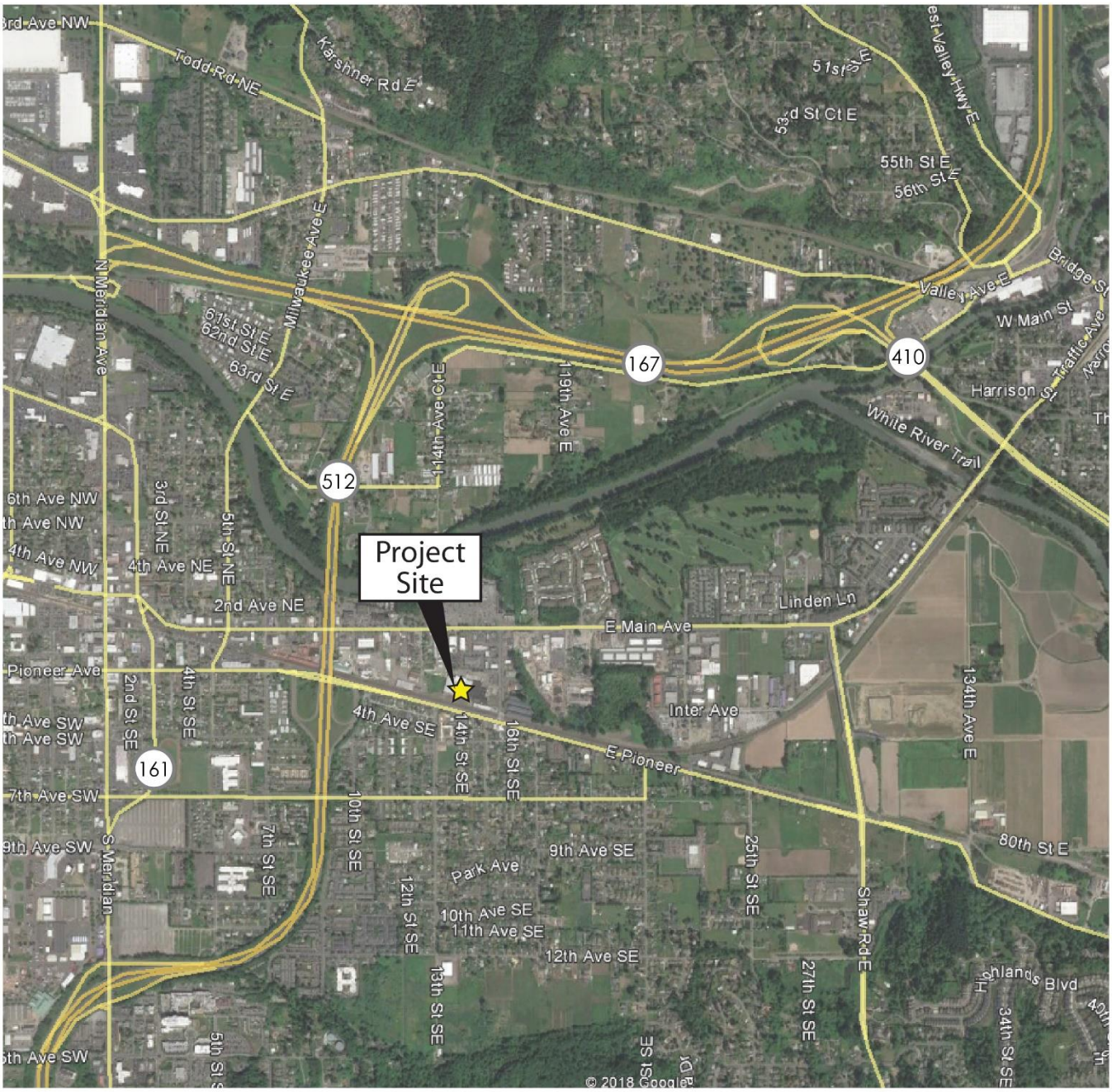

Figure 1: Project Site Vicinity

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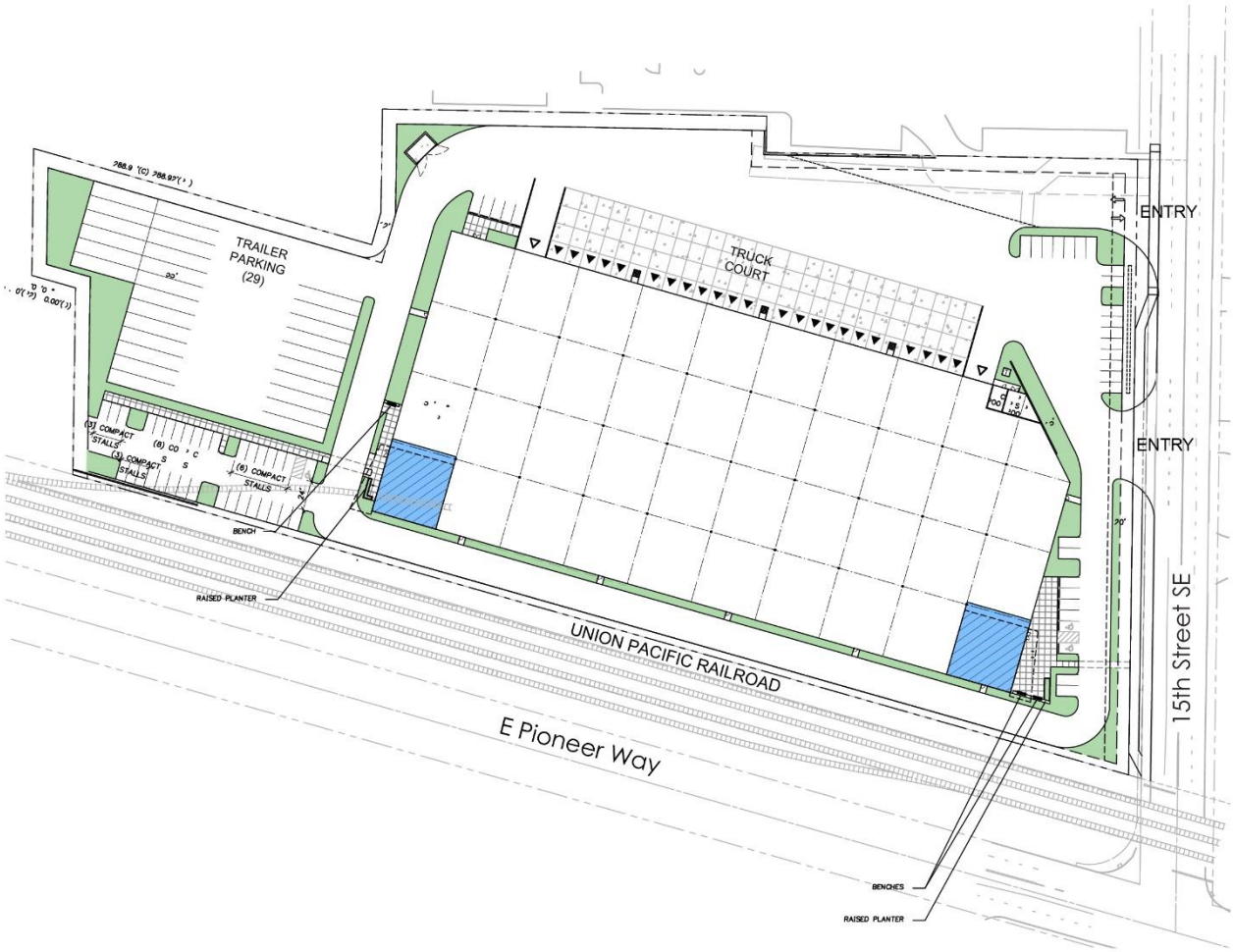


Figure 2: Preliminary Site Plan

EXISTING CONDITIONS

Roadway Network

Table 1 describes the existing characteristics of the streets that would be used as primary routes to and from the site. Roadway characteristics are described in terms of orientation, arterial classification, posted speed limits, number of lanes, paved shoulders, and pedestrian facilities. The relationship of these roadways to the project site is shown in Figure 1.

Table 1
Existing Study Area Roadway Network

Roadway	Orientation	Arterial Classification	# of Lanes	Posted Speed Limit (mph)	Parking	Sidewalks	Bicycle Facilities
15th St SE	North/South	Minor Arterial	4	30	No	Both Sides	None
E Main Ave	East/West	Principal Arterial (*east of Shaw Rd E*)	3-5	35 (east of 15th St SE)	No	Intermittent	None
		Minor Arterial *(west of Shaw Rd E)*		30 (west of 15th St SE)			
Shaw Road E	North/South	Principal Arterial	4-5	35	No	Both Sides	None
E Pioneer Way	East/West	Principal Arterial	2-3	25	No	South Side	No
SR 410	East/West	Urban Freeway/ Expressway	4	40	No	No	No
SR 512	East/West	Urban Freeway/ Expressway	4	60	No	No	No

Study Intersections

The City of Puyallup requires a detailed traffic analysis at intersections impacted by 25 or more peak hour project trips. Based on this requirement, the following 9 study intersections were included in this traffic study:

1. 5th Street SE / E Main Ave
2. SR 512 Westbound (WB) Ramps / E Pioneer Way
3. SR 512 Eastbound (EB) Ramps / E Pioneer Way
4. 15th Street SE / E Pioneer Way
5. 15th Street SE / E Main Ave
6. Shaw Road E / E Main Ave
7. Shaw Road E / E Pioneer Way
8. SR 410 Eastbound (EB) Ramps / E Main Ave
9. SR 410 Westbound (WB) Ramps / E Main Ave

It should be noted that based on the anticipated distribution of project trips, all 9 study intersections were evaluated for the future scenario without the project and with Scenario C (high-cube fulfillment center (sort) use) but only intersections #2, 3, 4, 5, 6, 8, and 9 were evaluated with Scenario B (manufacturing use) and only intersections #4 and 5 were evaluated with Scenario A (general warehousing use).

Existing Traffic Volumes

Existing weekday PM peak hour traffic volumes at the 9 study intersections were based on traffic counts conducted in August 2021 and March 2022. The PM peak hour represents the highest one-hour time period between 4:00 and 6:00 PM. Appendix A includes the existing peak hour traffic count sheets.

Consistent with the traffic analyses for a recent industrial project in the vicinity of the *240 15th Street SE* project, true (unserved) demand was accounted for at study intersections that were identified by the City as operating at or near capacity during the weekday PM peak hour (#1, 6, and 7).

True Demand

True demand is generally defined as the total number of vehicles arriving at an intersection during a given period of time. While standard turning movement counts (TMCs) count the number of vehicles that make a particular movement during a defined period, true demand volumes include the number of vehicles counted during a turning movement count plus the number of vehicles that have arrived at the intersection but have not yet entered the intersection. In order to estimate the total number of vehicles waiting in a queue at the start or end of the PM peak hour, the delta between true demand volumes and turning movement count volumes is calculated (Total Vehicles in Queue = True Demand Volumes less Turning Movement Count Volumes). To account for existing weekday PM peak hour true (unserved) demand at intersections #1 (5th Street SE/E Main Ave), #6 (Shaw Road E/E Main Ave), and #7 (Shaw Road E/E Pioneer Way), the following two approaches were developed and confirmed by the City of Puyallup:

1. Include the vehicle queues observed (by movement) at the start of the peak hour as the "initial queue" in Level of Service (LOS) calculations consistent Synchro HCM 6th Edition Methodology.
2. Include the true demand volumes in LOS calculations by adding the vehicles in queue at the end of the peak hour (i.e. residual queue) to the total turning movement counts.

The resulting 2022 existing PM peak hour true demand volumes and the initial and residual vehicle queues associated with each turning movement are included in Appendix B. A summary of the true demand methodology and detailed true demand volume calculations are also included in Appendix B.

The 2022 existing weekday PM peak hour traffic volumes at the study intersections are illustrated in Figure 3 and reflect true demand volumes at intersections #1, 6 and 7.

Public Transportation Services

Pierce Transit provides public transportation services in the immediate vicinity of the proposed project. The nearest bus stops are located north of the site on E Main Ave and provide access to Route 409.

Route 409 offers weekday and weekend transit service from the 72nd Street Transit Center to 29th St NE / 5th Ave NE in Puyallup. The current schedule for Route 409 includes approximately 60-minute headways from 9:20 a.m. to 5:20 p.m. on weekdays.

Non-motorized Transportation Facilities

Non-motorized transportation facilities in the project site vicinity include sidewalks on both sides of 15th Street SE, sidewalk on the south side of E Pioneer Way, and intermittent sidewalks along E Main Ave. Pedestrian crosswalks are typically provided at most signalized study intersections in the project vicinity. Based on traffic counts conducted at the study intersections, there is minimal pedestrian activity in the site vicinity.

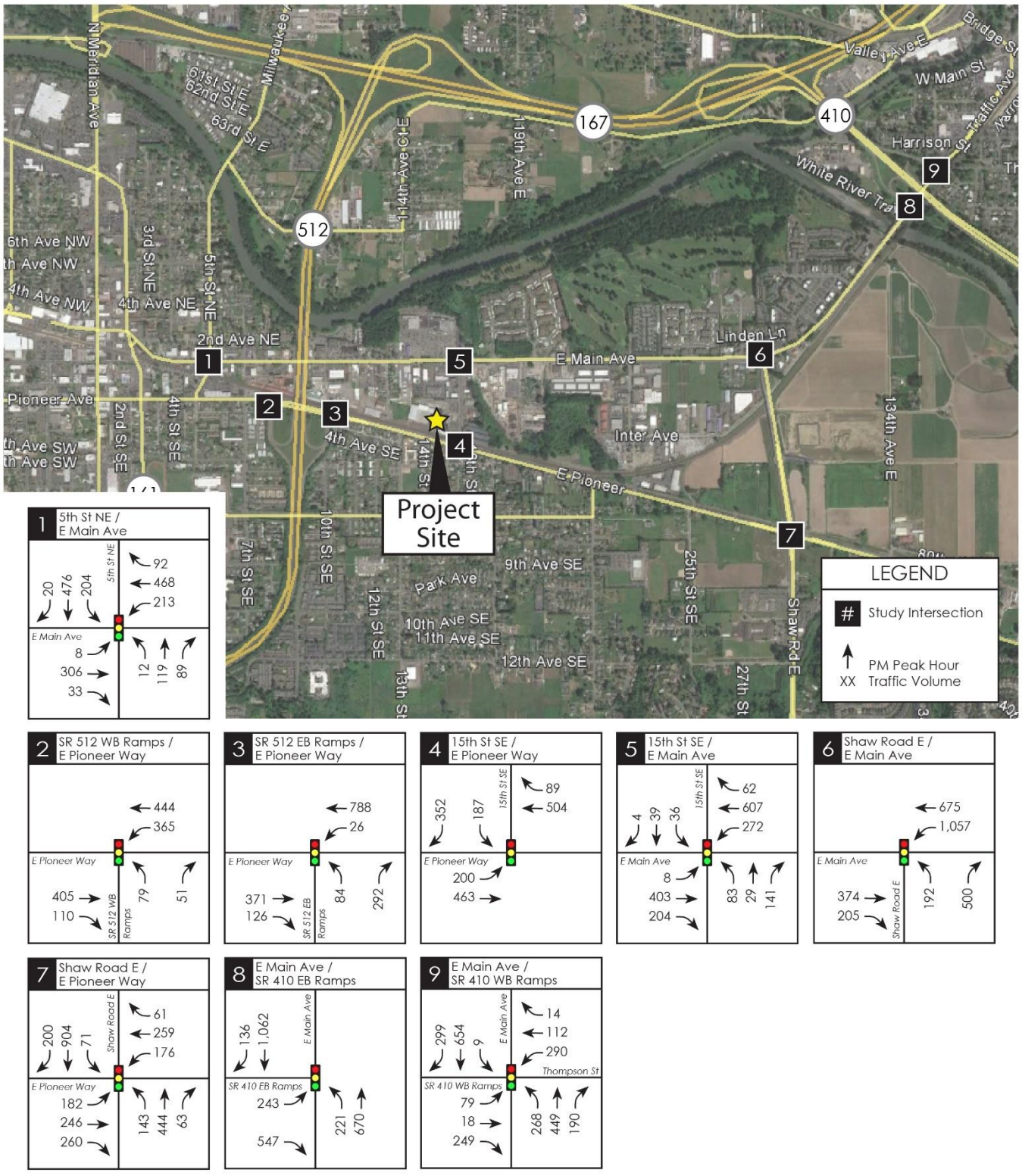


Figure 3: Year 2022 Existing Weekday PM Peak Hour Traffic Volumes

Level of Service

Existing weekday PM peak hour level of service (LOS) analyses were conducted at 9 study intersections.

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

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

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

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

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

1) Source: Highway Capacity Manual, Transportation Research Board, 6th Edition, 2016.
2) For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.
3) For unsignalized intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

Level of service calculations for intersections were based on methodology and procedures outlined in the 6th Edition of the *Highway Capacity Manual (HCM)* using *Synchro 11* traffic analysis software. Existing signal timing used in the analysis was provided by the City of Puyallup and the Washington State Department of Transportation (WSDOT). It should be noted that true demand traffic volumes were included in the LOS analyses at intersections #1, 6 and 7. Additionally, initial queues were included at intersections #1 and 7 but not at intersection #6 since its geometry and custom phasing are not supported by HCM 6th Edition methodology. However, as shown in Table 3 below, intersection #6 currently operates at LOS C during the weekday PM peak hour when accounting for true demand volumes; as a result, it is anticipated that the intersection would operate at an acceptable level of service with initial queues included in the analysis. It should be noted that existing peak hour factors (PHF) from the turning movement count volumes were used in the LOS analyses at all study intersections.

Based on the City of Puyallup and WSDOT's LOS standards, the LOS standard is LOS D at all study intersections with exception to the study intersections along the Shaw Road E corridor (intersections #6 and 7) where the LOS standard is LOS E per the Transportation Element of the *Puyallup Comprehensive Plan*.

The 2022 existing PM peak hour LOS analysis results for the study intersections are summarized in Table 3 with detailed LOS worksheets included in Appendix C.

Table 3
2022 Existing PM Peak Hour Level of Service Summary

	PM Peak Hour	
Signalized Study Intersection	LOS	Delay (sec/veh)
1. 5th Street SE / E Main Ave	B	19.7
2. SR 512 WB Ramps / E Pioneer Way	B	17.3
3. SR 512 EB Ramps / E Pioneer Way	B	14.5
4. 15th Street SE / E Pioneer Way[1]	C	27.6
5. 15th Street SE / E Main Ave	A	9.3
6. Shaw Road E / E Main Ave[1]	C	24.8
7. Shaw Road E / E Pioneer Way	D	50.7
8. SR 410 EB Ramps / E Main Ave[1]	B	18.3
9. SR 410 WB Ramps / E Main Ave	C	23.1

1 HCM 2000 results reported due to intersection geometry and/or custom phasing not supported by HCM 6th methodology.

As shown in Table 3, all signalized study intersections currently meet established LOS standards under 2022 existing PM peak hour conditions.

FUTURE CONDITIONS

Planned Transportation Improvements

This section documents known planned transportation improvements in the study area based on a review of the City of Puyallup's *2022-2027 Six Year Transportation Improvement Plan*, Pierce County's *2022-2027 Transportation Improvement Program*, and the Washington State Department of Transportation (WSDOT) *2022-2025 Statewide Transportation Improvement Program*.

Puyallup 2022-2027 TIP

- TIP #9: Shaw Road Widening – Phase 4 (12th Ave SE to 23rd Ave SE)
  Description:
  Widen roadway to five lanes with curb, gutter, sidewalk, bike lanes, and street lighting on both sides. This project does not have a planned construction year.
- TIP #12: 21st St SE Road Improvements
  Description:
  This project will scope out some alternatives to improve the roadway to assist in north/south movement and improve the steep/narrow nature of the existing roadway. This project does not have a planned construction year.
- TIP #17: Intersection Signal Control at 5th Ave NE/E Main Ave
  Description:
  This project will construct a new signal at the intersection of 5th Ave NE/E Main Ave. This project is anticipated to be constructed by 2024.
- TIP #25: Adaptive Signals – Intersection Improvements (E Pioneer and E Main Ave)
  Description:
  This project will implement Intelligent Transportation System (ITS) Signal Improvements at five signals on E Pioneer and two signals on E Main Ave from Shaw Rd to 5th St SE. This project does not have a planned construction year.
- TIP #40: Utility Replacement and Roadway Paving (10th St SE)
  Description:
  This project will replace utilities along 10th St E and repave the roadway between E Main Ave and the railroad tracks. This project is anticipated to be constructed by 2023.
- TIP #55: Shared Use Path (E Pioneer)
  Description:
  This project will construct a new shared use path on E Pioneer from 21st St SE to Shaw Rd. Scoping needs to be done to determine the location of the shared use path on northern or southern side of E Pioneer and how to secure property rights. This project is anticipated to be constructed by 2025.

Pierce County 2022-2027 TIP

No capacity related projects were identified within the project vicinity in Pierce County's 2022-2027 *Transportation Improvement Program* (TIP).

WSDOT 2022-2025 STIP

No capacity related projects were identified within the project vicinity in WSDOT's 2022-2025 *Statewide Transportation Improvement Program* (STIP).

Project Trip Generation

The proposed *240 15th Street SE* project would include up to 135,100 square feet (SF) of building area that is intended for general warehousing use. However, per the request of the City of the Puyallup, since the tenant is unknown, three land use scenarios were evaluated in this Traffic Impact Analysis:

- Scenario A (expected) = General Warehousing use
- Scenario B (low probability) = Manufacturing use
- Scenario C (highly unlikely) = High-Cube Fulfillment Center Warehouse (sort) use

Trip generation estimates for the three potential land use scenarios were based on methodology documented in the ITE *Trip Generation* Manual, 11th Edition for Land Use Code (LUC) 150 (Warehousing), LUC 140 (Manufacturing), and LUC 155 (High-Cube Fulfillment Center Warehouse (sort)). Trip generation for the existing use was based LUC 157 (High-Cube Cold Storage Warehouse). Truck trips associated with the proposed and existing uses were estimated separately based on truck trip rates also documented in the ITE *Trip Generation* Manual (11th Edition, 2021) for LUC 140, 150, 155, and 157.

The resulting new weekday daily, AM peak hour, and PM peak hour trip generation estimates are summarized in **Table 4**. The detailed trip generation calculations are included in **Appendix D**.

Table 4
Project Trip Generation Summary

Weekday Time Period / Land Use Scenario	New Trips Generated								
	Non-Truck Trips			Truck Trips			Total Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
SCENARIO A (Warehousing)									
Daily	1	1	2	-5	-6	-11	-4	-5	-9
AM Peak Hour	23	4	27	1	-2	-1	24	2	26
PM Peak Hour	5	23	28	0	0	0	5	23	28
SCENARIO B (Manufacturing)									
Daily	240	241	481	-15	-16	-31	225	225	450
AM Peak Hour	62	16	78	1	-1	0	63	15	78
PM Peak Hour	24	61	85	0	0	0	24	61	85
SCENARIO C (High-Cube Fulfillment Center (sort))									
Daily	338	337	675	-33	-33	-66	305	304	609
AM Peak Hour	88	17	105	1	-2	-1	89	15	104
PM Peak Hour	57	91	148	-1	0	-1	56	91	147

Project Trip Distribution and Assignment

The general distribution of *240 15th Street SE* peak hour project trips was estimated separately for non-trucks (passenger vehicles) and trucks based on existing traffic volumes, the location of population and employment areas in the site vicinity, the type of use that is proposed, and designated truck/heavy haul routes in the project vicinity. The anticipated trip distribution patterns for non-trucks (passenger vehicles) and trucks for the three land use scenarios are illustrated graphically in Figures 4, 5, and 6. The trip distribution is consistent with other approved industrial use traffic studies in the project vicinity. It should be noted that the anticipated distribution patterns of non-truck and truck trips associated with the *240 15th Street SE* project is the same in Figures 4, 5, and 6 since the project trip distribution is anticipated to be the same for each of the three land use scenarios evaluated (warehousing, manufacturing, and high-cube fulfillment center sort).

The assignment of PM peak hour project trips for non-trucks (passenger vehicles) and trucks associated with each of the three (3) land use scenarios evaluated for the *240 15th Street SE* project were calculated separately based on the estimated non-truck and truck trip distributions. The assignment of new PM peak hour trips to the individual site accesses was based on the preliminary layout of the proposed site (see Figure 2) and the types of vehicles (passenger vehicles vs. trucks) anticipated to use each site access. The resulting assignment of new weekday PM peak hour project trips at the study intersections and site driveways is illustrated in Figure 4 for land use Scenario A (warehousing), Figure 5 for land use Scenario B (manufacturing), and Figure 6 for land use Scenario C (high-cube fulfillment center warehouse (sort)).

Future Traffic Volumes

Future year 2024 No Action (without project) weekday PM peak hour traffic volumes were estimated by applying a 2.0 percent annual growth rate to the existing year 2022 volumes. In addition, trips from the 2504 E Main Avenue pipeline project and trips associated with the existing use on the site (since the existing use was not occupied at the time of the 2022 existing counts) were included in the future year No Action traffic volumes. The future 2024 No Action PM peak hour traffic volumes at the 9 study intersections are shown in Figure 7.

Future year 2024 weekday PM peak hour traffic volumes with the proposed *240 15th Street SE* project were estimated by adding the peak hour trip assignment from the proposed development for each of the three land use scenarios (shown in Figures 4 to 6) to the No Action weekday PM peak hour traffic volumes (shown in Figure 7). The 2024 With Project weekday PM peak hour traffic volumes at the study intersections are shown in Figure 8 for land use Scenario A (warehousing), Figure 9 for land use Scenario B (manufacturing), and Figure 10 for land use Scenario C (high-cube fulfillment center warehouse (sort)).

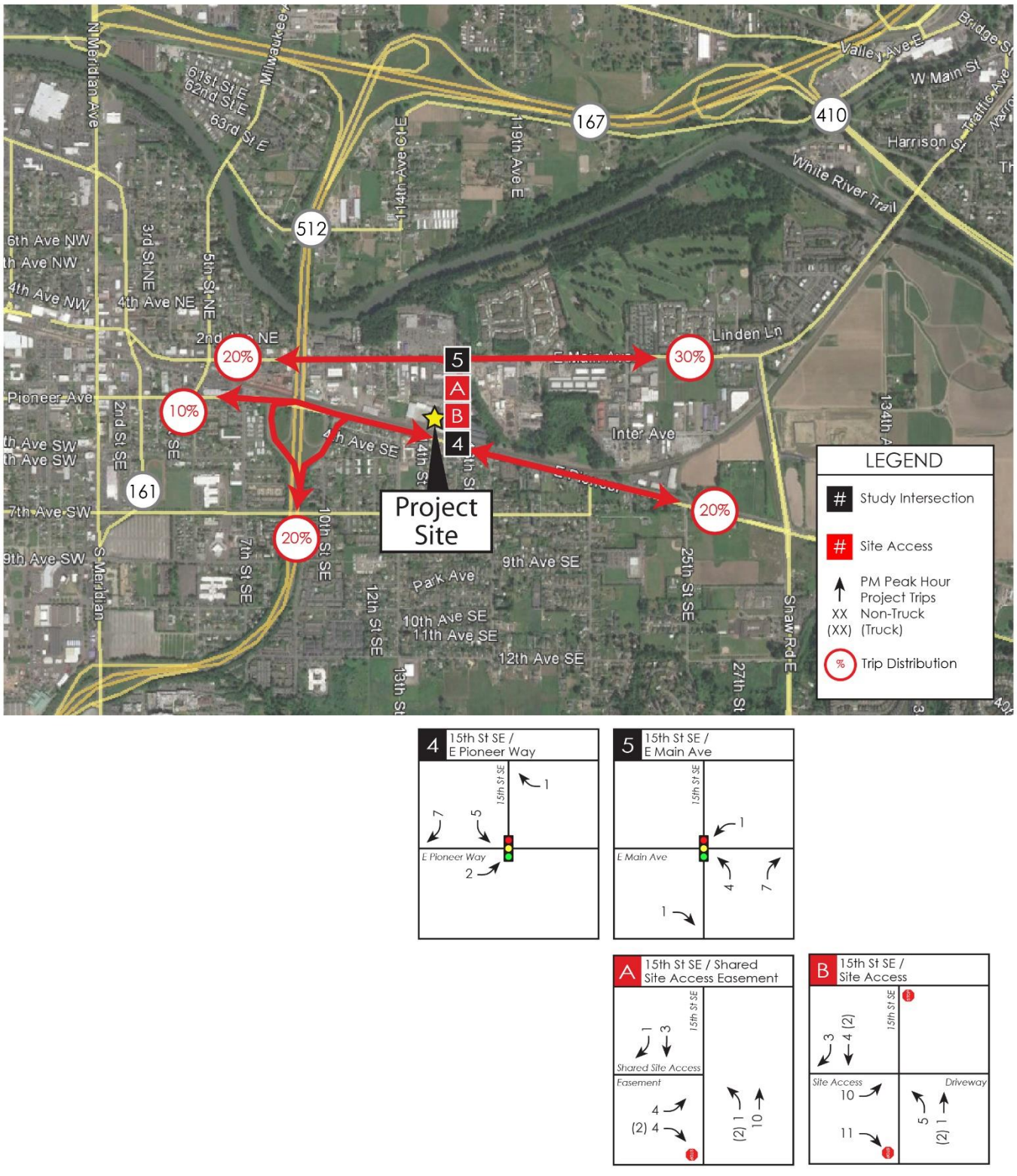
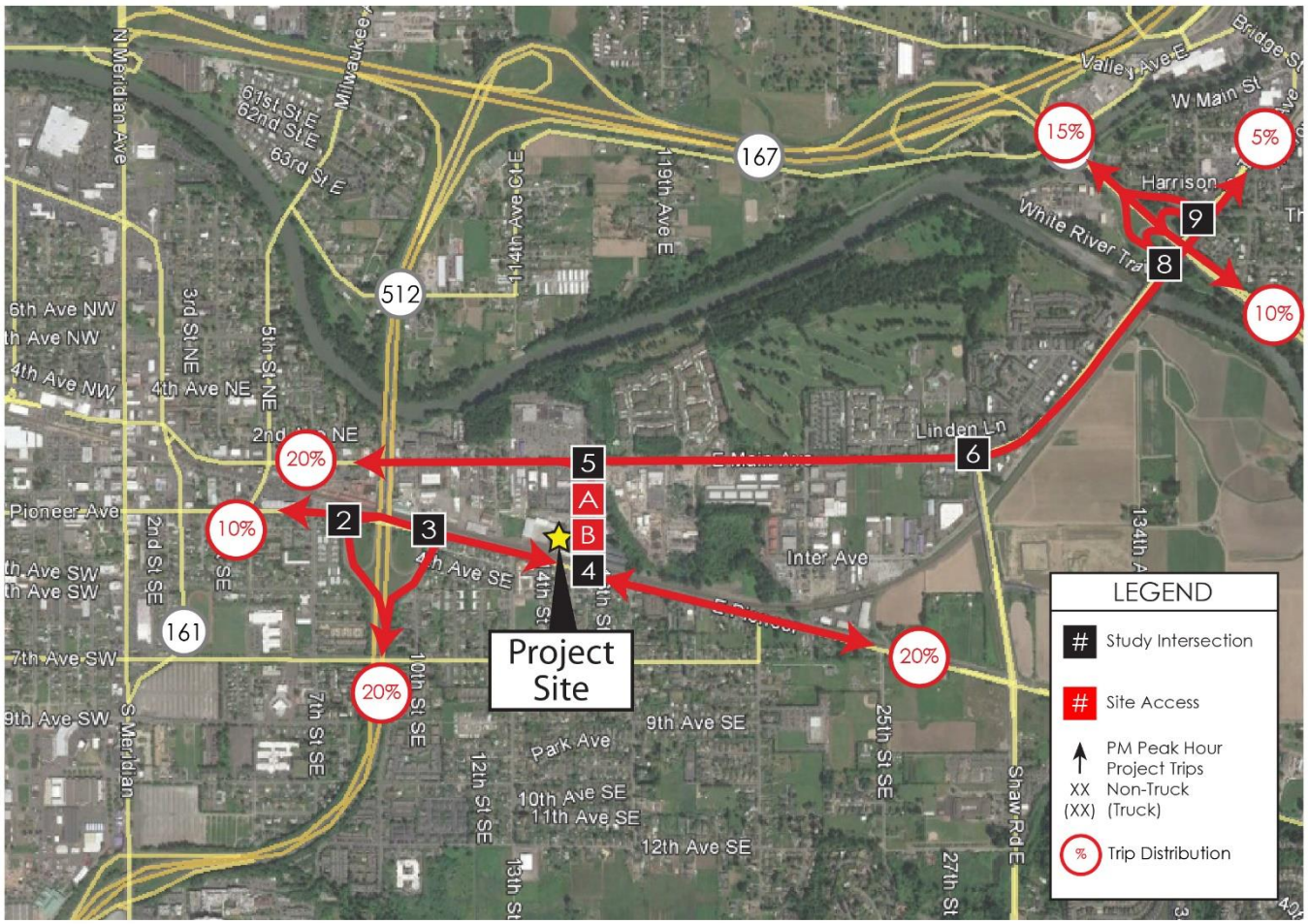


Figure 4: Weekday PM Peak Hour Project Trip Distribution and Assignment (Scenario A)



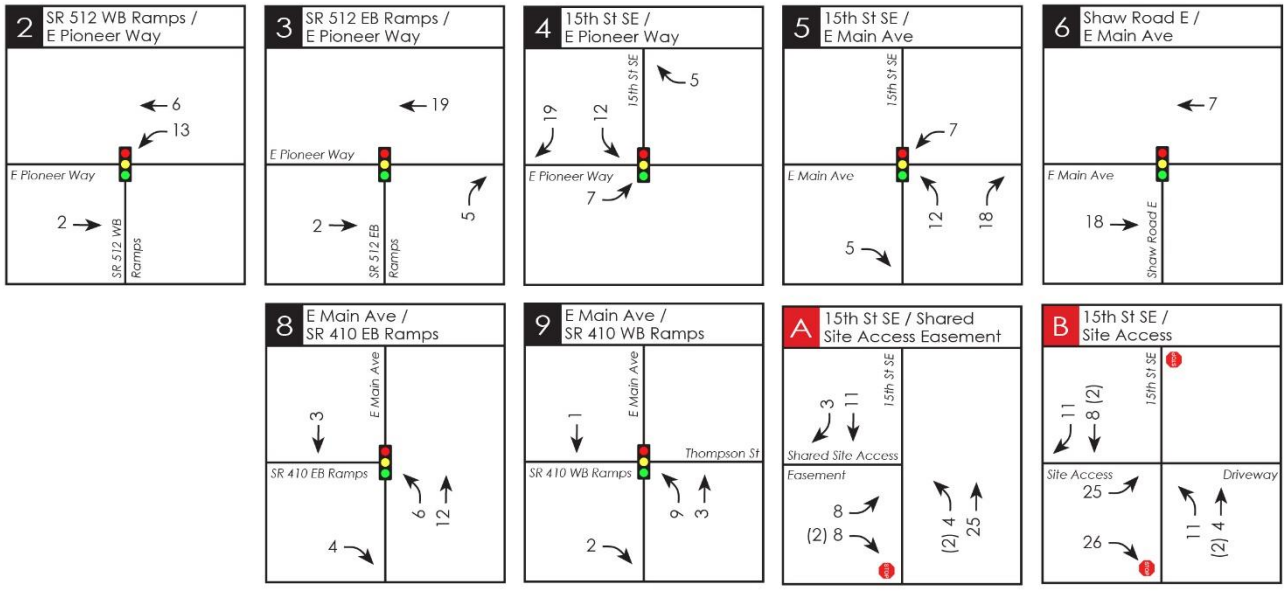


Figure 5: Weekday PM Peak Hour Project Trip Distribution and Assignment (Scenario B)

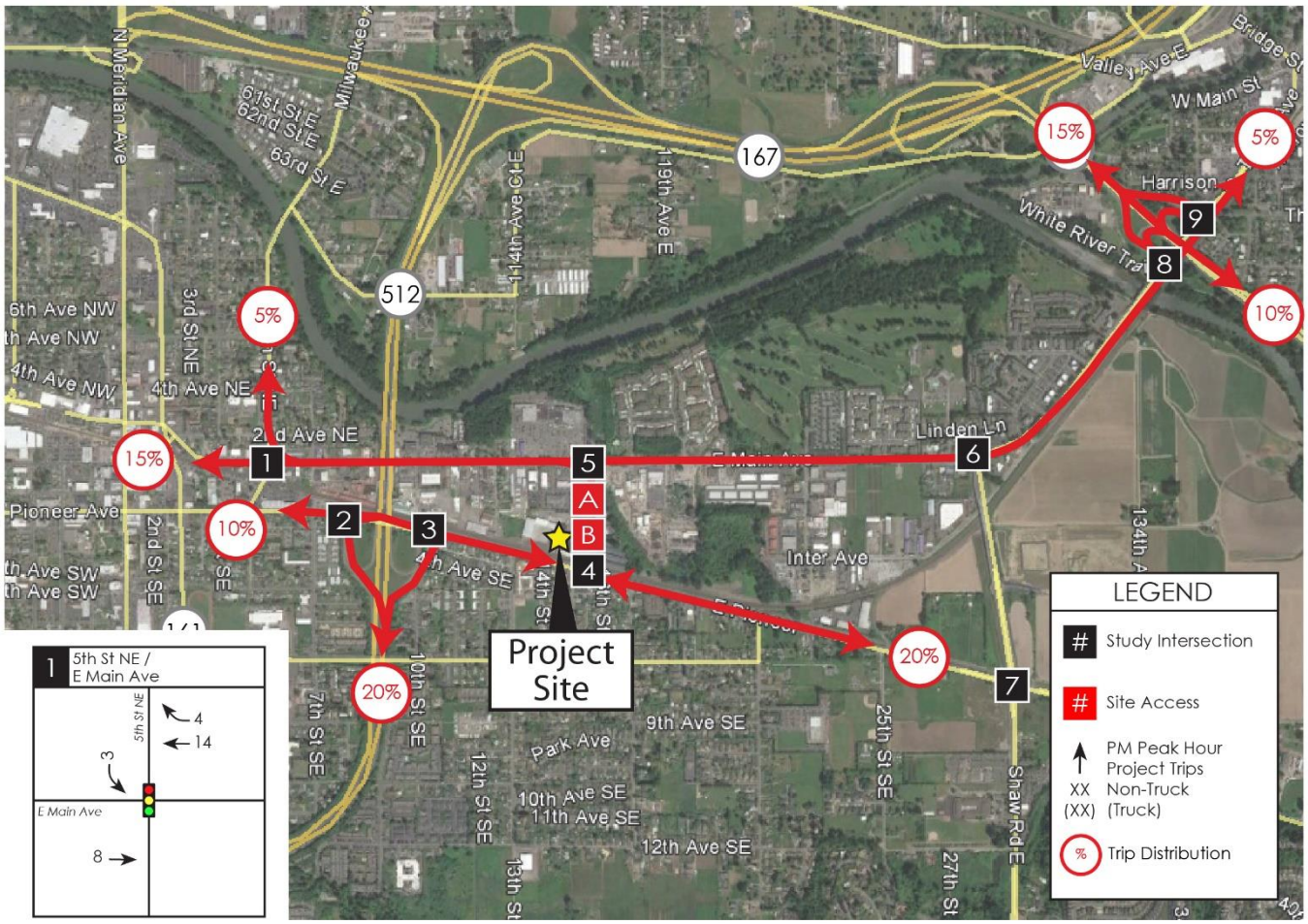


Figure 6: Weekday PM Peak Hour Project Trip Distribution and Assignment (Scenario C)

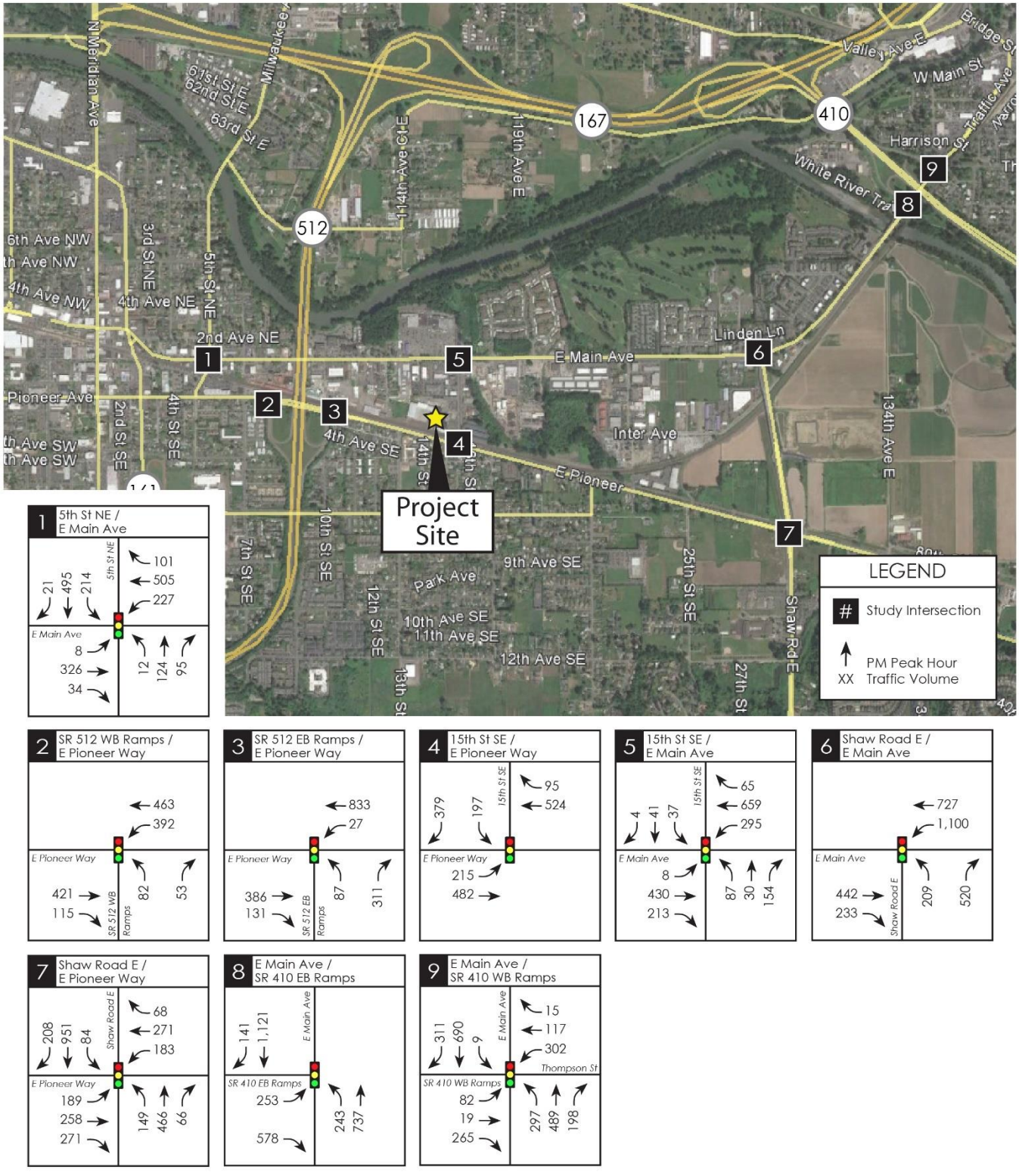


Figure 7: 2024 No Action Weekday PM Peak Hour Traffic Volumes

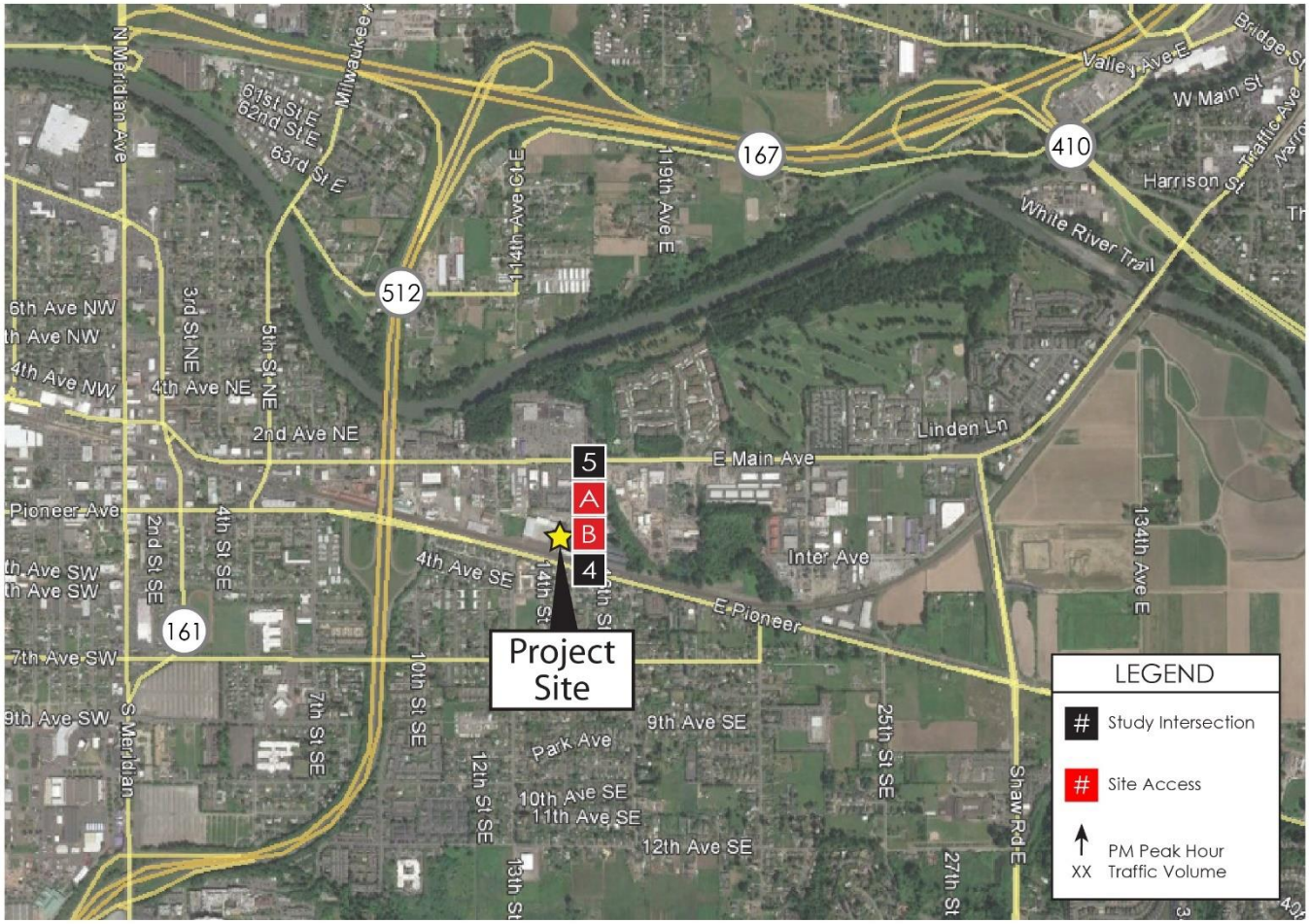


Figure 8: 2024 With Project (Scenario A) Weekday PM Peak Hour Traffic Volumes

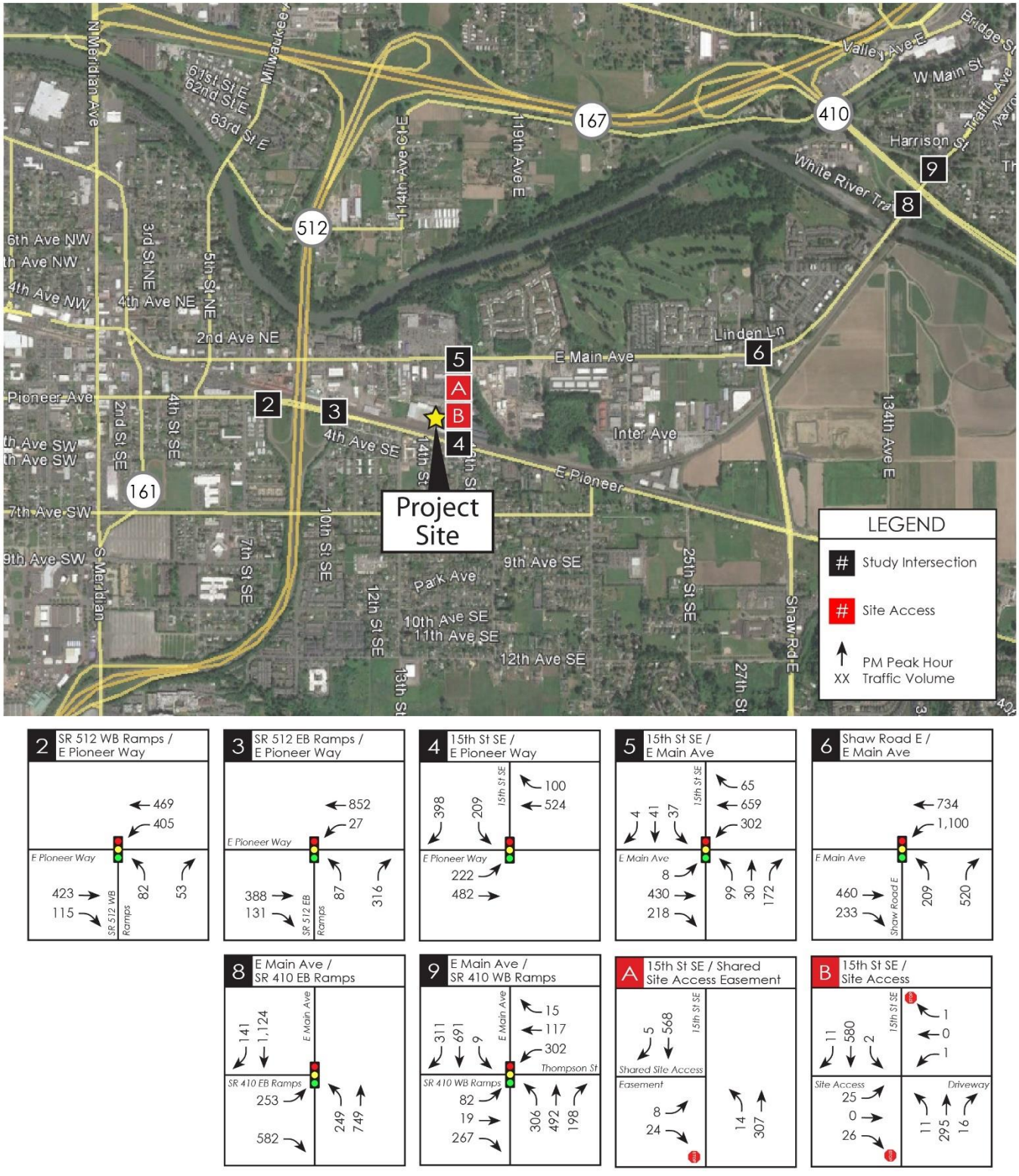


Figure 9: 2024 With Project (Scenario B) Weekday PM Peak Hour Traffic Volumes

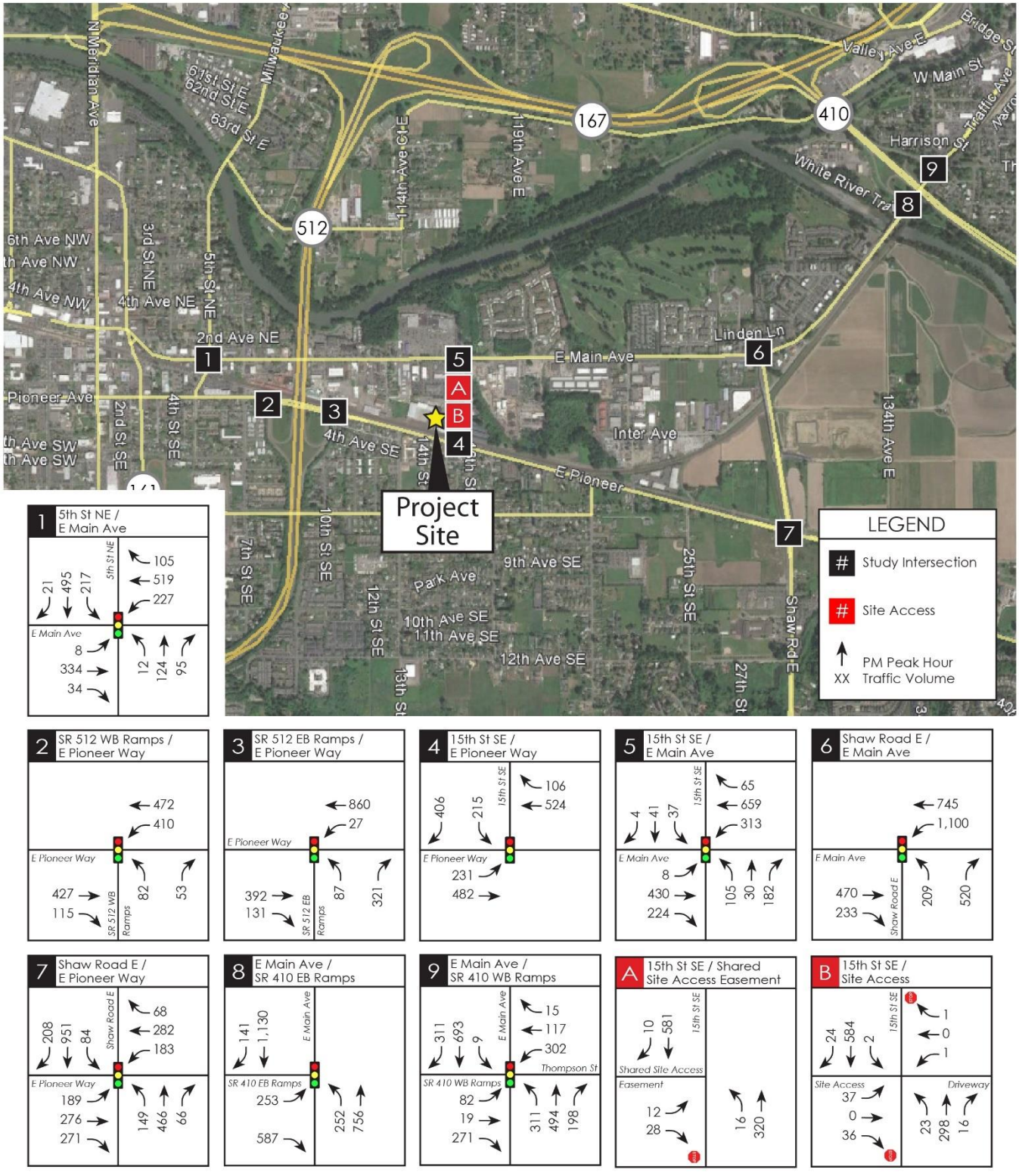


Figure 10: 2024 With Project (Scenario C) Weekday PM Peak Hour Traffic Volumes

Intersection Levels of Service

Future intersection LOS analyses were evaluated at the off-site study intersections for future year 2024 (horizon year) conditions without and with the proposed *240 15th Street SE* project. Given there are no fully funded improvements at the off-site study intersections that are anticipated to be completed prior to the evaluated horizon year (2024), the roadway network assumed in the future LOS analyses at the off-site study intersections was based on existing intersection geometry and signal timing.

The 2024 weekday PM peak hour LOS results at the study intersections without and with the proposed *240 15th Street SE* project (for each of the three evaluated land use scenarios) are summarized in Table 5. The LOS worksheets are included in Appendix C. It should be noted that based on the anticipated distribution of project trips, all 9 study intersections were evaluated for the No Action (without project) scenario and with Scenario C (high-cube fulfillment center (sort) use), but only intersections #2, 3, 4, 5, 6, 8, and 9 were evaluated for Scenario B (manufacturing use) and only intersections #4 and 5 were evaluated for Scenario A (general warehousing use).

Based on the City of Puyallup and WSDOT's LOS standards, the LOS standard is LOS D at all study intersections with exception to the study intersections along the Shaw Road E corridor (intersections #6 and 7) where the LOS standard is LOS E per the Transportation Element of the *Puyallup Comprehensive Plan Policy T-3.2.*

Table 5
2024 PM Peak Hour Level of Service Summary

	No Action		With Project					
			Scenario A (Warehousing)		Scenario B (Manufacturing)		Scenario C (Fulfillment Center)	
Signalized Study Intersection	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)
1. 5th Street SE / E Main Ave	C	25.9	--	--	--	--	C	26.7
2. SR 512 WB Ramps / E Pioneer Way	B	18.6	--	--	B	19.0	B	19.3
3. SR 512 EB Ramps / E Pioneer Way	B	15.1	--	--	B	15.2	B	15.3
4. 15th Street SE / E Pioneer Way[1]	C	28.9	C	29.3	C	29.9	C	30.6
5. 15th Street SE / E Main Ave	A	9.8	A	9.9	B	10.1	B	10.3
6. Shaw Road E / E Main Ave[1]	C	28.0	--	--	C	28.5	C	28.8
7. Shaw Road E / E Pioneer Way	E	56.4	--	--	--	--	E	57.2
8. SR 410 EB Ramps / E Main Ave[1]	B	19.8	--	--	B	19.9	C	20.1
9. SR 410 WB Ramps / E Main Ave	C	24.4	--	--	C	24.5	C	24.6

-- Not evaluated
1 HCM 2000 results reported due to intersection geometry and/or custom phasing not supported by HCM 6th Edition methodology.

2024 No Action

As shown in Table 5, all signalized study intersections are anticipated to meet established LOS standards under 2024 No Action (without project) conditions during the weekday PM peak hour.

2024 With Scenario A (Warehousing)

As shown in Table 5, the 2 signalized study intersections evaluated under 2024 weekday PM peak hour conditions with Scenario A (warehousing) are both anticipated to meet established LOS standards.

2024 With Scenario B (Manufacturing)

As shown in Table 5, the 7 signalized study intersections evaluated under 2024 weekday PM peak hour conditions with Scenario B (manufacturing) are all anticipated to meet established LOS standards.

2024 With Scenario C (High-Cube Fulfillment Center Warehouse (sort))

As shown in Table 5, the 9 signalized study intersections evaluated under 2024 weekday PM peak hour conditions with Scenario C (high-cube fulfillment center warehouse (sort)) are all anticipated to meet established LOS standards.

Site Access Operations

Vehicular access to/from the proposed *240 15th Street SE* project is proposed via the existing access shared with the adjacent property to the north (for both trucks and non-trucks), and via a new full access driveway on 15th Street SE (for non-trucks only). To assess the operations of the site access driveways, level of service (LOS) and queuing were analyzed.

LOS and Queuing Analysis at Site Access

The LOS and queue calculations were conducted using *Synchro 11* software based on methodology outlined in the latest edition of the *Highway Capacity Manual* (6th Edition). The reported queues are estimated 95th percentile queues that are exceeded only 5 percent of the time. Table 6 summarizes the results of the 2024 with project LOS and queue analyses at the site access driveways. The LOS and queue worksheets are included in Appendix C.

Table 6
2024 With Project PM Peak Hour Site Access LOS & Queue Summary

	With Project								
	Scenario A (Warehousing)			Scenario B (Manufacturing)			Scenario C (Fulfillment Center)		
Site Access / Movement	LOS	Delay (sec/ veh)	95th % Queue (ft)[1]	LOS	Delay (sec/ veh)	95th % Queue (ft)[1]	LOS	Delay (sec/ veh)	95th % Queue (ft)[1]
A. 15th St SE / Shared Access									
Eastbound Approach (Site Access), stop controlled	B	11.6	<25	B	12.4	<25	B	13.1	<25
Northbound Left-Turn (15th St SE), yield controlled	A	9.3	0	A	9.2	<25	A	9.0	<25
B. 15th St SE / Site Access									
Eastbound Approach (Site Access), stop controlled	B	14.1	<25	C	15.5	25	C	17.3	25
Northbound Left-Turn (15th St SE), yield controlled	A	8.7	0	A	8.8	0	A	8.9	<25

1 Queues are 95th Percentile queues. <25' indicates 95th Percentile queue statistically less than 1 vehicle.

As shown in Table 6, all controlled movements at the two site access driveways are expected to operate at LOS C or better with minimal queueing in 2024 during the weekday PM peak hour under each of the three land use scenarios evaluated (warehousing, manufacturing, and high-cube fulfillment center (sort)).

Right and Left-Turn Pocket Evaluation

At part of the traffic scoping process, the City requested that consideration of right and left-turn pockets at the site access driveways on 15th Street SE be evaluated. 15th Street SE is classified as a minor arterial street and is approximately 1,100 linear feet (~0.21 miles) between the signalized intersections of E Main Ave and E Pioneer Way. Multiple driveways exist along 15th Street SE that provide access to commercial properties on both sides of the street.

The right and left-turn pocket evaluation for the two site access driveways on 15th Street SW documented in this TIA was based on considerations documented in the *WSDOT Design Manual* for unsignalized intersections on multilane high-speed or four-lane highways. Therefore, the results of these evaluations should take into account that the right-turn and left-turn lane evaluations for unsignalized intersections located on multilane high-speed or four-lane highways may not be applicable for driveways located on a minor arterial roadway (i.e. 15th Street SE).

Right-Turn Lane Evaluation

Evaluation of consideration for a southbound right-turn pocket at the two site access driveways on 15th Street SE was reviewed for each of the three land use scenarios evaluated (warehousing, manufacturing, and high-cube fulfillment center (sort)) based on Exhibit 1310-11 (Right-Turn Lane Guidelines) for unsignalized intersections included in the WSDOT *Design Manual*.

Based on the 2024 With Project AM and PM peak hour traffic volumes (see Figures 8-10 for the PM volumes and Appendix E for the AM volumes), only a right-turn radius should be considered at the site access intersections on 15th Street SE under all three land use scenarios (warehousing, manufacturing, and high-cube fulfillment center (sort)). Therefore, southbound right-turn pockets are not proposed at either site access driveway on 15th Street SE. The WSDOT turn lane exhibit used in right-turn lane evaluation is included in Appendix E.

It should be noted that Exhibit 1310-11 (Right-Turn Lane Guidelines) is intended to be applied only to unsignalized intersections on two-lane highways or multilane high-speed highways with a posted speed limit of 45 mph or above. Although 15th Street SE is a four-lane minor arterial roadway with a posted speed limit of 30 mph, this right-turn lane evaluation conservatively uses Exhibit 1310-11 with the guidelines for a multilane, high-speed highway with a posted speed of 45 mph or above which specifies using the "right-lane peak hour approach volume (through plus right-turn)".

Left-Turn Lane Evaluation

Evaluation of consideration for a northbound left-turn pocket at the two site access driveways on 15th Street SE was reviewed for each of the three land use scenarios evaluated (warehousing, manufacturing, and high-cube fulfillment center (sort)) based on the following guidance for unsignalized intersections established in the WSDOT *Design Manual* Chapter 1310:

1. On four-lane highways, use Exhibit 1310-7b (left-turn storage guidelines) to determine whether a left-turn lane is recommended.

   Based on *Exhibit 1310-7b* and the 2024 With Project AM and PM peak hour traffic volumes at the site access driveways on 15th Street SE (see Figures 8-10 for the PM volumes and Appendix E for the AM volumes), northbound left-turn storage would not be needed at either driveway under both Scenario A (warehousing) and Scenario B (manufacturing). However, northbound left-turn storage may need to be considered at both site access driveways on 15th Street SE under Scenario C (fulfillment center (sort)) based on *WSDOT Design Manual Exhibit 1310-7b* for unsignalized intersections on four-lane highways. The WSDOT turn lane exhibit used in left-turn lane evaluations is included in Appendix E.

   *It should be noted that Exhibit 1310-7b (*Left-Turn Storage Guidelines – Four Lane, Unsignalized*) is intended to be applied to unsignalized intersections on four-lane highways. 15th Street SE is a four-lane minor arterial street with a posted speed limit of 30 mph and the roadway is only ~1,100 linear feet (~0.21 miles) between the signalized intersections of E Main Ave and E Pioneer Way. Therefore, the left-turn lane evaluation for unsignalized intersections on four-lane highways may not be applicable for driveways located on 15th Street SE (a minor arterial roadway).*

2. A study indicates crash reduction with a left-turn lane.

   No collisions were reported for the most recent five-year period (2017-2021) at either of the site access driveways based on WSDOT collision data obtained by TENW. Additionally, there were no collisions reported on 15th Street SE from E Main Ave to E Pioneer Way related to northbound or southbound left-turns. Therefore, left-turn pockets would not be recommended at the site access driveways on 15th Street SE based on this criterion.

   Detailed collision history is included in Appendix F.

3. Restrictive geometrics require left-turning vehicles to slow greatly below the speed of the through traffic.

   There are not expected to be any restrictive geometrics that would require northbound left-turning vehicles to slow greatly below the speed of the through traffic on 15th Street SE since the roadway has a posted speed limit of 30 mph and is approximately ~1,100 linear feet (~0.21 miles) in length with traffic signals on either end at the intersections of E Main Ave and E Pioneer Way. Therefore, left-turn pockets would not be recommended at the site access driveways on 15th Street SE based on this criterion.

4. There is less than decision sight distance for traffic approaching a vehicle stopped at the intersection to make a left turn.

   Decision sight distance in the northbound direction of 15th Street SE at both site access driveways is adequate for traffic approaching a vehicle stopped at the site access to make a left turn. Therefore, left-turn pockets would not be recommended at the site access driveways on 15th Street SE based on this criterion.

In addition to the guidance outlined above, the WSDOT *Design Manual* Chapter 1310 also suggests that a traffic analysis based on the *Highway Capacity Manual (HCM)* may also be used to determine whether left-turn lanes are needed to maintain the desired level of service. As shown in the site access LOS and queueing analyses above, the northbound left-turn movement at both site access driveways on 15th Street SE is expected to operate at LOS A with less than 25-feet of queueing during the weekday PM peak hour under each of the three land use scenarios evaluated (warehousing, manufacturing, and high-cube fulfillment center (sort)).

In summary, based on the WSDOT guidance criteria evaluated, northbound left-turn storage is not proposed at either of the two site access driveways on 15th Street SE for any of the three land use scenarios (warehousing, manufacturing, and high-cube fulfillment center (sort)).

15th Street SE Railroad Crossing

A Burlington Northern Santa Fe (BNSF) at-grade railroad crossing is located on 15th Street SE just north of E Pioneer Way. The crossing accommodates freight trains operated by BNSF, Amtrak passenger trains and Sound Transit Sounder S-line passenger trains. Per the request of the City, observations were conducted at the railroad crossing on three weekdays (December 7, December 8, and December 13, 2022) from 4:00 to 6:00 PM. A summary of the observations at the existing railroad crossing is provided in Table 7. The railroad crossing volumes are included in Appendix G.

Table 7
BNSF Railroad Crossing Summary of Weekday PM Peak Period Observations

	3-Day Average [1]		
Train Type	Number of Trains	Train Crossing Time (min:sec)	Time Crossing Arm is Down (min:sec)
Passenger Trains	8	00:06	00:34
Freight Trains	1	02:00	02:39

1) Three-day average of observations conducted from 4-6 PM on Wed 12/7/22, Thur 12/8/22, and Tue 12/13/22.

MITIGATION

Off-Site SEPA Improvements

Based on the results of the analysis shown in this report, no project-specific off-site transportation mitigation is proposed for concurrency or SEPA purposes.

Transportation Impact Fees

To mitigate long-term transportation impacts, the City administers a Transportation Impact Fee (TIF) to new developments to improve the transportation system to accommodate the higher travel demand added by new development. The net impact fee is calculated based on the project's proposed land use less an impact fee credit for the existing land use. The City's current adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation net impact fee (after credit for the existing use) for each of the three (3) land use scenarios evaluated for the proposed *240 15th Street SE* project is as follows:

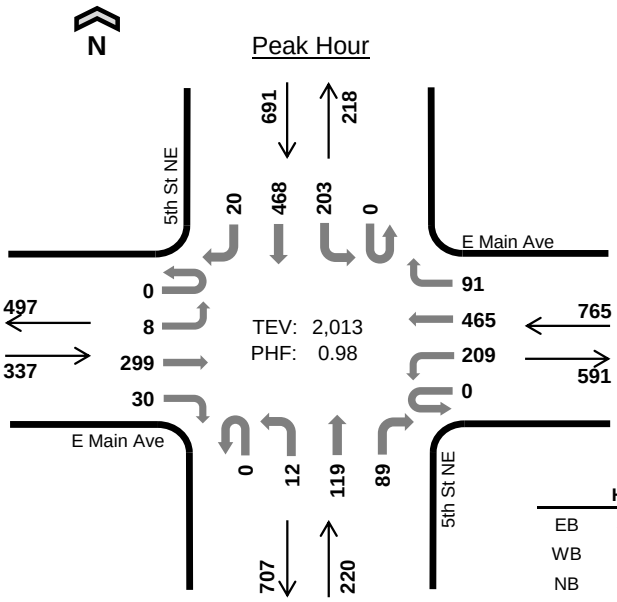
- Scenario A (Warehousing) = $125,550 ($4,500 X 27.9 net new PM peak hour trips).
- Scenario B (Manufacturing) = $383,400 ($4,500 X 85.2 net new PM peak hour trips).
- Scenario C (High Cube Fulfillment Center Warehouse (sort)) = $662,850 ($4,500 X 147.3 net new PM peak hour trips).

Because of the likely Warehousing use but the potential for the 2 others, the Applicant has proposed that transportation impact fess be paid at the issuance of a shell building permit based on the Warehouse use. At the time of the tenant improvement permit an adjustment can be made to assure that transportation impact fees are assessed based upon the actual use with a credit for the amount paid at the issuance of the shell building permit.

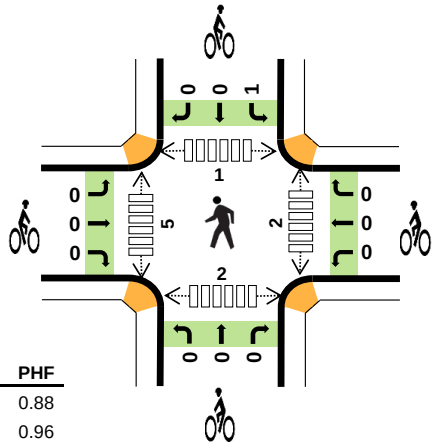
Appendix A

Existing Peak Hour Turning Movement Count Sheets

5th St NE
E Main Ave



Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	4.5%	0.88
WB	3.4%	0.96
NB	1.8%	0.93
SB	3.9%	0.90
TOTAL	3.6%	0.98

Two-Hour Count Summaries

Interval Start		E Main Ave Eastbound				E Main Ave Westbound				5th St NE Northbound				5th St NE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**1**	**79**	**7**	**0**	**53**	**111**	**20**	**0**	**4**	**26**	**29**	**0**	**53**	**124**	**4**	**511**	0
4:15 PM		**0**	**1**	**86**	**9**	**0**	**51**	**124**	**24**	**0**	**4**	**32**	**14**	**0**	**43**	**104**	**5**	**497**	0
4:30 PM		**0**	**2**	**59**	**9**	**0**	**55**	**114**	**22**	**0**	**2**	**30**	**22**	**0**	**57**	**130**	**5**	**507**	0
4:45 PM		**0**	**4**	**75**	**5**	**0**	**50**	**116**	**25**	**0**	**2**	**31**	**24**	**0**	**50**	**110**	**6**	**498**	**2,013**
5:00 PM		0	2	72	14	0	65	114	36	0	2	28	19	0	53	91	9	505	2,007
5:15 PM		0	1	57	11	0	52	111	27	0	2	33	26	0	60	91	8	479	1,989
5:30 PM		0	4	75	10	0	53	102	16	0	7	24	23	0	40	65	5	424	1,906
5:45 PM		0	0	68	7	0	41	98	20	0	5	23	26	0	35	53	3	379	1,787
Count Total		0	15	571	72	0	420	890	190	0	28	227	183	0	391	768	45	3,800	0
Peak Hour	**All**	**0**	**8**	**299**	**30**	**0**	**209**	**465**	**91**	**0**	**12**	**119**	**89**	**0**	**203**	**468**	**20**	**2,013**	**0**
	HV	**0**	**0**	**14**	**1**	**0**	**5**	**20**	**1**	**0**	**0**	**4**	**0**	**0**	**8**	**17**	**2**	**72**	**0**
	HV%	**-**	**0%**	**5%**	**3%**	**-**	**2%**	**4%**	**1%**	**-**	**0%**	**3%**	**0%**	**-**	**4%**	**4%**	**10%**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**3**	**7**	**1**	**6**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**1**	*3*
4:15 PM	**5**	**9**	**1**	**8**	***23***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**5**	**3**	**1**	**7**	***16***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**0**	**1**	*5*
4:45 PM	**2**	**7**	**1**	**6**	***16***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	***2***
5:00 PM	1	5	0	0	*6*	0	0	0	0	*0*	0	1	0	4	*5*
5:15 PM	0	5	0	3	*8*	0	0	0	0	*0*	1	5	2	5	*13*
5:30 PM	3	3	0	0	*6*	0	0	0	0	*0*	2	1	1	0	*4*
5:45 PM	1	0	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	39	4	32	*95*	0	0	0	1	*1*	5	12	4	11	*32*
Peak Hour	**15**	**26**	**4**	**27**	***72***	**0**	**0**	**0**	**1**	***1***	**2**	**5**	**1**	**2**	***10***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Main Ave Eastbound				E Main Ave Westbound				5th St NE Northbound				5th St NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**1**	**0**	**0**	**3**	**2**	**1**	**17**	0
4:15 PM	**0**	**0**	**5**	**0**	**0**	**2**	**7**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**6**	**0**	**23**	0
4:30 PM	**0**	**0**	**4**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**5**	**0**	**16**	0
4:45 PM	**0**	**0**	**2**	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**1**	**16**	**72**
5:00 PM	0	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	6	61
5:15 PM	0	0	0	0	0	0	5	0	0	0	0	0	0	2	1	0	8	46
5:30 PM	0	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	6	36
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3	23
Count Total	0	0	19	1	0	6	32	1	0	0	4	0	0	12	18	2	95	0
Peak Hour	**0**	**0**	**14**	**1**	**0**	**5**	**20**	**1**	**0**	**0**	**4**	**0**	**0**	**8**	**17**	**2**	**72**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Main Ave Eastbound			E Main Ave Westbound			5th St NE Northbound			5th St NE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	1	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**

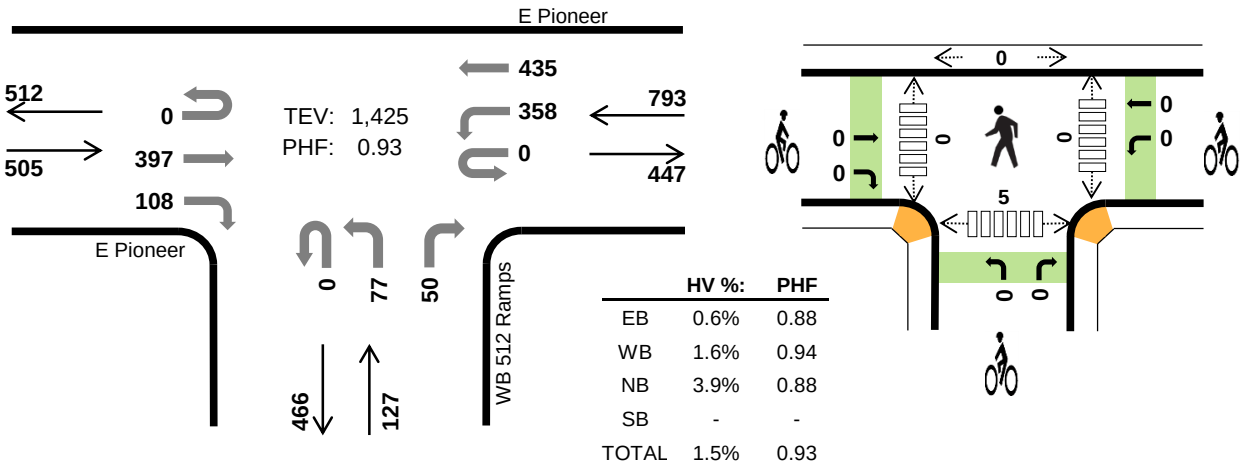
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

WB 512 Ramps
E Pioneer

N

Peak Hour

Date: Tue, Aug 03, 2021
Count Period: 3:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



Three-Hour Count Summaries

Interval Start		E Pioneer Eastbound				E Pioneer Westbound				WB 512 Ramps Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:15 PM		0	0	89	19	0	96	104	0	0	24	0	7	0	0	0	0	339	0
4:30 PM		0	0	110	34	0	91	121	0	0	15	0	14	0	0	0	0	385	0
4:45 PM		0	0	81	36	0	89	106	0	0	21	0	10	0	0	0	0	343	0
5:00 PM		0	0	117	19	0	82	104	0	0	17	0	19	0	0	0	0	358	1,425
Peak Hour	All	0	0	397	108	0	358	435	0	0	77	0	50	0	0	0	0	1,425	0
	HV	0	0	3	0	0	7	6	0	0	1	0	4	0	0	0	0	21	0
	HV%	-	-	1%	0%	-	2%	1%	-	-	1%	-	8%	-	-	-	-	1%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:15 PM	1	3	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	6	1	0	*7*	0	0	0	0	*0*	0	0	0	5	*5*
4:45 PM	1	3	1	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	1	1	3	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	3	13	5	0	*21*	0	0	0	0	*0*	0	0	0	5	*5*

Three-Hour Count Summaries

Interval Start	E Pioneer Eastbound				E Pioneer Westbound				WB 512 Ramps Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	84	25	0	66	97	0	0	22	0	13	0	0	0	0	307	0
3:15 PM	0	0	84	17	0	74	98	0	0	27	0	11	0	0	0	0	311	0
3:30 PM	0	0	71	23	0	71	105	0	0	35	0	16	0	0	0	0	321	0
3:45 PM	0	0	79	18	0	67	104	0	1	22	0	7	0	0	0	0	298	1,237
4:00 PM	0	0	78	16	0	111	108	0	0	22	0	20	0	0	0	0	355	1,285
4:15 PM	**0**	**0**	**89**	**19**	**0**	**96**	**104**	**0**	**0**	**24**	**0**	**7**	**0**	**0**	**0**	**0**	**339**	1,313
4:30 PM	**0**	**0**	**110**	**34**	**0**	**91**	**121**	**0**	**0**	**15**	**0**	**14**	**0**	**0**	**0**	**0**	**385**	1,377
4:45 PM	**0**	**0**	**81**	**36**	**0**	**89**	**106**	**0**	**0**	**21**	**0**	**10**	**0**	**0**	**0**	**0**	**343**	1,422
5:00 PM	**0**	**0**	**117**	**19**	**0**	**82**	**104**	**0**	**0**	**17**	**0**	**19**	**0**	**0**	**0**	**0**	**358**	**1,425**
5:15 PM	0	0	79	11	0	89	113	0	0	21	0	12	0	0	0	0	325	1,411
5:30 PM	1	0	89	15	0	68	99	0	0	16	0	16	0	0	0	0	304	1,330
5:45 PM	0	0	65	14	0	74	100	0	0	16	0	14	0	0	0	0	283	1,270
Count Total	1	0	1,026	247	0	978	1,259	0	1	258	0	159	0	0	0	0	3,929	0
Peak Hour All	**0**	**0**	**397**	**108**	**0**	**358**	**435**	**0**	**0**	**77**	**0**	**50**	**0**	**0**	**0**	**0**	**1,425**	**0**
Peak Hour HV	**0**	**0**	**3**	**0**	**0**	**7**	**6**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**21**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**0%**	**-**	**2%**	**1%**	**-**	**-**	**1%**	**-**	**8%**	**-**	**-**	**-**	**-**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	2	5	0	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
3:15 PM	2	6	3	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 PM	1	9	2	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 PM	3	5	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
4:00 PM	2	7	2	0	*11*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**1**	**3**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**6**	**1**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	*5*
4:45 PM	**1**	**3**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**1**	**3**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	2	2	0	0	*4*	0	0	0	0	*0*	0	0	0	1	*1*
5:30 PM	5	3	2	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	3	0	*4*	0	0	0	0	*0*	0	0	0	2	*2*
Count Total	21	50	17	0	*88*	0	0	0	0	*0*	0	0	0	8	*8*
Peak Hr	**3**	**13**	**5**	**0**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**5**	***5***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	E Pioneer				E Pioneer				WB 512 Ramps				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	0	2	0	2	3	0	0	0	0	0	0	0	0	0	7	0
3:15 PM	0	0	2	0	0	2	4	0	0	1	0	2	0	0	0	0	11	0
3:30 PM	0	0	1	0	0	4	5	0	0	1	0	1	0	0	0	0	12	0
3:45 PM	0	0	2	1	0	4	1	0	0	0	0	0	0	0	0	0	8	38
4:00 PM	0	0	2	0	0	1	6	0	0	1	0	1	0	0	0	0	11	42
4:15 PM	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	35
4:30 PM	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	30
4:45 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	27
5:00 PM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**5**	**21**
5:15 PM	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	4	21
5:30 PM	0	0	4	1	0	0	3	0	0	2	0	0	0	0	0	0	10	24
5:45 PM	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	4	23
Count Total	0	0	16	5	0	21	29	0	0	7	0	10	0	0	0	0	88	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**7**	**6**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**21**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	E Pioneer			E Pioneer			WB 512 Ramps			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

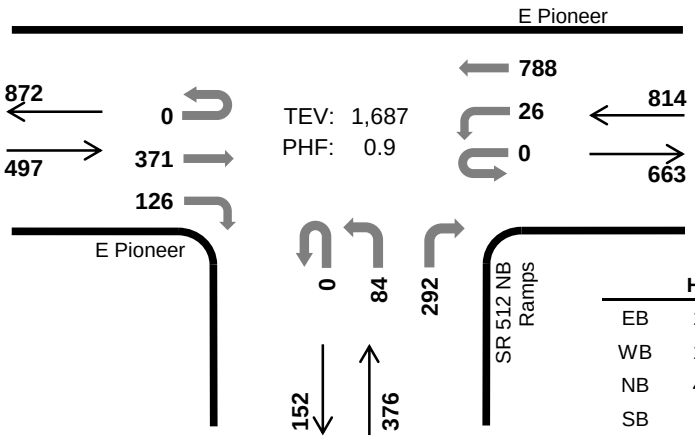
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

SR 512 NB Ramps
E Pioneer

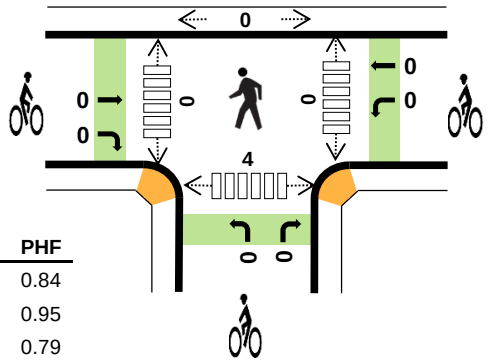
N

Peak Hour

Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.4%	0.84
WB	1.7%	0.95
NB	4.3%	0.79
SB	-	-
TOTAL	2.2%	0.90



Two-Hour Count Summaries

Interval Start	E Pioneer Eastbound				E Pioneer Westbound				SR 512 NB Ramps Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	106	40	0	5	191	0	0	18	0	71	0	0	0	0	431	0
4:15 PM	**0**	**0**	**85**	**35**	**0**	**7**	**208**	**0**	**0**	**21**	**0**	**59**	**0**	**0**	**0**	**0**	**415**	0
4:30 PM	**0**	**0**	**86**	**25**	**0**	**6**	**206**	**0**	**0**	**19**	**0**	**64**	**0**	**0**	**0**	**0**	**406**	0
4:45 PM	**0**	**0**	**86**	**32**	**0**	**5**	**180**	**0**	**0**	**25**	**0**	**69**	**0**	**0**	**0**	**0**	**397**	1,649
5:00 PM	**0**	**0**	**114**	**34**	**0**	**8**	**194**	**0**	**0**	**19**	**0**	**100**	**0**	**0**	**0**	**0**	**469**	**1,687**
5:15 PM	0	0	101	31	0	10	182	0	0	16	0	64	0	0	0	0	404	1,676
5:30 PM	0	0	107	33	0	11	136	0	0	10	0	58	0	0	0	0	355	1,625
5:45 PM	0	0	112	21	0	5	152	0	0	16	0	44	0	0	0	0	350	1,578
Count Total	0	0	797	251	0	57	1,449	0	0	144	0	529	0	0	0	0	3,227	0
Peak Hour All	**0**	**0**	**371**	**126**	**0**	**26**	**788**	**0**	**0**	**84**	**0**	**292**	**0**	**0**	**0**	**0**	**1,687**	**0**
Peak Hour HV	**0**	**0**	**4**	**3**	**0**	**1**	**13**	**0**	**0**	**3**	**0**	**13**	**0**	**0**	**0**	**0**	**37**	**0**
Peak Hour HV%	**-**	**-**	**1%**	**2%**	**-**	**4%**	**2%**	**-**	**-**	**4%**	**-**	**4%**	**-**	**-**	**-**	**-**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	1	3	0	*11*	0	0	0	0	*0*	0	0	0	8	*8*
4:15 PM	**0**	**5**	**5**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
4:30 PM	**2**	**4**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	*2*
4:45 PM	**3**	**2**	**6**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**2**	**3**	**5**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	2	1	0	*4*	0	0	0	0	*0*	0	0	0	1	*1*
5:45 PM	2	4	1	0	*7*	0	0	0	0	*0*	0	0	0	2	*2*
Count Total	17	21	21	0	*59*	0	0	0	0	*0*	0	0	0	15	*15*
Peak Hr	**7**	**14**	**16**	**0**	***37***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**4**	***4***

Two-Hour Count Summaries - Heavy Vehicles

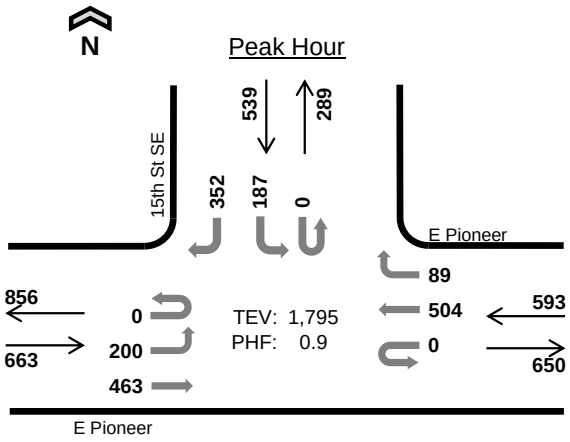
Interval Start	E Pioneer				E Pioneer				SR 512 NB Ramps				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	6	1	0	0	1	0	0	1	0	2	0	0	0	0	11	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**10**	0
4:30 PM	**0**	**0**	**1**	**1**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:45 PM	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**11**	38
5:00 PM	**0**	**0**	**1**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**10**	**37**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
5:30 PM	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	4	25
5:45 PM	0	0	1	1	0	0	4	0	0	0	0	1	0	0	0	0	7	21
Count Total	0	0	12	5	0	2	19	0	0	4	0	17	0	0	0	0	59	0
Peak Hour	**0**	**0**	**4**	**3**	**0**	**1**	**13**	**0**	**0**	**3**	**0**	**13**	**0**	**0**	**0**	**0**	**37**	**0**

Two-Hour Count Summaries - Bikes

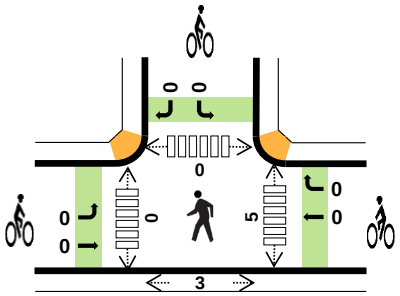
Interval Start	E Pioneer			E Pioneer			SR 512 NB Ramps			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
E Pioneer



Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	2.6%	0.91
WB	1.7%	0.94
NB	-	-
SB	0.7%	0.84
TOTAL	1.7%	0.90

Two-Hour Count Summaries

Interval Start		E Pioneer Eastbound				E Pioneer Westbound				0 Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	35	125	0	0	0	136	17	0	0	0	0	0	45	0	88	446	0
4:15 PM		0	50	99	0	0	0	133	17	0	0	0	0	0	39	0	77	415	0
4:30 PM		**0**	**38**	**106**	**0**	**0**	**0**	**139**	**19**	**0**	**0**	**0**	**0**	**0**	**54**	**0**	**92**	**448**	0
4:45 PM		**0**	**54**	**109**	**0**	**0**	**0**	**116**	**20**	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**81**	**419**	1,728
5:00 PM		**0**	**54**	**128**	**0**	**0**	**0**	**129**	**26**	**0**	**0**	**0**	**0**	**0**	**56**	**0**	**105**	**498**	1,780
5:15 PM		**0**	**54**	**120**	**0**	**0**	**0**	**120**	**24**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**74**	**430**	**1,795**
5:30 PM		0	23	150	0	0	0	114	8	0	0	0	0	0	24	0	36	355	1,702
5:45 PM		0	38	111	0	0	0	105	23	0	0	0	0	0	49	0	69	395	1,678
Count Total		0	346	948	0	0	0	992	154	0	0	0	0	0	344	0	622	3,406	0
Peak Hour	**All**	**0**	**200**	**463**	**0**	**0**	**0**	**504**	**89**	**0**	**0**	**0**	**0**	**0**	**187**	**0**	**352**	**1,795**	**0**
	HV	**0**	**10**	**7**	**0**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**31**	**0**
	HV%	**-**	**5%**	**2%**	**-**	**-**	**-**	**2%**	**1%**	**-**	**-**	**-**	**-**	**-**	**1%**	**-**	**1%**	**2%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	8	4	0	0	*12*	0	0	0	0	*0*	1	0	0	0	*1*
4:15 PM	2	2	0	2	*6*	1	0	0	0	*1*	1	0	1	0	*2*
4:30 PM	**2**	**4**	**0**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**8**	**2**	**0**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**2**	*4*
5:00 PM	**5**	**4**	**0**	**1**	***10***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**1**	*3*
5:15 PM	**2**	**0**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	1	2	0	0	*3*	0	0	0	0	*0*	1	0	0	1	*2*
5:45 PM	1	3	0	2	*6*	0	0	0	0	*0*	0	0	0	6	*6*
Count Total	29	21	0	8	*58*	1	0	0	0	*1*	8	0	1	10	*19*
Peak Hr	**17**	**10**	**0**	**4**	***31***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**3**	***8***

Two-Hour Count Summaries - Heavy Vehicles

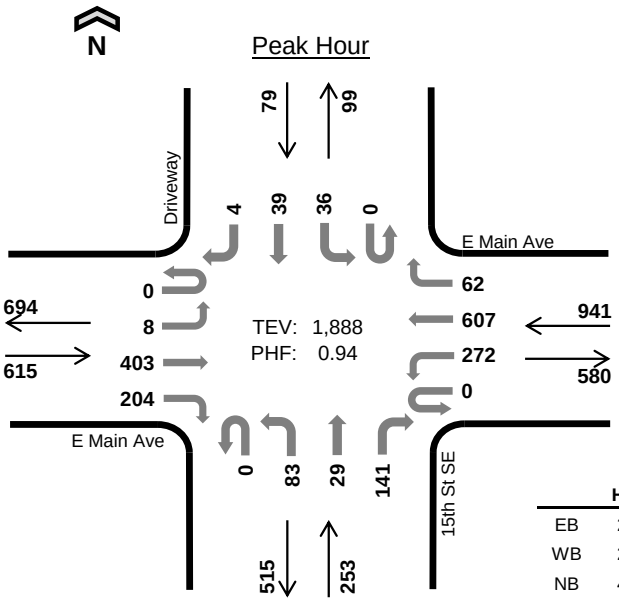
Interval Start	E Pioneer Eastbound				E Pioneer Westbound				0 Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	5	3	0	0	0	2	2	0	0	0	0	0	0	0	0	12	0
4:15 PM	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	2	6	0
4:30 PM	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	0
4:45 PM	**0**	**5**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	36
5:00 PM	**0**	**3**	**2**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	34
5:15 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**31**
5:30 PM	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	27
5:45 PM	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	2	6	22
Count Total	0	18	11	0	0	0	18	3	0	0	0	0	0	1	0	7	58	0
Peak Hour	**0**	**10**	**7**	**0**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**31**	**0**

Two-Hour Count Summaries - Bikes

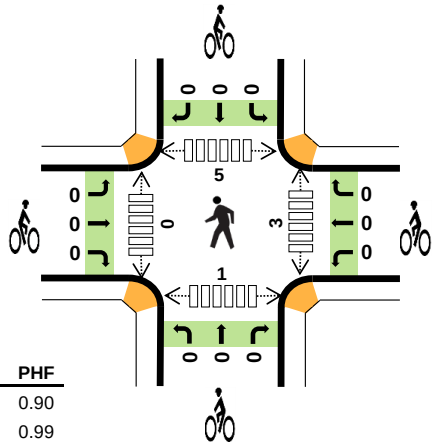
Interval Start	E Pioneer Eastbound			E Pioneer Westbound			0 Northbound			15th St SE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
E Main Ave



Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	2.8%	0.90
WB	2.3%	0.99
NB	4.0%	0.87
SB	2.5%	0.86
TOTAL	2.7%	0.94

Two-Hour Count Summaries

Interval Start		E Main Ave Eastbound				E Main Ave Westbound				15th St SE Northbound				Driveway Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	2	120	39	0	77	148	19	0	18	6	27	0	15	10	3	484	0
4:15 PM		**0**	**1**	**101**	**46**	**0**	**63**	**150**	**19**	**0**	**18**	**11**	**34**	**0**	**8**	**13**	**1**	**465**	0
4:30 PM		**0**	**4**	**101**	**42**	**0**	**70**	**154**	**13**	**0**	**20**	**8**	**27**	**0**	**8**	**8**	**1**	**456**	0
4:45 PM		**0**	**3**	**94**	**52**	**0**	**70**	**154**	**13**	**0**	**22**	**4**	**36**	**0**	**10**	**5**	**2**	**465**	1,870
5:00 PM		**0**	**0**	**107**	**64**	**0**	**69**	**149**	**17**	**0**	**23**	**6**	**44**	**0**	**10**	**13**	**0**	**502**	**1,888**
5:15 PM		0	1	93	42	0	57	139	11	0	18	8	43	0	17	9	3	441	1,864
5:30 PM		0	0	109	48	0	63	128	10	0	29	1	34	0	5	7	0	434	1,842
5:45 PM		0	2	102	29	0	53	109	7	0	12	10	31	0	5	13	0	373	1,750
Count Total		0	13	827	362	0	522	1,131	109	0	160	54	276	0	78	78	10	3,620	0
Peak Hour	**All**	**0**	**8**	**403**	**204**	**0**	**272**	**607**	**62**	**0**	**83**	**29**	**141**	**0**	**36**	**39**	**4**	**1,888**	**0**
	HV	**0**	**0**	**17**	**0**	**0**	**2**	**17**	**3**	**0**	**4**	**0**	**6**	**0**	**1**	**0**	**1**	**51**	**0**
	HV%	**-**	**0%**	**4%**	**0%**	**-**	**1%**	**3%**	**5%**	**-**	**5%**	**0%**	**4%**	**-**	**3%**	**0%**	**25%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	6	5	7	0	*18*	0	0	0	0	*0*	1	1	2	1	*5*
4:15 PM	**5**	**8**	**1**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:30 PM	**8**	**8**	**1**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**1**	**0**	*4*
4:45 PM	**1**	**3**	**3**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:00 PM	**3**	**3**	**5**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**1**	***3***
5:15 PM	2	5	1	1	*9*	0	0	0	0	*0*	6	0	0	3	*9*
5:30 PM	2	3	1	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	2	0	0	*3*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	28	37	19	3	*87*	0	0	0	0	*0*	12	1	7	5	*25*
Peak Hour	**17**	**22**	**10**	**2**	***51***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**5**	**1**	***9***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Main Ave Eastbound				E Main Ave Westbound				15th St SE Northbound				Driveway Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	6	0	0	0	5	0	0	1	0	6	0	0	0	0	18	0
4:15 PM	**0**	**0**	**5**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**14**	0
4:30 PM	**0**	**0**	**8**	**0**	**0**	**1**	**5**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**18**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	57
5:00 PM	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**0**	**3**	**0**	**2**	**0**	**1**	**0**	**0**	**12**	**51**
5:15 PM	0	0	1	1	0	0	4	1	0	0	0	1	0	1	0	0	9	46
5:30 PM	0	0	2	0	0	0	3	0	0	1	0	0	0	0	0	0	6	34
5:45 PM	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	3	30
Count Total	0	0	27	1	0	4	29	4	0	6	0	13	0	2	0	1	87	0
Peak Hour	**0**	**0**	**17**	**0**	**0**	**2**	**17**	**3**	**0**	**4**	**0**	**6**	**0**	**1**	**0**	**1**	**51**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	E Main Ave Eastbound			E Main Ave Westbound			15th St SE Northbound			Driveway Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

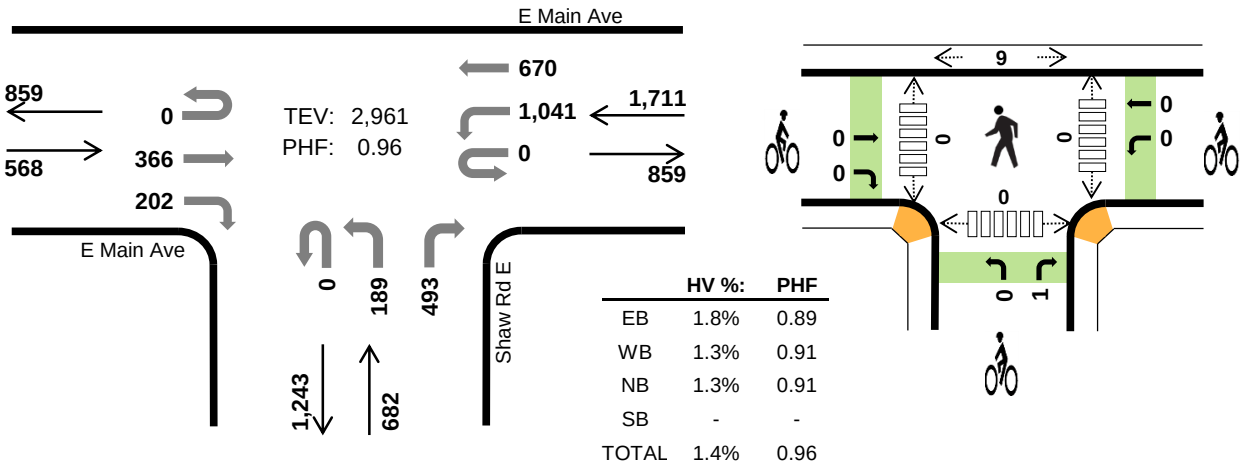
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
E Main Ave

N

Peak Hour

Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.8%	0.89
WB	1.3%	0.91
NB	1.3%	0.91
SB	-	-
TOTAL	1.4%	0.96

Two-Hour Count Summaries

Interval Start		E Main Ave Eastbound				E Main Ave Westbound				Shaw Rd E Northbound				0 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	108	48	0	212	178	0	0	41	0	111	0	0	0	0	698	0
4:15 PM		0	0	90	42	0	189	160	0	0	62	0	120	0	0	0	0	663	0
4:30 PM		**0**	**0**	**89**	**55**	**0**	**232**	**157**	**0**	**0**	**52**	**0**	**135**	**0**	**0**	**0**	**0**	**720**	0
4:45 PM		**0**	**0**	**87**	**56**	**0**	**282**	**188**	**0**	**0**	**48**	**0**	**111**	**0**	**0**	**0**	**0**	**772**	2,853
5:00 PM		**0**	**0**	**104**	**55**	**0**	**256**	**166**	**0**	**0**	**42**	**0**	**128**	**0**	**0**	**0**	**0**	**751**	2,906
5:15 PM		**0**	**0**	**86**	**36**	**0**	**271**	**159**	**0**	**0**	**47**	**0**	**119**	**0**	**0**	**0**	**0**	**718**	**2,961**
5:30 PM		0	0	80	47	0	205	167	0	0	49	0	121	0	0	0	0	669	2,910
5:45 PM		0	0	70	44	0	190	119	0	0	51	0	95	0	0	0	0	569	2,707
Count Total		0	0	714	383	0	1,837	1,294	0	0	392	0	940	0	0	0	0	5,560	0
Peak Hour	**All**	**0**	**0**	**366**	**202**	**0**	**1,041**	**670**	**0**	**0**	**189**	**0**	**493**	**0**	**0**	**0**	**0**	**2,961**	**0**
	HV	**0**	**0**	**7**	**3**	**0**	**11**	**12**	**0**	**0**	**5**	**0**	**4**	**0**	**0**	**0**	**0**	**42**	**0**
	HV%	**-**	**-**	**2%**	**1%**	**-**	**1%**	**2%**	**-**	**-**	**3%**	**-**	**1%**	**-**	**-**	**-**	**-**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	6	7	7	0	*20*	0	0	0	0	*0*	0	1	2	1	*4*
4:15 PM	2	5	5	0	*12*	0	0	0	0	*0*	0	1	2	0	*3*
4:30 PM	**4**	**6**	**3**	**0**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**7**	**0**	*7*
4:45 PM	**1**	**4**	**1**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	*2*
5:00 PM	**3**	**7**	**1**	**0**	***11***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**6**	**4**	**0**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	2	5	6	0	*13*	0	0	0	0	*0*	0	2	2	0	*4*
5:45 PM	0	3	2	0	*5*	0	0	0	0	*0*	0	5	7	0	*12*
Count Total	20	43	29	0	*92*	0	0	1	0	*1*	0	9	22	1	*32*
Peak Hr	**10**	**23**	**9**	**0**	***42***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**9**	**0**	***9***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Main Ave				E Main Ave				Shaw Rd E				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	5	1	0	3	4	0	0	4	0	3	0	0	0	0	20	0
4:15 PM	0	0	2	0	0	1	4	0	0	4	0	1	0	0	0	0	12	0
4:30 PM	**0**	**0**	**2**	**2**	**0**	**4**	**2**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**13**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	51
5:00 PM	**0**	**0**	**2**	**1**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	42
5:15 PM	**0**	**0**	**2**	**0**	**0**	**2**	**4**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**12**	**42**
5:30 PM	0	0	2	0	0	2	3	0	0	0	0	6	0	0	0	0	13	42
5:45 PM	0	0	0	0	0	2	1	0	0	0	0	2	0	0	0	0	5	41
Count Total	0	0	16	4	0	19	24	0	0	13	0	16	0	0	0	0	92	0
Peak Hour	**0**	**0**	**7**	**3**	**0**	**11**	**12**	**0**	**0**	**5**	**0**	**4**	**0**	**0**	**0**	**0**	**42**	**0**

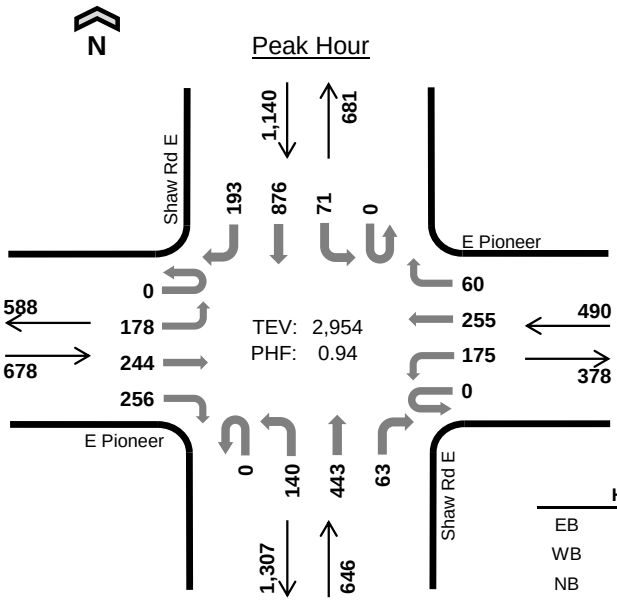
Two-Hour Count Summaries - Bikes

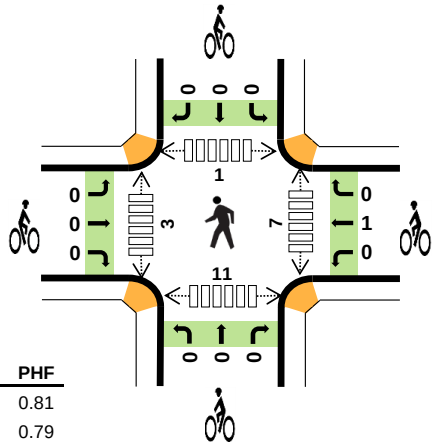
Interval Start	E Main Ave			E Main Ave			Shaw Rd E			0			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Shaw Rd E
E Pioneer

Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.9%	0.81
WB	1.8%	0.79
NB	1.7%	0.81
SB	1.1%	0.89
TOTAL	1.3%	0.94

Two-Hour Count Summaries

Interval Start		E Pioneer Eastbound				E Pioneer Westbound				Shaw Rd E Northbound				Shaw Rd E Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	31	71	54	0	38	72	21	0	44	118	12	0	12	196	41	710	0
4:15 PM		0	43	50	62	0	35	60	13	0	41	98	20	0	16	189	39	666	0
4:30 PM		**0**	**42**	**70**	**42**	**0**	**54**	**81**	**21**	**0**	**50**	**123**	**27**	**0**	**21**	**207**	**44**	**782**	0
4:45 PM		**0**	**45**	**51**	**54**	**0**	**42**	**60**	**14**	**0**	**34**	**96**	**9**	**0**	**23**	**243**	**56**	**727**	2,885
5:00 PM		**0**	**48**	**75**	**86**	**0**	**40**	**75**	**14**	**0**	**37**	**93**	**12**	**0**	**13**	**219**	**41**	**753**	2,928
5:15 PM		**0**	**43**	**48**	**74**	**0**	**39**	**39**	**11**	**0**	**19**	**131**	**15**	**0**	**14**	**207**	**52**	**692**	**2,954**
5:30 PM		0	60	53	59	0	40	53	10	0	31	82	7	0	16	200	39	650	2,822
5:45 PM		0	24	55	55	0	32	60	13	0	26	104	23	0	21	249	36	698	2,793
Count Total		0	336	473	486	0	320	500	117	0	282	845	125	0	136	1,710	348	5,678	0
Peak Hour	**All**	**0**	**178**	**244**	**256**	**0**	**175**	**255**	**60**	**0**	**140**	**443**	**63**	**0**	**71**	**876**	**193**	**2,954**	**0**
	HV	**0**	**1**	**4**	**1**	**0**	**4**	**4**	**1**	**0**	**2**	**9**	**0**	**0**	**4**	**7**	**1**	**38**	**0**
	HV%	**-**	**1%**	**2%**	**0%**	**-**	**2%**	**2%**	**2%**	**-**	**1%**	**2%**	**0%**	**-**	**6%**	**1%**	**1%**	**1%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	6	6	4	2	*18*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	3	6	3	*14*	0	0	0	0	*0*	3	0	0	5	*8*
4:30 PM	**2**	**3**	**2**	**5**	***12***	**0**	**0**	**0**	**0**	***0***	**6**	**2**	**0**	**10**	*18*
4:45 PM	**1**	**1**	**1**	**1**	***4***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**1**	**0**	*2*
5:00 PM	**2**	**3**	**4**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**1**	**2**	**4**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***
5:30 PM	0	2	5	1	*8*	0	0	0	0	*0*	1	0	0	3	*4*
5:45 PM	0	1	5	4	*10*	0	0	0	0	*0*	1	0	0	1	*2*
Count Total	14	21	31	22	*88*	0	1	0	0	*1*	12	3	1	20	*36*
Peak Hour	**6**	**9**	**11**	**12**	***38***	**0**	**1**	**0**	**0**	***1***	**7**	**3**	**1**	**11**	***22***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Pioneer Eastbound				E Pioneer Westbound				Shaw Rd E Northbound				Shaw Rd E Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	2	0	1	1	4	0	2	2	0	0	1	1	0	18	0
4:15 PM	0	0	2	0	0	2	1	0	0	1	5	0	0	0	3	0	14	0
4:30 PM	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**3**	**0**	**12**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	48
5:00 PM	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**2**	**2**	**0**	**0**	**2**	**1**	**0**	**12**	42
5:15 PM	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**3**	**0**	**10**	**38**
5:30 PM	0	0	0	0	0	1	0	1	0	1	4	0	0	0	1	0	8	34
5:45 PM	0	0	0	0	0	0	1	0	0	1	2	2	0	0	4	0	10	40
Count Total	0	1	10	3	0	8	7	6	0	7	22	2	0	5	16	1	88	0
Peak Hour	**0**	**1**	**4**	**1**	**0**	**4**	**4**	**1**	**0**	**2**	**9**	**0**	**0**	**4**	**7**	**1**	**38**	**0**

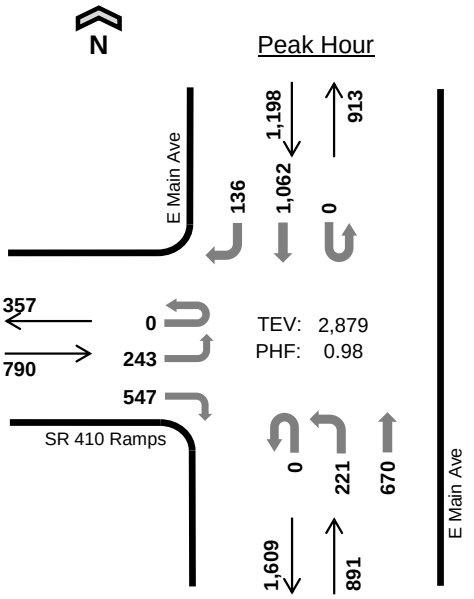
Two-Hour Count Summaries - Bikes

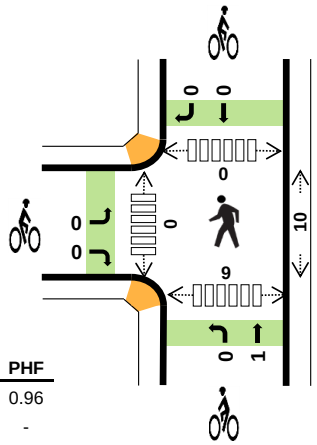
Interval Start	E Pioneer Eastbound			E Pioneer Westbound			Shaw Rd E Northbound			Shaw Rd E Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Main Ave
SR 410 Ramps

Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	5.8%	0.96
WB	-	-
NB	1.5%	0.93
SB	2.5%	0.90
TOTAL	3.1%	0.98

Two-Hour Count Summaries

Interval Start	SR 410 Ramps Eastbound				0 Westbound				E Main Ave Northbound				E Main Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	57	0	102	0	0	0	0	0	60	165	0	0	0	252	28	664	0
4:15 PM	0	64	0	99	0	0	0	0	0	37	146	0	0	0	259	38	643	0
4:30 PM	**0**	**62**	**0**	**141**	**0**	**0**	**0**	**0**	**0**	**60**	**179**	**0**	**0**	**0**	**227**	**34**	**703**	0
4:45 PM	**0**	**59**	**0**	**137**	**0**	**0**	**0**	**0**	**0**	**44**	**150**	**0**	**0**	**0**	**294**	**37**	**721**	2,731
5:00 PM	**0**	**59**	**0**	**146**	**0**	**0**	**0**	**0**	**0**	**66**	**165**	**0**	**0**	**0**	**271**	**27**	**734**	2,801
5:15 PM	**0**	**63**	**0**	**123**	**0**	**0**	**0**	**0**	**0**	**51**	**176**	**0**	**0**	**0**	**270**	**38**	**721**	**2,879**
5:30 PM	0	46	0	112	0	0	0	0	0	44	139	0	0	0	256	40	637	2,813
5:45 PM	0	68	0	105	0	0	0	0	0	33	145	0	0	0	182	28	561	2,653
Count Total	0	478	0	965	0	0	0	0	0	395	1,265	0	0	0	2,011	270	5,384	0
Peak Hour All	**0**	**243**	**0**	**547**	**0**	**0**	**0**	**0**	**0**	**221**	**670**	**0**	**0**	**0**	**1,062**	**136**	**2,879**	**0**
Peak Hour HV	**0**	**34**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**10**	**0**	**0**	**0**	**23**	**7**	**89**	**0**
Peak Hour HV%	**-**	**14%**	**-**	**2%**	**-**	**-**	**-**	**-**	**-**	**1%**	**1%**	**-**	**-**	**-**	**2%**	**5%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	12	0	6	4	*22*	0	0	0	0	*0*	5	0	0	6	*11*
4:15 PM	18	0	4	8	*30*	0	0	0	0	*0*	4	0	0	3	*7*
4:30 PM	**12**	**0**	**3**	**5**	***20***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**2**	*5*
4:45 PM	**10**	**0**	**1**	**6**	***17***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**3**	*6*
5:00 PM	**10**	**0**	**6**	**13**	***29***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**2**	*4*
5:15 PM	**14**	**0**	**3**	**6**	***23***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**2**	***4***
5:30 PM	10	0	6	7	*23*	0	0	0	0	*0*	1	0	0	1	*2*
5:45 PM	6	0	5	2	*13*	0	0	0	0	*0*	3	0	0	2	*5*
Count Total	92	0	34	51	*177*	0	0	1	0	*1*	23	0	0	21	*44*
Peak Hr	**46**	**0**	**13**	**30**	***89***	**0**	**0**	**1**	**0**	***1***	**10**	**0**	**0**	**9**	***19***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SR 410 Ramps				0				E Main Ave				E Main Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	8	0	4	0	0	0	0	0	1	5	0	0	0	3	1	22	0
4:15 PM	0	16	0	2	0	0	0	0	0	0	4	0	0	0	4	4	30	0
4:30 PM	**0**	**9**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**2**	**20**	0
4:45 PM	**0**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**1**	**17**	89
5:00 PM	**0**	**6**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**11**	**2**	**29**	96
5:15 PM	**0**	**10**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**4**	**2**	**23**	**89**
5:30 PM	0	8	0	2	0	0	0	0	0	2	4	0	0	0	6	1	23	92
5:45 PM	0	4	0	2	0	0	0	0	0	0	5	0	0	0	1	1	13	88
Count Total	0	70	0	22	0	0	0	0	0	6	28	0	0	0	37	14	177	0
Peak Hour	**0**	**34**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**10**	**0**	**0**	**0**	**23**	**7**	**89**	**0**

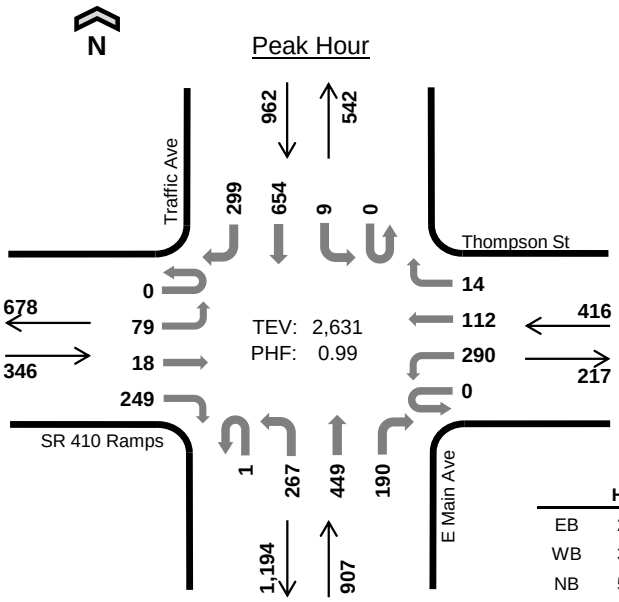
Two-Hour Count Summaries - Bikes

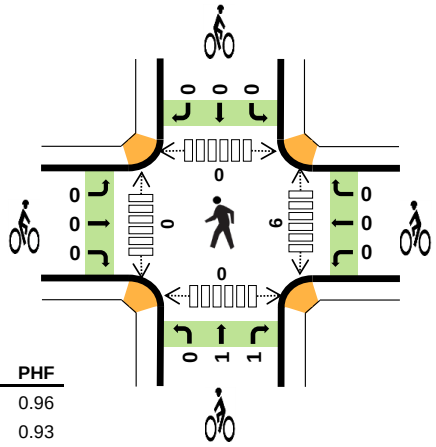
Interval Start	SR 410 Ramps			0			E Main Ave			E Main Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Main Ave
SR 410 Ramps

Date: 03/22/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	2.0%	0.96
WB	3.1%	0.93
NB	5.5%	0.93
SB	5.2%	0.93
TOTAL	4.6%	0.99

Two-Hour Count Summaries

Interval Start		SR 410 Ramps Eastbound				Thompson St Westbound				E Main Ave Northbound				Traffic Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	5	66	0	61	24	2	0	75	90	47	0	3	152	102	641	0
4:15 PM		0	16	4	70	0	64	37	2	0	55	110	57	0	4	168	77	664	0
4:30 PM		**0**	**24**	**6**	**60**	**0**	**66**	**44**	**2**	**1**	**64**	**129**	**49**	**0**	**3**	**138**	**73**	**659**	0
4:45 PM		**0**	**22**	**5**	**63**	**0**	**81**	**22**	**3**	**0**	**52**	**110**	**48**	**0**	**2**	**181**	**75**	**664**	2,628
5:00 PM		**0**	**16**	**5**	**63**	**0**	**79**	**25**	**3**	**0**	**72**	**100**	**43**	**0**	**2**	**161**	**74**	**643**	2,630
5:15 PM		**0**	**17**	**2**	**63**	**0**	**64**	**21**	**6**	**0**	**79**	**110**	**50**	**0**	**2**	**174**	**77**	**665**	**2,631**
5:30 PM		0	13	4	63	0	62	20	5	0	74	98	31	0	5	168	61	604	2,576
5:45 PM		0	14	2	46	0	37	13	2	0	46	108	43	0	3	132	55	501	2,413
Count Total		0	136	33	494	0	514	206	25	1	517	855	368	0	24	1,274	594	5,041	0
Peak Hour	**All**	**0**	**79**	**18**	**249**	**0**	**290**	**112**	**14**	**1**	**267**	**449**	**190**	**0**	**9**	**654**	**299**	**2,631**	**0**
	HV	**0**	**2**	**3**	**2**	**0**	**8**	**4**	**1**	**0**	**8**	**35**	**7**	**0**	**0**	**18**	**32**	**120**	**0**
	HV%	**-**	**3%**	**17%**	**1%**	**-**	**3%**	**4%**	**7%**	**0%**	**3%**	**8%**	**4%**	**-**	**0%**	**3%**	**11%**	**5%**	**0**

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

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	2	14	10	*27*	0	0	0	0	*0*	1	0	0	0	*1*
4:15 PM	3	14	16	17	*50*	0	0	0	0	*0*	3	0	0	0	*3*
4:30 PM	**2**	**2**	**14**	**17**	***35***	**0**	**0**	**1**	**0**	***1***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**1**	**4**	**9**	**18**	***32***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
5:00 PM	**3**	**4**	**12**	**7**	***26***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
5:15 PM	**1**	**3**	**15**	**8**	***27***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***
5:30 PM	5	3	11	4	*23*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	1	1	6	8	*16*	0	0	0	0	*0*	3	0	0	0	*3*
Count Total	17	33	97	89	*236*	0	0	2	0	*2*	14	0	0	0	*14*
Peak Hour	**7**	**13**	**50**	**50**	***120***	**0**	**0**	**2**	**0**	***2***	**6**	**0**	**0**	**0**	***6***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SR 410 Ramps				Thompson St				E Main Ave				Traffic Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	1	1	0	0	1	10	3	0	0	1	9	27	0
4:15 PM	0	0	1	2	0	2	12	0	0	2	11	3	0	0	6	11	50	0
4:30 PM	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**11**	**2**	**0**	**0**	**3**	**14**	**35**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**1**	**0**	**1**	**7**	**1**	**0**	**0**	**4**	**14**	**32**	144
5:00 PM	**0**	**0**	**1**	**2**	**0**	**3**	**1**	**0**	**0**	**3**	**6**	**3**	**0**	**0**	**6**	**1**	**26**	143
5:15 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**11**	**1**	**0**	**0**	**5**	**3**	**27**	**120**
5:30 PM	0	1	1	3	0	2	0	1	0	2	8	1	0	0	2	2	23	108
5:45 PM	0	1	0	0	0	0	1	0	0	1	4	1	0	0	2	6	16	92
Count Total	0	4	5	8	0	13	18	2	0	14	68	15	0	0	29	60	236	0
Peak Hour	**0**	**2**	**3**	**2**	**0**	**8**	**4**	**1**	**0**	**8**	**35**	**7**	**0**	**0**	**18**	**32**	**120**	**0**

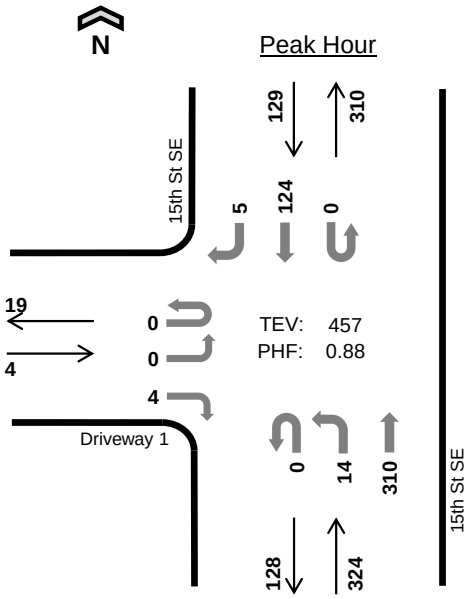
Two-Hour Count Summaries - Bikes

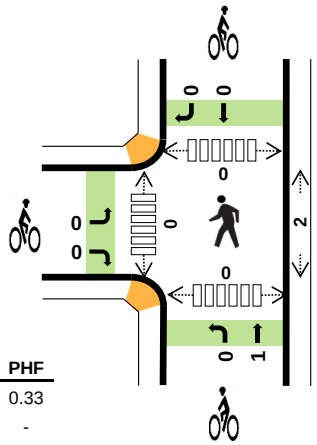
Interval Start	SR 410 Ramps			Thompson St			E Main Ave			Traffic Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	2
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	1	1	0	0	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
Driveway 1

Date: 09/14/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	0.0%	0.33
WB	-	-
NB	2.2%	0.84
SB	5.4%	0.90
TOTAL	3.1%	0.88

Two-Hour Count Summaries

Interval Start		Driveway 1 Eastbound				0 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	0	0	0	0	4	63	0	0	0	30	0	97	0
7:15 AM		**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**67**	**0**	**0**	**0**	**31**	**0**	**102**	0
7:30 AM		**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**92**	**0**	**0**	**0**	**34**	**0**	**130**	0
7:45 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**90**	**0**	**0**	**0**	**24**	**4**	**125**	454
8:00 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**61**	**0**	**0**	**0**	**35**	**1**	**100**	**457**
8:15 AM		0	0	0	0	0	0	0	0	0	4	49	0	0	0	38	1	92	447
8:30 AM		0	0	0	0	0	0	0	0	0	2	48	0	0	0	39	0	89	406
8:45 AM		0	1	0	0	0	0	0	0	0	2	56	0	0	0	35	0	94	375
Count Total		0	1	0	4	0	0	0	0	0	26	526	0	0	0	266	6	829	0
Peak Hour	**All**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**14**	**310**	**0**	**0**	**0**	**124**	**5**	**457**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**0**	**14**	**0**
	HV%	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**2%**	**-**	**-**	**-**	**6%**	**0%**	**3%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	*2*
8:00 AM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	4	5	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	15	22	*37*	0	0	1	0	*1*	2	0	0	0	*2*
Peak Hr	**0**	**0**	**7**	**7**	***14***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**0**	**0**	***2***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway 1				0				15th St SE				15th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	7	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	17
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**14**
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	9	19
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	20
Count Total	0	0	0	0	0	0	0	0	0	0	15	0	0	0	22	0	37	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**7**	**0**	**14**	**0**

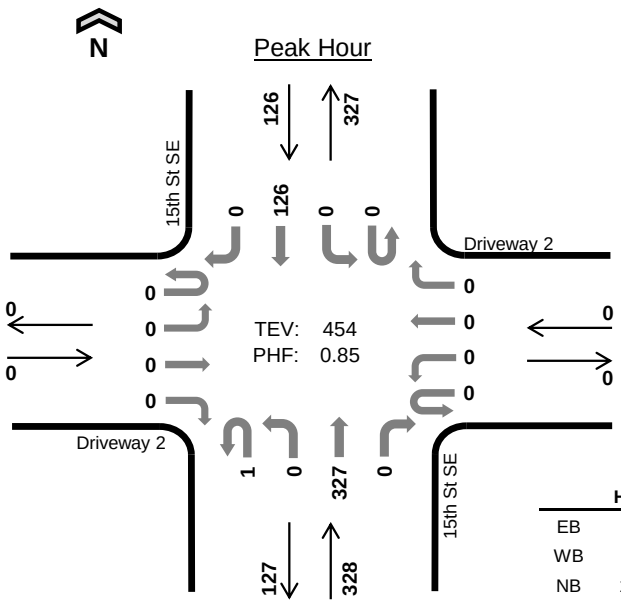
Two-Hour Count Summaries - Bikes

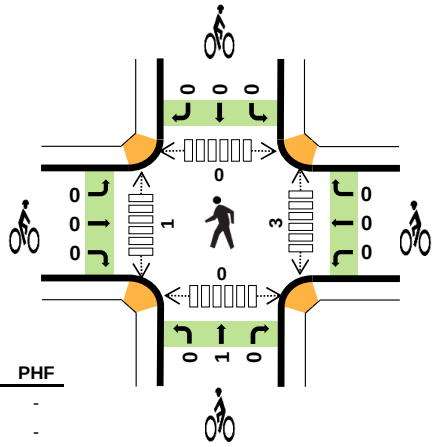
Interval Start	Driveway 1			0			15th St SE			15th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
Driveway 2

Date: 09/14/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	-	-
WB	-	-
NB	1.5%	0.85
SB	9.5%	0.88
TOTAL	3.7%	0.85

Two-Hour Count Summaries

Interval Start		Driveway 2 Eastbound				Driveway 2 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**69**	**0**	**0**	**0**	**31**	**0**	**100**	0
7:15 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**66**	**0**	**0**	**0**	**33**	**0**	**99**	0
7:30 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**97**	**0**	**0**	**0**	**36**	**0**	**133**	0
7:45 AM		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**95**	**0**	**0**	**0**	**26**	**0**	**122**	**454**
8:00 AM		0	0	0	0	0	0	0	0	0	0	62	0	0	0	36	0	98	452
8:15 AM		0	0	0	0	0	0	0	0	0	0	52	0	0	0	39	0	91	444
8:30 AM		0	0	0	0	0	0	0	0	0	0	49	0	0	0	37	0	86	397
8:45 AM		0	0	0	0	0	0	0	0	0	0	60	2	0	0	35	0	97	372
Count Total		0	0	0	0	0	0	0	0	1	0	550	2	0	0	273	0	826	0
Peak Hour	**All**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**327**	**0**	**0**	**0**	**126**	**0**	**454**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**12**	**0**	**17**	**0**
	HV%	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**2%**	**-**	**-**	**-**	**10%**	**-**	**4%**	**0**

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**2**	**5**	***7***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:15 AM	**0**	**0**	**2**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**1**	**0**	***1***	**1**	**1**	**0**	**0**	***2***
8:00 AM	0	0	4	0	*4*	0	0	0	0	*0*	1	0	0	0	*1*
8:15 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	5	5	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	2	3	*5*	0	0	0	0	*0*	2	0	0	0	*2*
Count Total	0	0	17	22	*39*	0	0	1	0	*1*	6	1	0	0	*7*
Peak Hour	**0**	**0**	**5**	**12**	***17***	**0**	**0**	**1**	**0**	***1***	**3**	**1**	**0**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway 2 Eastbound				Driveway 2 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**7**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**17**
8:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	14
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	11
8:30 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	10	20
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	5	22
Count Total	0	0	0	0	0	0	0	0	0	0	16	1	0	0	22	0	39	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**12**	**0**	**17**	**0**

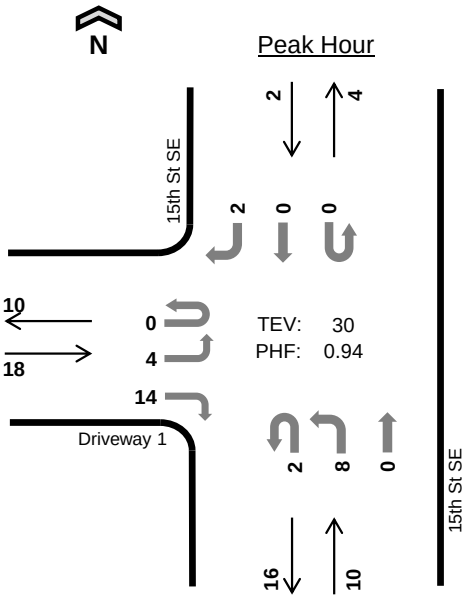
Two-Hour Count Summaries - Bikes

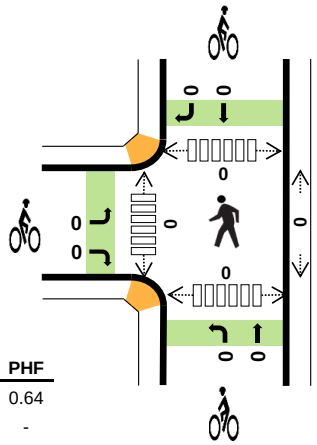
Interval Start	Driveway 2 Eastbound			Driveway 2 Westbound			15th St SE Northbound			15th St SE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
Driveway 1

Date: 09/14/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.0%	0.64
WB	-	-
NB	0.0%	0.50
SB	0.0%	0.25
TOTAL	0.0%	0.94

Two-Hour Count Summaries

Interval Start		Driveway 1 Eastbound				0 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:15 PM		**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	0
4:30 PM		**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**8**	0
4:45 PM		**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**30**
5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
5:15 PM		0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	8	24
5:30 PM		0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	2	8	24
5:45 PM		0	1	0	6	0	0	0	0	0	2	0	0	0	0	0	0	9	25
Count Total		0	5	0	28	0	0	0	0	2	16	0	0	0	0	0	4	55	0
Peak Hour	**All**	**0**	**4**	**0**	**14**	**0**	**0**	**0**	**0**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**2**	**30**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	HV%	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**0%**	**0**

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

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

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway 1				0				15th St SE				15th St SE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

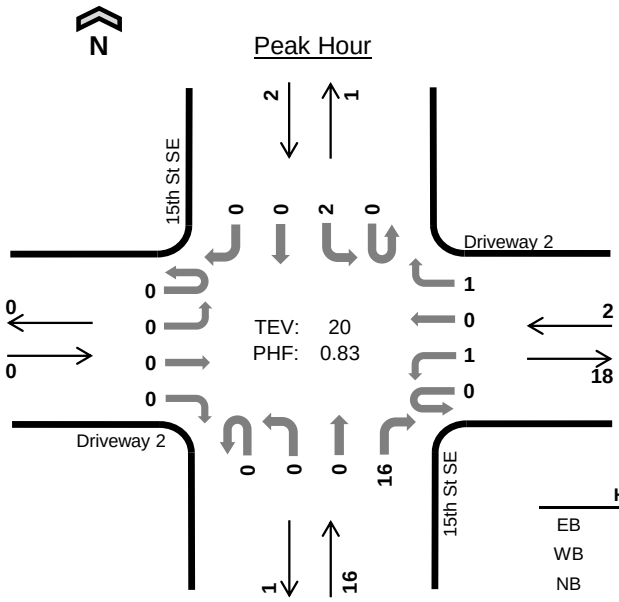
Two-Hour Count Summaries - Bikes

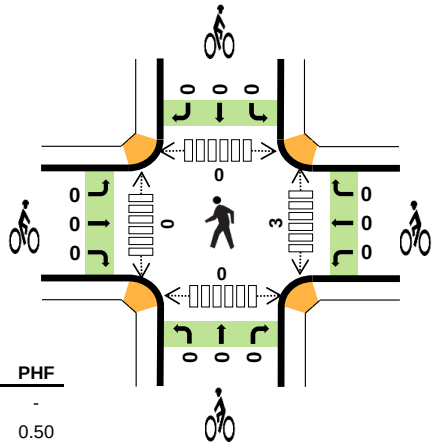
Interval Start	Driveway 1			0			15th St SE			15th St SE			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

15th St SE
Driveway 2

Date: 09/14/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	-	-
WB	0.0%	0.50
NB	0.0%	0.80
SB	0.0%	0.50
TOTAL	0.0%	0.83

Two-Hour Count Summaries

Interval Start	Driveway 2 Eastbound				Driveway 2 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	4	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	4	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**4**	14
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**1**	**0**	**0**	**6**	16
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**4**	16
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**6**	**20**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	19
Count Total	0	0	0	0	0	2	0	1	0	0	0	25	0	5	0	0	33	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**16**	**0**	**2**	**0**	**0**	**20**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**-**	**0%**	**0**

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

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

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway 2 Eastbound				Driveway 2 Westbound				15th St SE Northbound				15th St SE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Driveway 2 Eastbound			Driveway 2 Westbound			15th St SE Northbound			15th St SE Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B

True Demand

Table B1
Year 2022 Existing PM Peak Hour True Demand Volume Summary

Study Intersection / Movement	Initial Queue (veh)	Turning Movement Counts (veh)	Residual Queue (veh)	True Demand Volume (veh)
1. 5th Street SE / E Main Ave				
Eastbound Left	0	8	0	8
Eastbound Thru	6	299	7	306
Eastbound Right	1	30	3	33
Westbound Left	2	209	4	213
Westbound Thru	3	465	3	468
Westbound Right	1	91	1	92
Northbound Left	0	12	0	12
Northbound Thru	2	119	0	119
Northbound Right	0	89	0	89
Southbound Left	1	203	1	204
Southbound Thru	2	468	8	476
Southbound Right	1	20	0	20
6. Shaw Road E / E Main Ave				
Eastbound Thru	5	366	8	374
Eastbound Right	2	202	3	205
Westbound Left	21	1,041	16	1,057
Westbound Thru	9	670	5	675
Northbound Left	3	189	3	192
Northbound Right	0	493	7	500
7. Shaw Road E / E Pioneer Way				
Eastbound Left	3	178	4	182
Eastbound Thru	6	244	2	246
Eastbound Right	1	256	4	260
Westbound Left	1	175	1	176
Westbound Thru	9	255	4	259
Westbound Right	2	60	1	61
Northbound Left	0	140	3	143
Northbound Thru	2	443	1	444
Northbound Right	0	63	0	63
Southbound Left	0	71	0	71
Southbound Thru	10	876	28	904
Southbound Right	2	193	7	200

It should be noted that the volumes in Table B1 are summarized by movement and are not associated with an individual lane. For example, at the intersection of Shaw Road E/E Pioneer Way, the northbound approach channelization includes dual northbound left-turn lanes, one northbound thru lane, and one shared northbound thru-right-turn lane. However, the northbound true demand at the intersection is summarized by the available northbound turn movements (left-turn, thru, and right-turn).

True Demand – Methodology

True Demand:

"True Demand" is defined as the total number vehicles that arrive at an intersection's approach during a 15-minute interval. When 15-minute traffic volumes exceed the capacity of individual traffic movements, the true demand volumes are the number of the vehicles counted for each turning movement period PLUS the number of vehicles that arrived at the intersection during a 15-minute count period but did not yet enter the intersection.

To collect demand volume counts, a separate count will be made of number of vehicles remaining in queue at the beginning of each new 15-minute period for each traffic movement. When added to the standard 15-minute period turning movement counts, the total demand volumes can be estimated for each traffic movement for each 15-minute period.

Methodology:

1. The count of vehicles that makes the turning movement or the number of vehicles that enters the intersection at a particular 15 minutes interval from all arms of an intersection are counted as normal.

2. At the end of the 15 minutes period, the number of vehicles that have already arrived at the intersection and either queuing at the red lights or moving to cross the stop line are identified.

3. The identified vehicles are then counted as per their turning movement and added to the original 15 minutes period in which they arrived (but not serviced).

4. The total turning volume + vehicles that have arrived but not crossed = True demand for that particular 15 minutes.

240 15th Street
True Demand Calculations
5th St NE / E Main Ave

	True Demand - TOTAL											
	E Main Ave Eastbound			E Main Ave Westbound			5th St NE Northbound			5th St NE Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	1	85	8	55	114	21	4	28	29	54	126	5
4:15 PM	1	87	9	54	127	25	4	33	17	45	115	6
4:30 PM	2	63	9	58	116	23	2	30	22	60	141	5
4:45 PM	4	82	8	54	119	26	2	31	24	51	118	6
5:00 PM	2	72	14	66	115	36	2	32	20	55	102	9
5:15 PM	1	62	11	56	116	27	2	33	26	64	95	8
5:30 PM	4	81	10	58	103	17	7	24	23	44	71	5
5:45 PM	0	71	7	41	98	20	5	23	26	35	53	3
4:00 - 5:00 PM	8	317	34	221	476	95	12	122	92	210	500	22

	Turning Movement Counts - TOTAL											
	E Main Ave Eastbound			E Main Ave Westbound			5th St NE Northbound			5th St NE Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	1	79	7	53	111	20	4	26	29	53	124	4
4:15 PM	1	86	9	51	124	24	4	32	14	43	104	5
4:30 PM	2	59	9	55	114	22	2	30	22	57	130	5
4:45 PM	4	75	5	50	116	25	2	31	24	50	110	6
5:00 PM	2	72	14	65	114	36	2	28	19	53	91	9
5:15 PM	1	57	11	52	111	27	2	33	26	60	91	8
5:30 PM	4	75	10	53	102	16	7	24	23	40	65	5
5:45 PM	0	68	7	41	98	20	5	23	26	35	53	3
4:00 - 5:00 PM	8	299	30	209	465	91	12	119	89	203	468	20

PHF = 0.98

	DELTA = VEHICLES IN QUEUE											
	E Main Ave Eastbound			E Main Ave Westbound			5th St NE Northbound			5th St NE Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	0	6	1	2	3	1	0	2	0	1	2	1
4:15 PM	0	1	0	3	3	1	0	1	3	2	11	1
4:30 PM	0	4	0	3	2	1	0	0	0	3	11	0
4:45 PM	0	7	3	4	3	1	0	0	0	1	8	0
5:00 PM	0	0	0	1	1	0	0	4	1	2	11	0
5:15 PM	0	5	0	4	5	0	0	0	0	4	4	0
5:30 PM	0	6	0	5	1	1	0	0	0	4	6	0
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0
4:00 - 5:00 PM	0	18	4	12	11	4	0	3	3	7	32	2

4:00-5:00 PM True Demand Volumes

Initial Queue	0	6	1	2	3	1	0	2	0	1	2	1
Stop Line Count (TMC)	8	299	30	209	465	91	12	119	89	203	468	20
Queued vehicles @ 5:00	0	7	3	4	3	1	0	0	0	1	8	0
True Demand	8	306	33	213	468	92	12	119	89	204	476	20

240 15th Street
True Demand Calculations
Shaw Rd E / E Main Ave

	True Demand - TOTAL											
	E Main Ave Eastbound			E Main Ave Westbound			Shaw Rd E Northbound			- Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	0	108	50	223	181	0	45	0	112	0	0	0
4:15 PM	0	95	44	210	169	0	65	0	120	0	0	0
4:30 PM	0	95	55	255	171	0	54	0	135	0	0	0
4:45 PM	0	87	58	302	194	0	50	0	121	0	0	0
5:00 PM	0	108	55	286	175	0	43	0	128	0	0	0
5:15 PM	0	94	39	287	164	0	50	0	126	0	0	0
5:30 PM	0	83	55	234	176	0	52	0	121	0	0	0
5:45 PM	0	71	44	198	123	0	52	0	96	0	0	0
4:30 - 5:30 PM	0	384	207	1130	704	0	197	0	510	0	0	0

	Turning Movement Counts - TOTAL											
	E Main Ave Eastbound			E Main Ave Westbound			Shaw Rd E Northbound			- Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	0	108	48	212	178	0	41	0	111	0	0	0
4:15 PM	0	90	42	189	160	0	62	0	120	0	0	0
4:30 PM	0	89	55	232	157	0	52	0	135	0	0	0
4:45 PM	0	87	56	282	188	0	48	0	111	0	0	0
5:00 PM	0	104	55	256	166	0	42	0	128	0	0	0
5:15 PM	0	86	36	271	159	0	47	0	119	0	0	0
5:30 PM	0	80	47	205	167	0	49	0	121	0	0	0
5:45 PM	0	70	44	190	119	0	51	0	95	0	0	0
4:30 - 5:30 PM	0	366	202	1041	670	0	189	0	493	0	0	0

PHF = 0.96

	DELTA = VEHICLES IN QUEUE											
	E Main Ave Eastbound			E Main Ave Westbound			Shaw Rd E Northbound			- Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	0	0	2	11	3	0	4	0	1	0	0	0
4:15 PM	0	5	2	21	9	0	3	0	0	0	0	0
4:30 PM	0	6	0	23	14	0	2	0	0	0	0	0
4:45 PM	0	0	2	20	6	0	2	0	10	0	0	0
5:00 PM	0	4	0	30	9	0	1	0	0	0	0	0
5:15 PM	0	8	3	16	5	0	3	0	7	0	0	0
5:30 PM	0	3	8	29	9	0	3	0	0	0	0	0
5:45 PM	0	1	0	8	4	0	1	0	1	0	0	0
4:30 - 5:30 PM	0	18	5	89	34	0	8	0	17	0	0	0

4:30-5:30 PM True Demand Volumes

Initial Queue @ 4:30	0	5	2	21	9	0	3	0	0	0	0	0
Stop Line Count (TMC)	0	366	202	1041	670	0	189	0	493	0	0	0
Queued vehicles @ 5:30	0	8	3	16	5	0	3	0	7	0	0	0
True Demand	0	374	205	1057	675	0	192	0	500	0	0	0

240 15th Street
True Demand Calculations
Shaw Rd E / E Pioneer

	True Demand - TOTAL											
	E Pioneer Eastbound			E Pioneer Westbound			Shaw Rd E Northbound			Shaw Rd E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	34	75	54	39	77	22	48	120	12	15	212	47
4:15 PM	46	56	63	36	69	15	41	100	20	16	196	41
4:30 PM	48	71	42	57	83	22	53	125	27	23	231	46
4:45 PM	49	52	59	45	64	15	35	99	9	25	268	63
5:00 PM	53	75	86	43	78	16	40	111	12	18	267	52
5:15 PM	47	50	78	40	43	12	22	132	15	14	235	59
5:30 PM	60	53	59	44	60	14	32	94	7	23	255	49
5:45 PM	24	59	56	33	62	13	29	105	23	24	280	40
4:30 - 5:30 PM	197	248	265	185	268	65	150	467	63	80	1001	220

	Turning Movement Counts - TOTAL											
	E Pioneer Eastbound			E Pioneer Westbound			Shaw Rd E Northbound			Shaw Rd E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	31	71	54	38	72	21	44	118	12	12	196	41
4:15 PM	43	50	62	35	60	13	41	98	20	16	186	39
4:30 PM	42	70	42	54	81	21	50	123	27	21	207	44
4:45 PM	45	51	54	42	60	14	34	96	9	23	243	56
5:00 PM	48	75	86	40	75	14	37	93	12	13	219	41
5:15 PM	43	48	74	39	39	11	19	131	15	14	207	52
5:30 PM	60	53	59	40	53	10	31	82	7	16	200	39
5:45 PM	24	55	55	32	60	13	26	104	23	21	249	36
4:30 - 5:30 PM	178	244	256	175	255	60	140	443	63	71	876	193

PHF = 0.94

	DELTA = VEHICLES IN QUEUE											
	E Pioneer Eastbound			E Pioneer Westbound			Shaw Rd E Northbound			Shaw Rd E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	3	4	0	1	5	1	4	2	0	3	16	6
4:15 PM	3	6	1	1	9	2	0	2	0	0	10	2
4:30 PM	6	1	0	3	2	1	3	2	0	2	24	2
4:45 PM	4	1	5	3	4	1	1	3	0	2	25	7
5:00 PM	5	0	0	3	3	2	3	18	0	5	48	11
5:15 PM	4	2	4	1	4	1	3	1	0	0	28	7
5:30 PM	0	0	0	4	7	4	1	12	0	7	55	10
5:45 PM	0	4	1	1	2	0	3	1	0	3	31	4
4:30 - 5:30 PM	19	4	9	10	13	5	10	24	0	9	125	27

4:30-5:30 PM True Demand Volumes

Initial Queue @ 4:30	3	6	1	1	9	2	0	2	0	0	10	2
Stop Line Count (TMC)	178	244	256	175	255	60	140	443	63	71	876	193
Queued vehicles @ 5:30	4	2	4	1	4	1	3	1	0	0	28	7
True Demand	182	246	260	176	259	61	143	444	63	71	904	200

Appendix C

Level of Service (LOS) Calculations at Study Intersections

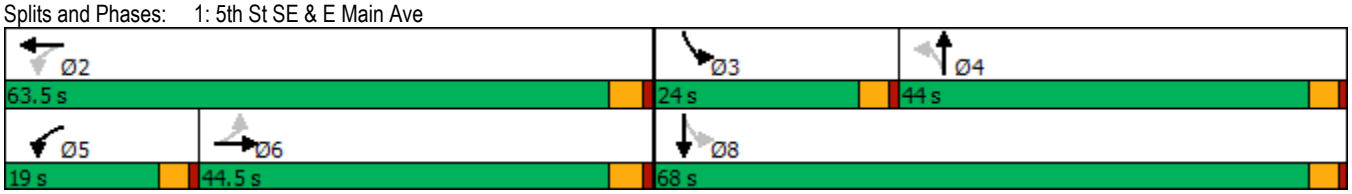
2022 Existing PM Peak Hour

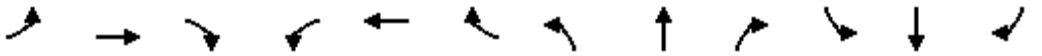
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	306	33	213	468	92	12	119	89	204	476	20
Future Volume (vph)	8	306	33	213	468	92	12	119	89	204	476	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	110		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		343			822			178			685	
Travel Time (s)		7.8			22.4			4.9			18.7	
Confl. Peds. (#/hr)	1		2	2		1	5		2	2		5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	5%	3%	2%	4%	1%	0%	3%	0%	4%	4%	10%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		6		5	2			4		3	8	
Permitted Phases	6			2			4			8		
Detector Phase	6	6		5	2		4	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	18.5	18.5		7.0	18.5		18.0	18.0		7.0	12.0	
Total Split (s)	44.5	44.5		19.0	63.5		44.0	44.0		24.0	68.0	
Total Split (%)	33.8%	33.8%		14.4%	48.3%		33.5%	33.5%		18.3%	51.7%	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Recall Mode	None	None		None	None		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 131.5
Actuated Cycle Length: 81.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: 5th St SE & E Main Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	306	33	213	468	92	12	119	89	204	476	20
Future Volume (veh/h)	8	306	33	213	468	92	12	119	89	204	476	20
Initial Q (Qb), veh	0	7	0	2	4	0	0	2	0	1	3	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
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	1900	1826	1856	1870	1841	1885	1900	1856	1900	1841	1841	1752
Adj Flow Rate, veh/h	8	312	34	217	478	94	12	121	91	208	486	20
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, %	0	5	3	2	4	1	0	3	0	4	4	10
Cap, veh/h	281	434	41	401	689	128	254	212	136	437	700	28
Arrive On Green	0.26	0.26	0.26	0.12	0.46	0.46	0.19	0.19	0.19	0.13	0.39	0.39
Sat Flow, veh/h	852	1617	176	1781	1493	294	902	977	735	1753	1755	72
Grp Volume(v), veh/h	8	0	346	217	0	572	12	0	212	208	0	506
Grp Sat Flow(s),veh/h/ln	852	0	1793	1781	0	1787	902	0	1712	1753	0	1827
Q Serve(g_s), s	0.4	0.0	9.7	4.4	0.0	14.1	0.6	0.0	6.3	4.8	0.0	12.9
Cycle Q Clear(g_c), s	3.9	0.0	9.7	4.4	0.0	14.1	2.4	0.0	6.3	4.8	0.0	12.9
Prop In Lane	1.00		0.10	1.00		0.16	1.00		0.43	1.00		0.04
Lane Grp Cap(c), veh/h	281	0	482	401	0	816	254	0	328	437	0	718
V/C Ratio(X)	0.03	0.00	0.72	0.54	0.00	0.70	0.05	0.00	0.65	0.48	0.00	0.70
Avail Cap(c_a), veh/h	694	0	1298	703	0	1908	754	0	1239	850	0	2117
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	21.7	0.0	22.3	17.8	0.0	13.6	23.6	0.0	21.3	14.9	0.0	14.8
Incr Delay (d2), s/veh	0.0	0.0	2.4	1.4	0.0	1.3	0.1	0.0	2.6	1.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	5.4	0.4	0.0	0.6	0.0	0.0	0.8	0.1	0.0	0.4
%ile BackOfQ(50%),veh/ln	0.1	0.0	6.6	2.5	0.0	6.6	0.2	0.0	3.0	2.0	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	0.0	30.1	19.5	0.0	15.5	23.7	0.0	24.6	15.9	0.0	16.8
LnGrp LOS	C	A	C	B	A	B	C	A	C	B	A	B
Approach Vol, veh/h		354			789			224			714	
Approach Delay, s/veh		29.9			16.6			24.6			16.5	
Approach LOS		C			B			C			B	

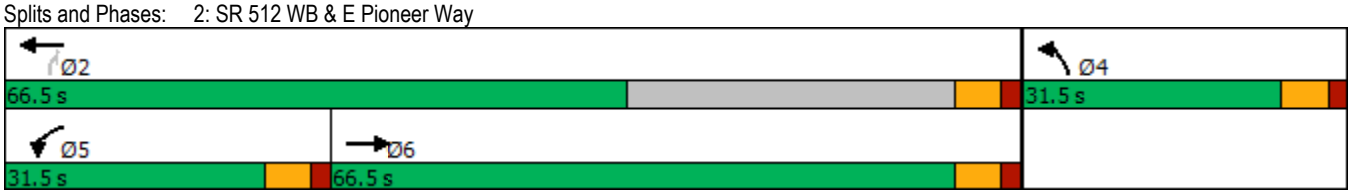
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		29.7	11.1	14.4	10.7	19.0		25.5				
Change Period (Y+Rc), s		4.5	4.0	4.0	4.0	4.5		4.0				
Max Green Setting (Gmax), s		59.0	20.0	40.0	15.0	40.0		64.0				
Max Q Clear Time (g_c+I1), s		16.1	6.8	8.3	6.4	11.7		14.9				
Green Ext Time (p_c), s		5.9	0.6	1.8	0.5	2.8		4.9				

Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	405	110	365	444	79	51
Future Volume (vph)	405	110	365	444	79	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		300	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	30	
Link Distance (ft)	470			785	513	
Travel Time (s)	9.2			15.3	11.7	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	2%	1%	1%	8%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						2
Detector Phase	6		5	2	4	2
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	40.5		11.5	16.5	16.5	16.5
Total Split (s)	66.5		31.5	66.5	31.5	66.5
Total Split (%)	51.4%		24.3%	51.4%	24.3%	51.4%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 129.5	
Actuated Cycle Length: 70.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SR 512 WB & E Pioneer Way



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	405	110	365	444	79	51
Future Volume (veh/h)	405	110	365	444	79	51
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1885	1885	1781
Adj Flow Rate, veh/h	435	118	392	477	85	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	2	1	1	8
Cap, veh/h	727	195	460	2253	273	229
Arrive On Green	0.26	0.26	0.26	0.63	0.15	0.15
Sat Flow, veh/h	2879	748	1781	3676	1795	1510
Grp Volume(v), veh/h	278	275	392	477	85	55
Grp Sat Flow(s),veh/h/ln	1791	1742	1781	1791	1795	1510
Q Serve(g_s), s	8.1	8.2	12.4	3.4	2.5	1.9
Cycle Q Clear(g_c), s	8.1	8.2	12.4	3.4	2.5	1.9
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	468	455	460	2253	273	229
V/C Ratio(X)	0.60	0.60	0.85	0.21	0.31	0.24
Avail Cap(c_a), veh/h	1812	1762	751	3624	757	636
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	19.2	19.2	20.9	4.7	22.4	22.1
Incr Delay (d2), s/veh	1.2	1.3	5.2	0.0	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.1	5.2	0.8	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.4	20.5	26.2	4.8	23.2	22.8
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	553			869	140	
Approach Delay, s/veh	20.4			14.4	23.0	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		43.8		15.5	21.8	22.0
Change Period (Y+Rc), s		6.5		6.5	6.5	6.5
Max Green Setting (Gmax), s		60.0		25.0	25.0	60.0
Max Q Clear Time (g_c+I1), s		5.4		4.5	14.4	10.2
Green Ext Time (p_c), s		3.5		0.5	0.9	3.7

Intersection Summary	
HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	371	126	26	788	84	292
Future Volume (vph)	371	126	26	788	84	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Storage Length (ft)		0	250		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	785			556	336	
Travel Time (s)	15.3			10.8	6.5	
Confl. Peds. (#/hr)		4				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	4%	2%	4%	5%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						4
Detector Phase	6		5	2	4	4
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	39.3		12.3	17.3	17.3	17.3
Total Split (s)	67.3		32.3	99.6	32.3	32.3
Total Split (%)	51.0%		24.5%	75.5%	24.5%	24.5%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.8		2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3		7.3	7.3	7.3	7.3
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 131.9	
Actuated Cycle Length: 50.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SR 512 EB & E Pioneer Way

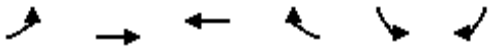
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	371	126	26	788	84	292
Future Volume (veh/h)	371	126	26	788	84	292
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1870	1841	1870	1958	1943
Adj Flow Rate, veh/h	412	140	29	876	93	324
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	4	2	4	5
Cap, veh/h	697	234	58	1591	474	418
Arrive On Green	0.27	0.27	0.03	0.45	0.25	0.25
Sat Flow, veh/h	2721	883	1753	3647	1865	1647
Grp Volume(v), veh/h	279	273	29	876	93	324
Grp Sat Flow(s),veh/h/ln	1791	1718	1753	1777	1865	1647
Q Serve(g_s), s	6.6	6.8	0.8	8.8	1.9	8.9
Cycle Q Clear(g_c), s	6.6	6.8	0.8	8.8	1.9	8.9
Prop In Lane		0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	475	456	58	1591	474	418
V/C Ratio(X)	0.59	0.60	0.50	0.55	0.20	0.77
Avail Cap(c_a), veh/h	2194	2106	895	6699	952	841
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	15.7	15.7	23.3	9.9	14.3	17.0
Incr Delay (d2), s/veh	1.2	1.3	6.4	0.3	0.2	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.4	0.4	2.6	0.7	8.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	17.0	29.7	10.2	14.6	20.7
LnGrp LOS	B	B	C	B	B	C
Approach Vol, veh/h	552			905	417	
Approach Delay, s/veh	16.9			10.8	19.3	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		29.2		19.7	8.9	20.3
Change Period (Y+Rc), s		* 7.3		* 7.3	* 7.3	* 7.3
Max Green Setting (Gmax), s		* 92		* 25	* 25	* 60
Max Q Clear Time (g_c+I1), s		10.8		10.9	2.8	8.8
Green Ext Time (p_c), s		7.5		1.5	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



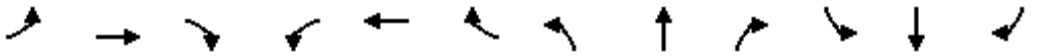
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	200	463	504	89	187	352
Future Volume (vph)	200	463	504	89	187	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3539	3465		1787	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1719	3539	3465		1787	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	222	514	560	99	208	391
RTOR Reduction (vph)	0	0	9	0	0	0
Lane Group Flow (vph)	222	514	650	0	208	391
Heavy Vehicles (%)	5%	2%	2%	1%	1%	1%
Turn Type	Prot	NA	NA		Prot	custom
Protected Phases	1	6	2		3	1 3 4
Permitted Phases						
Actuated Green, G (s)	19.2	51.4	26.2		20.2	64.2
Effective Green, g (s)	19.2	51.4	26.2		20.2	64.2
Actuated g/C Ratio	0.19	0.50	0.26		0.20	0.63
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		4.0	
Lane Grp Cap (vph)	322	1776	886		352	1002
v/s Ratio Prot	c0.13	0.15	c0.19		c0.12	c0.24
v/s Ratio Perm						
v/c Ratio	0.69	0.29	0.73		0.59	0.39
Uniform Delay, d1	38.8	14.9	34.9		37.3	9.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.0	0.1	3.2		3.1	0.3
Delay (s)	44.9	14.9	38.1		40.4	9.7
Level of Service	D	B	D		D	A
Approach Delay (s)		24.0	38.1		20.4	
Approach LOS		C	D		C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	24.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	403	204	272	607	62	83	29	141	36	39	4
Future Volume (vph)	8	403	204	272	607	62	83	29	141	36	39	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			809			1163			142	
Travel Time (s)		24.9			18.4			26.4			3.2	
Confl. Peds. (#/hr)	5		1	1		8			4	3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	1%	3%	5%	5%	0%	4%	3%	0%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Perm	NA	Free	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		Free	4		Free	8		
Detector Phase	5	2	2	1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	7.6	26.6	26.6	7.6	26.6		26.6	26.6		26.6	26.6	
Total Split (s)	24.6	34.6	34.6	26.6	36.6		24.6	24.6		24.6	24.6	
Total Split (%)	28.7%	40.3%	40.3%	31.0%	42.7%		28.7%	28.7%		28.7%	28.7%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6			4.6			4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	Min	Min	None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.8	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 15th St SE & E Main Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	403	204	272	607	62	83	29	141	36	39	4
Future Volume (veh/h)	8	403	204	272	607	62	83	29	141	36	39	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		1.00	0.99		0.99
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	1900	1841	1900	1885	1856	1826	1826	1900	1841	1856	1900	1530
Adj Flow Rate, veh/h	9	429	217	289	646	0	88	31	0	38	41	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	4	0	1	3	5	5	0	4	3	0	25
Cap, veh/h	401	655	569	602	929		301	44		224	99	9
Arrive On Green	0.01	0.36	0.36	0.15	0.50	0.00	0.10	0.10	0.00	0.10	0.10	0.10
Sat Flow, veh/h	1810	1841	1599	1795	1856	1547	1197	422	1560	731	950	85
Grp Volume(v), veh/h	9	429	217	289	646	0	119	0	0	83	0	0
Grp Sat Flow(s),veh/h/ln	1810	1841	1599	1795	1856	1547	1618	0	1560	1767	0	0
Q Serve(g_s), s	0.1	7.0	3.6	3.0	9.5	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	7.0	3.6	3.0	9.5	0.0	2.4	0.0	0.0	1.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.74		1.00	0.46		0.05
Lane Grp Cap(c), veh/h	401	655	569	602	929		345	0		332	0	0
V/C Ratio(X)	0.02	0.66	0.38	0.48	0.70		0.35	0.00		0.25	0.00	0.00
Avail Cap(c_a), veh/h	1405	1551	1348	1438	1668		1022	0		1068	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	9.6	8.6	5.8	6.8	0.0	15.3	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.4	0.6	0.9	0.0	0.6	0.0	0.0	0.4	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	0.0	2.2	0.9	0.6	2.3	0.0	0.8	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	10.8	9.0	6.4	7.8	0.0	15.9	0.0	0.0	15.3	0.0	0.0
LnGrp LOS	A	B	A	A	A		B	A		B	A	A
Approach Vol, veh/h		655			935			119			83	
Approach Delay, s/veh		10.1			7.3			15.9			15.3	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	17.3		8.3	4.9	22.4		8.3				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	22.0	30.0		20.0	20.0	32.0		20.0				
Max Q Clear Time (g_c+I1), s	5.0	9.0		4.4	2.1	11.5		3.5				
Green Ext Time (p_c), s	0.8	3.4		0.5	0.0	4.5		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	374	205	1057	675	192	500
Future Volume (vph)	374	205	1057	675	192	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3467	1863	1779	2856
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3467	1863	1779	2856
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	390	214	1101	703	200	521
RTOR Reduction (vph)	0	176	0	0	0	89
Lane Group Flow (vph)	390	38	1101	703	200	432
Heavy Vehicles (%)	2%	2%	1%	2%	3%	1%
Turn Type	NA	Perm	Prot	NA	Prot	custom
Protected Phases	2		1	6	3	3 4 1
Permitted Phases		2				3
Actuated Green, G (s)	17.0	17.0	37.2	59.2	15.9	69.6
Effective Green, g (s)	17.0	17.0	37.2	59.2	15.9	65.1
Actuated g/C Ratio	0.18	0.18	0.39	0.61	0.16	0.67
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	622	278	1335	1141	292	1924
v/s Ratio Prot	0.11		c0.32	c0.38	c0.11	c0.15
v/s Ratio Perm		0.02				
v/c Ratio	0.63	0.14	0.82	0.62	0.68	0.22
Uniform Delay, d1	36.9	33.6	26.8	11.6	38.0	6.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2	4.3	1.0	6.5	0.1
Delay (s)	38.8	33.8	31.0	12.6	44.5	6.1
Level of Service	D	C	C	B	D	A
Approach Delay (s)	37.1			23.9	16.8	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	96.6	Sum of lost time (s)	19.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

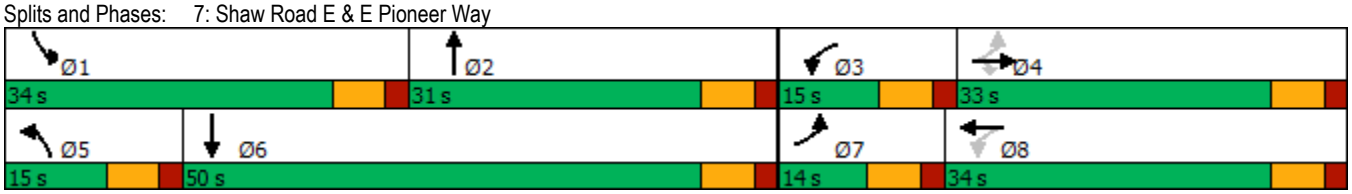
c Critical Lane Group

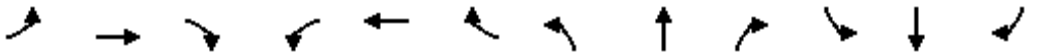
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	246	260	176	259	61	143	444	63	71	904	200
Future Volume (vph)	182	246	260	176	259	61	143	444	63	71	904	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	180		0	250		0	400		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			1013			763			634	
Travel Time (s)		15.6			19.7			14.9			12.4	
Confl. Peds. (#/hr)	1		11	11		1			7			3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	1%	2%	0%	6%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.5	43.5	43.5	11.5	53.5		11.5	36.5		11.5	39.5	
Total Split (s)	14.0	33.0	33.0	15.0	34.0		15.0	31.0		34.0	50.0	
Total Split (%)	12.4%	29.2%	29.2%	13.3%	30.1%		13.3%	27.4%		30.1%	44.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 109.7
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Shaw Road E & E Pioneer Way





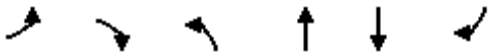
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	246	260	176	259	61	143	444	63	71	904	200
Future Volume (veh/h)	182	246	260	176	259	61	143	444	63	71	904	200
Initial Q (Qb), veh	3	6	1	1	11	0	0	2	0	0	12	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1870	1870	1870	1885	1870	1900	1811	1885	1885
Adj Flow Rate, veh/h	194	262	277	187	276	65	152	472	67	76	962	213
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	2	1	2	2	2	1	2	0	6	1	1
Cap, veh/h	186	404	336	268	354	54	217	1209	169	98	1162	217
Arrive On Green	0.07	0.21	0.21	0.08	0.22	0.22	0.06	0.39	0.39	0.06	0.38	0.38
Sat Flow, veh/h	1795	1870	1573	1781	1459	344	3483	3122	441	1725	2914	644
Grp Volume(v), veh/h	194	262	277	187	0	341	152	268	271	76	591	584
Grp Sat Flow(s),veh/h/ln	1795	1870	1573	1781	0	1802	1742	1777	1786	1725	1791	1767
Q Serve(g_s), s	7.5	12.9	16.9	8.3	0.0	18.2	4.3	10.9	11.0	4.4	30.6	30.7
Cycle Q Clear(g_c), s	7.5	12.9	16.9	8.3	0.0	18.2	4.3	10.9	11.0	4.4	30.6	30.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.25	1.00		0.36
Lane Grp Cap(c), veh/h	186	404	336	268	0	423	217	687	691	98	686	682
V/C Ratio(X)	1.04	0.65	0.83	0.70	0.00	0.81	0.70	0.39	0.39	0.77	0.86	0.86
Avail Cap(c_a), veh/h	249	494	415	295	0	494	295	687	691	473	776	766
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	37.0	38.0	30.5	0.0	39.1	47.4	22.3	22.4	47.9	29.8	29.6
Incr Delay (d2), s/veh	65.6	2.1	10.6	6.3	0.0	8.4	4.5	0.4	0.4	12.0	8.9	8.7
Initial Q Delay(d3),s/veh	58.2	4.5	0.4	0.3	0.0	25.3	0.0	0.0	0.0	0.0	3.9	3.9
%ile BackOfQ(50%),veh/ln	7.8	7.3	7.5	4.1	0.0	13.4	2.0	4.6	4.7	2.2	16.1	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	159.7	43.7	49.0	37.2	0.0	72.7	51.9	22.7	22.7	60.0	42.6	42.2
LnGrp LOS	F	D	D	D	A	E	D	C	C	E	D	D
Approach Vol, veh/h		733			528			691			1251	
Approach Delay, s/veh		76.4			60.1			29.1			43.5	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	45.3	15.0	27.8	12.8	44.7	14.0	28.8
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	27.5	24.5	8.5	26.5	8.5	43.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	6.4	13.0	10.3	18.9	6.3	32.7	9.5	20.2
Green Ext Time (p_c), s	0.2	2.4	0.0	1.5	0.1	5.6	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	50.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	243	547	221	670	1062	136
Future Volume (vph)	243	547	221	670	1062	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	0%	
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	
Frt	0.92	0.85	1.00	1.00	0.98	
Flt Protected	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3034	1419	1787	3539	3467	
Flt Permitted	0.98	1.00	0.12	1.00	1.00	
Satd. Flow (perm)	3034	1419	227	3539	3467	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	248	558	226	684	1084	139
RTOR Reduction (vph)	214	237	0	0	6	0
Lane Group Flow (vph)	313	42	226	684	1217	0
Heavy Vehicles (%)	14%	2%	1%	2%	2%	5%
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	8	8	1	6	2	
Permitted Phases			6			
Actuated Green, G (s)	14.9	14.9	70.1	70.1	52.0	
Effective Green, g (s)	14.9	14.9	70.1	70.1	52.0	
Actuated g/C Ratio	0.15	0.15	0.70	0.70	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	452	211	371	2480	1802	
v/s Ratio Prot	c0.10	0.03	c0.08	0.19	c0.35	
v/s Ratio Perm			0.34			
v/c Ratio	0.69	0.20	0.61	0.28	0.68	
Uniform Delay, d1	40.4	37.3	12.6	5.5	17.8	
Progression Factor	1.00	1.00	1.00	1.00	0.45	
Incremental Delay, d2	4.5	0.5	2.8	0.3	1.8	
Delay (s)	44.9	37.8	15.4	5.8	9.8	
Level of Service	D	D	B	A	A	
Approach Delay (s)	42.4			8.2	9.8	
Approach LOS	D			A	A	

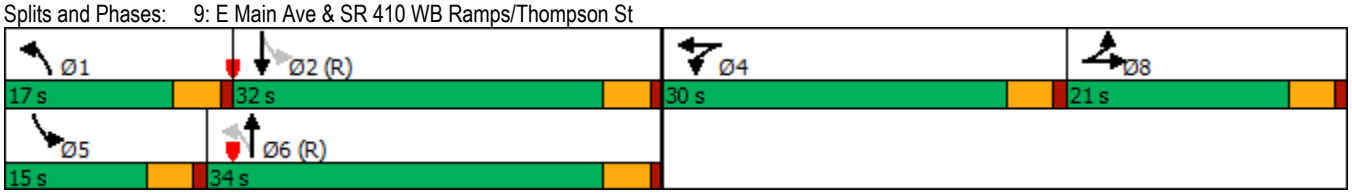
Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

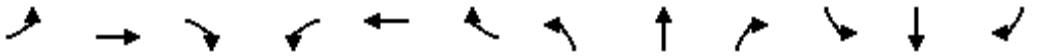
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	18	249	290	112	14	268	449	190	9	654	299
Future Volume (vph)	79	18	249	290	112	14	268	449	190	9	654	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			6%			-3%			-5%	
Storage Length (ft)	170		70	115		50	225		0	175		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			35			25	
Link Distance (ft)		499			309			676			392	
Travel Time (s)		11.3			8.4			13.2			10.7	
Confl. Peds. (#/hr)						6			6	6		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	17%	1%	3%	4%	7%	3%	8%	4%	0%	3%	11%
Shared Lane Traffic (%)				32%								
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			Free			Free	6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	10.5		10.5	10.5		10.5	28.5		10.5	10.5	
Total Split (s)	21.0	21.0		30.0	30.0		17.0	34.0		15.0	32.0	
Total Split (%)	21.0%	21.0%		30.0%	30.0%		17.0%	34.0%		15.0%	32.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 61 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	

Splits and Phases: 9: E Main Ave & SR 410 WB Ramps/Thompson St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	18	249	290	112	14	268	449	190	9	654	299
Future Volume (veh/h)	79	18	249	290	112	14	268	449	190	9	654	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1856	1648	1885	1644	1629	1584	1973	1898	1958	2097	2052	1932
Adj Flow Rate, veh/h	80	18	0	203	239	0	271	454	192	9	661	302
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	17	1	3	4	7	3	8	4	0	3	11
Cap, veh/h	109	102		276	287		437	1406	590	512	1277	583
Arrive On Green	0.06	0.06	0.00	0.18	0.18	0.00	0.09	0.57	0.57	0.01	0.49	0.49
Sat Flow, veh/h	1767	1648	1598	1565	1629	1343	1879	2471	1036	1997	2594	1185
Grp Volume(v), veh/h	80	18	0	203	239	0	271	330	316	9	497	466
Grp Sat Flow(s),veh/h/ln	1767	1648	1598	1565	1629	1343	1879	1803	1705	1997	1949	1830
Q Serve(g_s), s	4.4	1.0	0.0	12.3	14.2	0.0	6.7	9.7	9.8	0.2	17.4	17.4
Cycle Q Clear(g_c), s	4.4	1.0	0.0	12.3	14.2	0.0	6.7	9.7	9.8	0.2	17.4	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		0.65
Lane Grp Cap(c), veh/h	109	102		276	287		437	1026	970	512	959	901
V/C Ratio(X)	0.73	0.18		0.74	0.83		0.62	0.32	0.33	0.02	0.52	0.52
Avail Cap(c_a), veh/h	292	272		399	415		503	1026	970	695	959	901
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	0.00	1.00	1.00	0.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	44.5	0.0	39.0	39.8	0.0	12.6	11.4	11.4	12.3	17.3	17.3
Incr Delay (d2), s/veh	9.1	0.8	0.0	4.0	9.3	0.0	1.6	0.7	0.8	0.0	2.0	2.1
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	2.2	0.4	0.0	5.0	6.4	0.0	2.7	3.8	3.6	0.1	8.1	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	45.3	0.0	43.0	49.1	0.0	14.2	12.1	12.2	12.3	19.3	19.4
LnGrp LOS	E	D		D	D		B	B	B	B	B	B
Approach Vol, veh/h		98			442			917			972	
Approach Delay, s/veh		53.4			46.3			12.7			19.3	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	53.7		22.1	5.8	61.4		10.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	27.5		25.5	10.5	29.5		16.5				
Max Q Clear Time (g_c+I1), s	8.7	19.4		16.2	2.2	11.8		6.4				
Green Ext Time (p_c), s	0.3	4.0		1.4	0.0	3.7		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	23.1	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

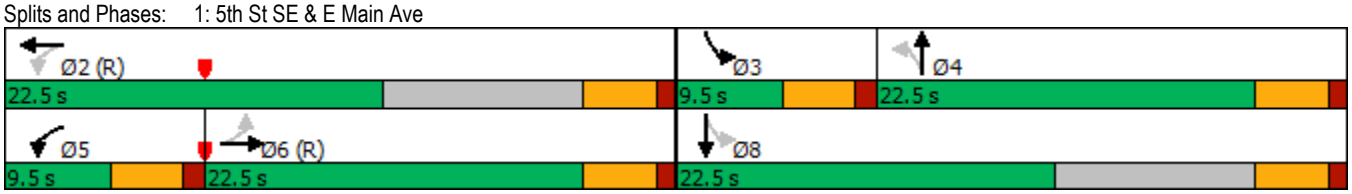
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

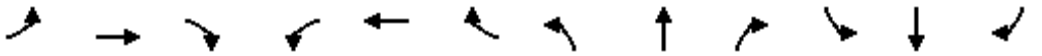
2024 No Action PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	326	34	227	505	101	12	124	95	214	495	21
Future Volume (vph)	8	326	34	227	505	101	12	124	95	214	495	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	110		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		343			822			178			685	
Travel Time (s)		7.8			22.4			4.9			18.7	
Confl. Peds. (#/hr)	1		2	2		1	5		2	2		5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	5%	3%	2%	4%	1%	0%	3%	0%	4%	4%	10%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		6		5	2			4		3	8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	22.5	22.5		9.5	22.5		22.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5		9.5	22.5		22.5	22.5		9.5	22.5	
Total Split (%)	35.2%	35.2%		14.8%	35.2%		35.2%	35.2%		14.8%	35.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		

Intersection Summary	
Area Type:	Other
Cycle Length: 64	
Actuated Cycle Length: 64	
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 1: 5th St SE & E Main Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	326	34	227	505	101	12	124	95	214	495	21
Future Volume (veh/h)	8	326	34	227	505	101	12	124	95	214	495	21
Initial Q (Qb), veh	0	7	0	2	4	0	0	2	0	1	3	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1826	1856	1870	1841	1885	1900	1856	1900	1841	1841	1752
Adj Flow Rate, veh/h	8	333	35	232	515	103	12	127	97	218	505	21
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, %	0	5	3	2	4	1	0	3	0	4	4	10
Cap, veh/h	201	463	41	309	655	120	263	306	204	421	758	30
Arrive On Green	0.28	0.28	0.28	0.08	0.43	0.43	0.28	0.28	0.28	0.08	0.43	0.43
Sat Flow, veh/h	817	1624	171	1781	1489	298	887	972	742	1753	1754	73
Grp Volume(v), veh/h	8	0	368	232	0	618	12	0	224	218	0	526
Grp Sat Flow(s),veh/h/ln	817	0	1794	1781	0	1786	887	0	1714	1753	0	1827
Q Serve(g_s), s	0.6	0.0	11.9	5.0	0.0	19.3	0.7	0.0	6.9	5.0	0.0	14.8
Cycle Q Clear(g_c), s	10.4	0.0	11.9	5.0	0.0	19.3	6.0	0.0	6.9	5.0	0.0	14.8
Prop In Lane	1.00		0.10	1.00		0.17	1.00		0.43	1.00		0.04
Lane Grp Cap(c), veh/h	201	0	506	309	0	769	263	0	483	421	0	785
V/C Ratio(X)	0.04	0.00	0.73	0.75	0.00	0.80	0.05	0.00	0.46	0.52	0.00	0.67
Avail Cap(c_a), veh/h	217	0	505	349	0	768	289	0	482	446	0	785
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	25.7	0.0	21.2	18.2	0.0	16.1	22.5	0.0	19.1	15.6	0.0	14.8
Incr Delay (d2), s/veh	0.4	0.0	8.8	15.4	0.0	8.7	0.3	0.0	3.2	4.5	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	5.0	1.2	0.0	1.0	0.0	0.0	0.2	0.1	0.0	0.3
%ile BackOfQ(50%),veh/ln	0.1	0.0	7.0	3.7	0.0	9.4	0.2	0.0	3.2	2.6	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	0.0	35.1	34.8	0.0	25.8	22.8	0.0	22.5	20.2	0.0	19.6
LnGrp LOS	C	A	D	C	A	C	C	A	C	C	A	B
Approach Vol, veh/h		376			850			236			744	
Approach Delay, s/veh		34.9			28.3			22.5			19.8	
Approach LOS		C			C			C			B	

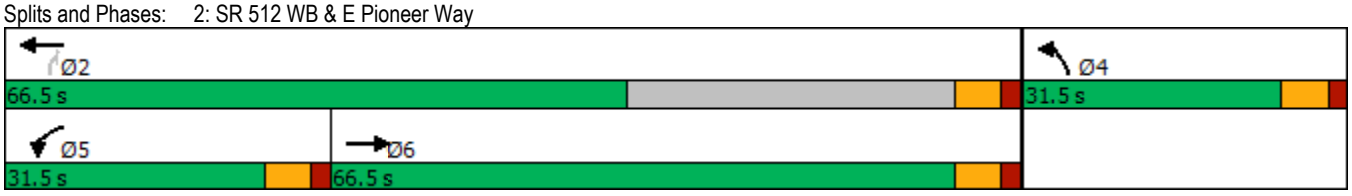
Timer - Assigned Phs	2	3	4	5	6	8
Phs Duration (G+Y+Rc), s	32.0	9.5	22.5	9.5	22.5	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	5.0	18.0	5.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	21.3	7.0	8.9	7.0	13.9	16.8
Green Ext Time (p_c), s	0.0	0.0	0.9	0.0	0.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	421	115	392	463	82	53
Future Volume (vph)	421	115	392	463	82	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		300	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	30	
Link Distance (ft)	470			785	513	
Travel Time (s)	9.2			15.3	11.7	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	2%	1%	1%	8%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						2
Detector Phase	6		5	2	4	2
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	40.5		11.5	16.5	16.5	16.5
Total Split (s)	66.5		31.5	66.5	31.5	66.5
Total Split (%)	51.4%		24.3%	51.4%	24.3%	51.4%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 129.5	
Actuated Cycle Length: 71.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SR 512 WB & E Pioneer Way



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	421	115	392	463	82	53
Future Volume (veh/h)	421	115	392	463	82	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1885	1885	1781
Adj Flow Rate, veh/h	453	124	422	498	88	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	2	1	1	8
Cap, veh/h	736	200	486	2302	266	223
Arrive On Green	0.26	0.26	0.27	0.64	0.15	0.15
Sat Flow, veh/h	2872	754	1781	3676	1795	1510
Grp Volume(v), veh/h	291	286	422	498	88	57
Grp Sat Flow(s),veh/h/ln	1791	1741	1781	1791	1795	1510
Q Serve(g_s), s	8.8	9.0	14.0	3.6	2.7	2.1
Cycle Q Clear(g_c), s	8.8	9.0	14.0	3.6	2.7	2.1
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	475	461	486	2302	266	223
V/C Ratio(X)	0.61	0.62	0.87	0.22	0.33	0.26
Avail Cap(c_a), veh/h	1732	1683	718	3463	723	608
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	20.0	20.1	21.5	4.6	23.7	23.4
Incr Delay (d2), s/veh	1.3	1.4	7.6	0.0	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	3.5	6.2	0.9	1.2	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.3	21.4	29.1	4.7	24.6	24.1
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	577			920	145	
Approach Delay, s/veh	21.4			15.9	24.4	
Approach LOS	C			B	C	

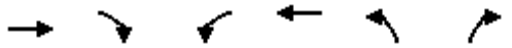
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.4		15.7	23.4	22.9
Change Period (Y+Rc), s		6.5		6.5	6.5	6.5
Max Green Setting (Gmax), s		60.0		25.0	25.0	60.0
Max Q Clear Time (g_c+I1), s		5.6		4.7	16.0	11.0
Green Ext Time (p_c), s		3.6		0.5	0.9	3.9

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	386	131	27	833	87	311
Future Volume (vph)	386	131	27	833	87	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Storage Length (ft)		0	250		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	785			556	336	
Travel Time (s)	15.3			10.8	6.5	
Confl. Peds. (#/hr)		4				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	4%	2%	3%	5%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						4
Detector Phase	6		5	2	4	4
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	39.3		12.3	17.3	17.3	17.3
Total Split (s)	67.3		32.3	99.6	32.3	32.3
Total Split (%)	51.0%		24.5%	75.5%	24.5%	24.5%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.8		2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3		7.3	7.3	7.3	7.3
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 131.9	
Actuated Cycle Length: 51.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SR 512 EB & E Pioneer Way



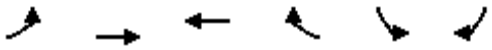
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	386	131	27	833	87	311
Future Volume (veh/h)	386	131	27	833	87	311
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1870	1841	1870	1973	1943
Adj Flow Rate, veh/h	429	146	30	926	97	346
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	4	2	3	5
Cap, veh/h	709	239	60	1590	499	437
Arrive On Green	0.27	0.27	0.03	0.45	0.27	0.27
Sat Flow, veh/h	2719	884	1753	3647	1879	1647
Grp Volume(v), veh/h	291	284	30	926	97	346
Grp Sat Flow(s),veh/h/ln	1791	1718	1753	1777	1879	1647
Q Serve(g_s), s	7.2	7.3	0.9	9.9	2.0	9.9
Cycle Q Clear(g_c), s	7.2	7.3	0.9	9.9	2.0	9.9
Prop In Lane		0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	484	464	60	1590	499	437
V/C Ratio(X)	0.60	0.61	0.50	0.58	0.19	0.79
Avail Cap(c_a), veh/h	2112	2026	861	6445	923	809
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.2	16.2	24.2	10.5	14.5	17.4
Incr Delay (d2), s/veh	1.2	1.3	6.4	0.3	0.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.6	0.4	3.0	0.8	8.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.4	17.5	30.6	10.8	14.7	21.3
LnGrp LOS	B	B	C	B	B	C
Approach Vol, veh/h	575			956	443	
Approach Delay, s/veh	17.5			11.5	19.8	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.1		20.8	9.0	21.0
Change Period (Y+Rc), s		* 7.3		* 7.3	* 7.3	* 7.3
Max Green Setting (Gmax), s		* 92		* 25	* 25	* 60
Max Q Clear Time (g_c+I1), s		11.9		11.9	2.9	9.3
Green Ext Time (p_c), s		8.1		1.6	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



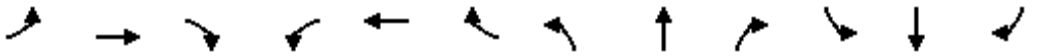
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	215	482	524	95	197	379
Future Volume (vph)	215	482	524	95	197	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3539	3457		1787	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1719	3539	3457		1787	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	536	582	106	219	421
RTOR Reduction (vph)	0	0	10	0	0	0
Lane Group Flow (vph)	239	536	678	0	219	421
Heavy Vehicles (%)	5%	2%	2%	2%	1%	1%
Turn Type	Prot	NA	NA		Prot	custom
Protected Phases	1	6	2		3	1 3 4
Permitted Phases						
Actuated Green, G (s)	20.3	54.4	28.1		21.9	67.0
Effective Green, g (s)	20.3	54.4	28.1		21.9	67.0
Actuated g/C Ratio	0.19	0.51	0.26		0.20	0.63
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		4.0	
Lane Grp Cap (vph)	325	1797	907		365	1000
v/s Ratio Prot	c0.14	0.15	c0.20		c0.12	c0.26
v/s Ratio Perm						
v/c Ratio	0.74	0.30	0.75		0.60	0.42
Uniform Delay, d1	40.9	15.3	36.3		38.6	10.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.4	0.1	3.4		3.1	0.3
Delay (s)	49.2	15.4	39.7		41.7	10.5
Level of Service	D	B	D		D	B
Approach Delay (s)		25.8	39.7		21.2	
Approach LOS		C	D		C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	107.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	430	213	295	659	65	87	30	154	37	41	4
Future Volume (vph)	8	430	213	295	659	65	87	30	154	37	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			809			1163			142	
Travel Time (s)		24.9			18.4			26.4			3.2	
Confl. Peds. (#/hr)	5		1	1		8			4	3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	1%	3%	5%	5%	0%	4%	3%	0%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Perm	NA	Free	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		Free	4		Free	8		
Detector Phase	5	2	2	1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	7.6	26.6	26.6	7.6	26.6		26.6	26.6		26.6	26.6	
Total Split (s)	24.6	34.6	34.6	26.6	36.6		24.6	24.6		24.6	24.6	
Total Split (%)	28.7%	40.3%	40.3%	31.0%	42.7%		28.7%	28.7%		28.7%	28.7%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6			4.6			4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	Min	Min	None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.8	
Actuated Cycle Length: 56.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 15th St SE & E Main Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	430	213	295	659	65	87	30	154	37	41	4
Future Volume (veh/h)	8	430	213	295	659	65	87	30	154	37	41	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		1.00	0.99		0.99
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	1900	1841	1900	1885	1856	1826	1826	1900	1841	1856	1900	1530
Adj Flow Rate, veh/h	9	457	227	314	701	0	93	32	0	39	44	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	4	0	1	3	5	5	0	4	3	0	25
Cap, veh/h	373	673	585	595	960		298	45		213	110	9
Arrive On Green	0.01	0.37	0.37	0.16	0.52	0.00	0.11	0.11	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1810	1841	1599	1795	1856	1547	1201	413	1560	685	1004	81
Grp Volume(v), veh/h	9	457	227	314	701	0	125	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	1810	1841	1599	1795	1856	1547	1614	0	1560	1771	0	0
Q Serve(g_s), s	0.1	7.9	4.0	3.4	11.1	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	7.9	4.0	3.4	11.1	0.0	2.7	0.0	0.0	1.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.74		1.00	0.45		0.05
Lane Grp Cap(c), veh/h	373	673	585	595	960		343	0		332	0	0
V/C Ratio(X)	0.02	0.68	0.39	0.53	0.73		0.36	0.00		0.26	0.00	0.00
Avail Cap(c_a), veh/h	1320	1464	1272	1357	1574		964	0		1012	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	10.1	8.8	6.3	7.1	0.0	16.1	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.4	0.7	1.1	0.0	0.6	0.0	0.0	0.4	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	0.0	2.5	1.1	0.7	2.7	0.0	0.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	11.3	9.3	7.0	8.1	0.0	16.7	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A	B	A	A	A		B	A		B	A	A
Approach Vol, veh/h		693			1015			125			87	
Approach Delay, s/veh		10.6			7.8			16.7			16.1	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	18.4		8.7	4.9	24.1		8.7				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	22.0	30.0		20.0	20.0	32.0		20.0				
Max Q Clear Time (g_c+I1), s	5.4	9.9		4.7	2.1	13.1		3.6				
Green Ext Time (p_c), s	0.9	3.7		0.5	0.0	4.9		0.3				

Intersection Summary		
HCM 6th Ctrl Delay	9.8	
HCM 6th LOS	A	

Notes

User approved pedestrian interval to be less than phase max green.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	442	233	1100	727	209	520
Future Volume (vph)	442	233	1100	727	209	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1599	3467	1863	1796	2856
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1599	3467	1863	1796	2856
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	460	243	1146	757	218	542
RTOR Reduction (vph)	0	196	0	0	0	65
Lane Group Flow (vph)	460	47	1146	757	218	477
Heavy Vehicles (%)	2%	1%	1%	2%	2%	1%
Turn Type	NA	Perm	Prot	NA	Prot	custom
Protected Phases	2		1	6	3	3 4 1
Permitted Phases		2				3
Actuated Green, G (s)	19.6	19.6	37.2	61.8	17.0	70.7
Effective Green, g (s)	19.6	19.6	37.2	61.8	17.0	66.2
Actuated g/C Ratio	0.20	0.20	0.37	0.62	0.17	0.66
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	691	312	1285	1147	304	1885
v/s Ratio Prot	0.13		c0.33	c0.41	c0.12	c0.17
v/s Ratio Perm		0.03				
v/c Ratio	0.67	0.15	0.89	0.66	0.72	0.25
Uniform Delay, d1	37.3	33.5	29.7	12.5	39.4	7.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.2	8.2	1.4	7.8	0.1
Delay (s)	39.7	33.7	37.8	13.8	47.2	7.0
Level of Service	D	C	D	B	D	A
Approach Delay (s)	37.7			28.3	18.6	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	19.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

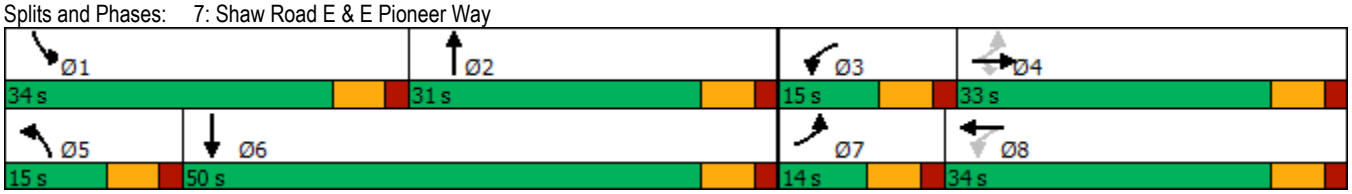
c Critical Lane Group

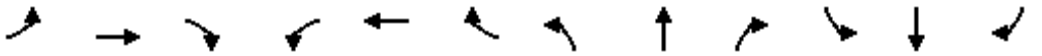
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	258	271	183	271	68	149	466	66	84	951	208
Future Volume (vph)	189	258	271	183	271	68	149	466	66	84	951	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	180		0	250		0	400		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			1013			763			634	
Travel Time (s)		15.6			19.7			14.9			12.4	
Confl. Peds. (#/hr)	1		11	11		1			7			3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	2%	1%	2%	2%	2%	1%	2%	0%	5%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.5	43.5	43.5	11.5	53.5		11.5	36.5		11.5	39.5	
Total Split (s)	14.0	33.0	33.0	15.0	34.0		15.0	31.0		34.0	50.0	
Total Split (%)	12.4%	29.2%	29.2%	13.3%	30.1%		13.3%	27.4%		30.1%	44.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 112.4
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Shaw Road E & E Pioneer Way





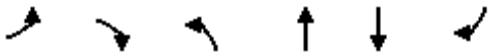
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	271	183	271	68	149	466	66	84	951	208
Future Volume (veh/h)	189	258	271	183	271	68	149	466	66	84	951	208
Initial Q (Qb), veh	3	6	1	1	11	0	0	2	0	0	12	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1870	1870	1870	1885	1870	1900	1826	1885	1885
Adj Flow Rate, veh/h	201	274	288	195	288	72	159	496	70	89	1012	221
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	2	1	2	2	2	1	2	0	5	1	1
Cap, veh/h	185	413	345	222	364	53	222	1207	168	114	1195	209
Arrive On Green	0.07	0.22	0.22	0.08	0.23	0.23	0.06	0.39	0.39	0.07	0.39	0.39
Sat Flow, veh/h	1795	1870	1573	1781	1439	360	3483	3124	439	1739	2923	637
Grp Volume(v), veh/h	201	274	288	195	0	360	159	281	285	89	619	614
Grp Sat Flow(s),veh/h/ln	1795	1870	1573	1781	0	1799	1742	1777	1787	1739	1791	1769
Q Serve(g_s), s	7.5	14.0	18.3	8.5	0.0	20.2	4.7	12.1	12.2	5.3	33.8	34.0
Cycle Q Clear(g_c), s	7.5	14.0	18.3	8.5	0.0	20.2	4.7	12.1	12.2	5.3	33.8	34.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.25	1.00		0.36
Lane Grp Cap(c), veh/h	185	413	345	222	0	431	222	685	689	114	695	693
V/C Ratio(X)	1.08	0.66	0.84	0.88	0.00	0.83	0.72	0.41	0.41	0.78	0.89	0.89
Avail Cap(c_a), veh/h	233	474	399	285	0	474	283	685	689	458	746	737
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	38.1	39.2	33.9	0.0	40.3	49.0	23.5	23.6	49.1	31.2	30.9
Incr Delay (d2), s/veh	82.9	2.8	12.7	21.6	0.0	11.4	6.1	0.4	0.4	10.7	12.3	12.0
Initial Q Delay(d3),s/veh	58.3	4.5	0.4	1.2	0.0	28.3	0.0	0.0	0.0	0.0	4.9	4.7
%ile BackOfQ(50%),veh/ln	8.7	7.9	8.3	5.4	0.0	15.1	2.2	5.1	5.2	2.6	18.5	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.2	45.5	52.3	56.6	0.0	80.0	55.2	23.9	24.0	59.9	48.4	47.7
LnGrp LOS	F	D	D	E	A	E	E	C	C	E	D	D
Approach Vol, veh/h		763			555			725			1322	
Approach Delay, s/veh		82.8			71.8			30.8			48.8	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	46.8	15.0	29.3	13.2	47.0	14.0	30.3
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	27.5	24.5	8.5	26.5	8.5	43.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	7.3	14.2	10.5	20.3	6.7	36.0	9.5	22.2
Green Ext Time (p_c), s	0.2	2.4	0.0	1.4	0.1	4.5	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	56.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	253	578	243	737	1121	141
Future Volume (vph)	253	578	243	737	1121	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	0%	
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	
Frt	0.92	0.85	1.00	1.00	0.98	
Flt Protected	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3034	1419	1770	3539	3468	
Flt Permitted	0.98	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	3034	1419	171	3539	3468	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	258	590	248	752	1144	144
RTOR Reduction (vph)	216	249	0	0	7	0
Lane Group Flow (vph)	337	46	248	752	1281	0
Heavy Vehicles (%)	14%	2%	2%	2%	2%	5%
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	8	8	1	6	2	
Permitted Phases			6			
Actuated Green, G (s)	15.5	15.5	69.5	69.5	49.1	
Effective Green, g (s)	15.5	15.5	69.5	69.5	49.1	
Actuated g/C Ratio	0.16	0.16	0.70	0.70	0.49	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	470	219	373	2459	1702	
v/s Ratio Prot	c0.11	0.03	c0.11	0.21	c0.37	
v/s Ratio Perm			0.36			
v/c Ratio	0.72	0.21	0.66	0.31	0.75	
Uniform Delay, d1	40.2	36.9	21.7	5.9	20.6	
Progression Factor	1.00	1.00	1.00	1.00	0.44	
Incremental Delay, d2	5.2	0.5	4.4	0.3	2.6	
Delay (s)	45.3	37.4	26.2	6.2	11.5	
Level of Service	D	D	C	A	B	
Approach Delay (s)	42.5			11.2	11.5	
Approach LOS	D			B	B	

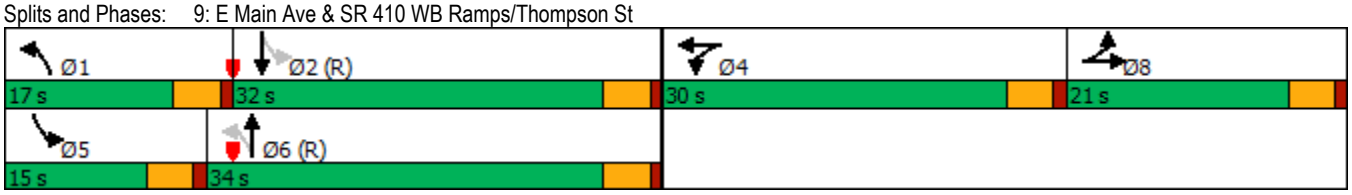
Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

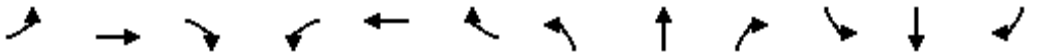
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	19	265	302	117	15	297	489	198	9	690	311
Future Volume (vph)	82	19	265	302	117	15	297	489	198	9	690	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			6%			-3%			-5%	
Storage Length (ft)	170		70	115		50	225		0	175		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			35			25	
Link Distance (ft)		499			309			676			392	
Travel Time (s)		11.3			8.4			13.2			10.7	
Confl. Peds. (#/hr)						6			6	6		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	2%	16%	1%	3%	3%	7%	3%	8%	4%	0%	3%	11%
Shared Lane Traffic (%)				32%								
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			Free			Free	6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	10.5		10.5	10.5		10.5	28.5		10.5	10.5	
Total Split (s)	21.0	21.0		30.0	30.0		17.0	34.0		15.0	32.0	
Total Split (%)	21.0%	21.0%		30.0%	30.0%		17.0%	34.0%		15.0%	32.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 61 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	

Splits and Phases: 9: E Main Ave & SR 410 WB Ramps/Thompson St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	19	265	302	117	15	297	489	198	9	690	311
Future Volume (veh/h)	82	19	265	302	117	15	297	489	198	9	690	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1870	1663	1885	1644	1644	1584	1973	1898	1958	2097	2052	1932
Adj Flow Rate, veh/h	83	19	0	212	249	0	300	494	200	9	697	314
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	16	1	3	3	7	3	8	4	0	3	11
Cap, veh/h	113	106		283	297		426	1408	567	479	1241	559
Arrive On Green	0.06	0.06	0.00	0.18	0.18	0.00	0.10	0.56	0.56	0.01	0.48	0.48
Sat Flow, veh/h	1781	1663	1598	1565	1644	1343	1879	2505	1008	1997	2606	1174
Grp Volume(v), veh/h	83	19	0	212	249	0	300	355	339	9	521	490
Grp Sat Flow(s),veh/h/ln	1781	1663	1598	1565	1644	1343	1879	1803	1710	1997	1949	1832
Q Serve(g_s), s	4.6	1.1	0.0	12.8	14.6	0.0	7.7	10.7	10.8	0.2	19.1	19.1
Cycle Q Clear(g_c), s	4.6	1.1	0.0	12.8	14.6	0.0	7.7	10.7	10.8	0.2	19.1	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.64
Lane Grp Cap(c), veh/h	113	106		283	297		426	1014	961	479	928	872
V/C Ratio(X)	0.73	0.18		0.75	0.84		0.70	0.35	0.35	0.02	0.56	0.56
Avail Cap(c_a), veh/h	294	274		399	419		474	1014	961	663	928	872
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	0.00	1.00	1.00	0.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	44.4	0.0	38.8	39.5	0.0	14.3	11.9	12.0	13.1	18.7	18.7
Incr Delay (d2), s/veh	8.8	0.8	0.0	4.8	10.0	0.0	3.5	0.8	0.9	0.0	2.5	2.6
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	2.3	0.5	0.0	5.3	6.7	0.0	3.3	4.2	4.1	0.1	9.1	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	45.2	0.0	43.6	49.5	0.0	17.8	12.7	12.8	13.1	21.2	21.3
LnGrp LOS	D	D		D	D		B	B	B	B	C	C
Approach Vol, veh/h		102			461			994			1020	
Approach Delay, s/veh		53.0			46.8			14.3			21.2	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.4	52.1		22.6	5.8	60.7		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	27.5		25.5	10.5	29.5		16.5				
Max Q Clear Time (g_c+I1), s	9.7	21.1		16.6	2.2	12.8		6.6				
Green Ext Time (p_c), s	0.3	3.5		1.5	0.0	4.0		0.2				

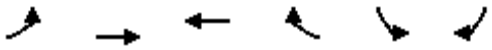
Intersection Summary		
HCM 6th Ctrl Delay	24.4	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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

2024 With Project PM Peak Hour
(Scenario A – Warehousing)



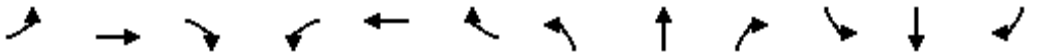
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	217	482	524	96	202	386
Future Volume (vph)	217	482	524	96	202	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3539	3462		1787	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1719	3539	3462		1787	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	241	536	582	107	224	429
RTOR Reduction (vph)	0	0	10	0	0	0
Lane Group Flow (vph)	241	536	679	0	224	429
Heavy Vehicles (%)	5%	2%	2%	1%	1%	1%
Turn Type	Prot	NA	NA		Prot	custom
Protected Phases	1	6	2		3	1 3 4
Permitted Phases						
Actuated Green, G (s)	20.5	54.6	28.1		22.5	67.8
Effective Green, g (s)	20.5	54.6	28.1		22.5	67.8
Actuated g/C Ratio	0.19	0.51	0.26		0.21	0.63
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		4.0	
Lane Grp Cap (vph)	326	1790	901		372	1004
v/s Ratio Prot	c0.14	0.15	c0.20		c0.13	c0.27
v/s Ratio Perm						
v/c Ratio	0.74	0.30	0.75		0.60	0.43
Uniform Delay, d1	41.2	15.5	36.7		38.6	10.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.5	0.1	3.6		3.2	0.3
Delay (s)	49.7	15.6	40.3		41.8	10.5
Level of Service	D	B	D		D	B
Approach Delay (s)		26.2	40.3		21.2	
Approach LOS		C	D		C	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	107.9	Sum of lost time (s)	24.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	430	214	296	659	65	91	30	161	37	41	4
Future Volume (vph)	8	430	214	296	659	65	91	30	161	37	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			809			537			142	
Travel Time (s)		24.9			18.4			12.2			3.2	
Confl. Peds. (#/hr)	5		1	1		8			4	3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	1%	3%	5%	4%	0%	4%	3%	0%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Perm	NA	Free	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		Free	4		Free	8		
Detector Phase	5	2	2	1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	7.6	26.6	26.6	7.6	26.6		26.6	26.6		26.6	26.6	
Total Split (s)	24.6	34.6	34.6	26.6	36.6		24.6	24.6		24.6	24.6	
Total Split (%)	28.7%	40.3%	40.3%	31.0%	42.7%		28.7%	28.7%		28.7%	28.7%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6			4.6			4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	Min	Min	None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.8	
Actuated Cycle Length: 56.9	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 15th St SE & E Main Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	430	214	296	659	65	91	30	161	37	41	4
Future Volume (veh/h)	8	430	214	296	659	65	91	30	161	37	41	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		1.00	0.99		0.99
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	1900	1841	1900	1885	1856	1826	1841	1900	1841	1856	1900	1530
Adj Flow Rate, veh/h	9	457	228	315	701	0	97	32	0	39	44	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	4	0	1	3	5	4	0	4	3	0	25
Cap, veh/h	371	671	583	593	959		303	45		213	116	9
Arrive On Green	0.01	0.36	0.36	0.16	0.52	0.00	0.11	0.11	0.00	0.11	0.11	0.11
Sat Flow, veh/h	1810	1841	1599	1795	1856	1547	1208	399	1560	670	1021	81
Grp Volume(v), veh/h	9	457	228	315	701	0	129	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	1810	1841	1599	1795	1856	1547	1607	0	1560	1772	0	0
Q Serve(g_s), s	0.1	8.0	4.0	3.4	11.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	8.0	4.0	3.4	11.2	0.0	2.8	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.75		1.00	0.45		0.05
Lane Grp Cap(c), veh/h	371	671	583	593	959		348	0		338	0	0
V/C Ratio(X)	0.02	0.68	0.39	0.53	0.73		0.37	0.00		0.26	0.00	0.00
Avail Cap(c_a), veh/h	1310	1452	1261	1346	1561		955	0		1004	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	10.2	9.0	6.3	7.1	0.0	16.1	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.4	0.7	1.1	0.0	0.7	0.0	0.0	0.4	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	0.0	2.6	1.1	0.7	2.8	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	11.4	9.4	7.1	8.2	0.0	16.8	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A	B	A	A	A		B	A		B	A	A
Approach Vol, veh/h		694			1016			129			87	
Approach Delay, s/veh		10.7			7.9			16.8			16.1	
Approach LOS		B			A			B			B	

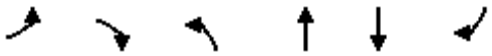
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	18.5		8.9	4.9	24.3		8.9				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	22.0	30.0		20.0	20.0	32.0		20.0				
Max Q Clear Time (g_c+I1), s	5.4	10.0		4.8	2.1	13.2		3.7				
Green Ext Time (p_c), s	0.9	3.7		0.5	0.0	4.8		0.3				

Intersection Summary		
HCM 6th Ctrl Delay	9.9	
HCM 6th LOS	A	

Notes

User approved pedestrian interval to be less than phase max green.

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	20	11	292	560	3
Future Volume (vph)	4	20	11	292	560	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			30	30	
Link Distance (ft)	180			200	537	
Travel Time (s)	4.9			4.5	12.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	10%	20%	4%	1%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

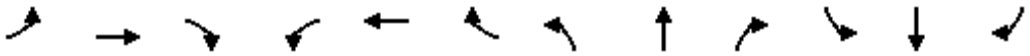
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	20	11	292	560	3
Future Vol, veh/h	4	20	11	292	560	3
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	93	93	93	93	93	93
Heavy Vehicles, %	0	10	20	4	1	0
Mvmt Flow	4	22	12	314	602	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	785	303	605	0	-	0
Stage 1	604	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.8	7.1	4.5	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.4	2.4	-	-	-
Pot Cap-1 Maneuver	334	670	856	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	328	670	856	-	-	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	856	-	571	-	-
HCM Lane V/C Ratio	0.014	-	0.045	-	-
HCM Control Delay (s)	9.3	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	11	1	0	1	5	292	16	2	576	3
Future Volume (vph)	10	0	11	1	0	1	5	292	16	2	576	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		109			98			426			200	
Travel Time (s)		3.0			2.7			9.7			4.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	11	1	0	1	5	292	16	2	576	3
Future Vol, veh/h	10	0	11	1	0	1	5	292	16	2	576	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	0	1	0
Mvmt Flow	11	0	12	1	0	1	5	307	17	2	606	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	776	946	305	633	939	162	609	0	0	324	0	0
Stage 1	612	612	-	326	326	-	-	-	-	-	-	-
Stage 2	164	334	-	307	613	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	291	264	697	368	266	861	979	-	-	1247	-	-
Stage 1	452	487	-	666	652	-	-	-	-	-	-	-
Stage 2	828	647	-	683	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	262	697	360	264	861	979	-	-	1247	-	-
Mov Cap-2 Maneuver	289	262	-	360	264	-	-	-	-	-	-	-
Stage 1	449	486	-	662	648	-	-	-	-	-	-	-
Stage 2	822	643	-	670	485	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	12.1	0.1	0
HCM LOS	B	B		

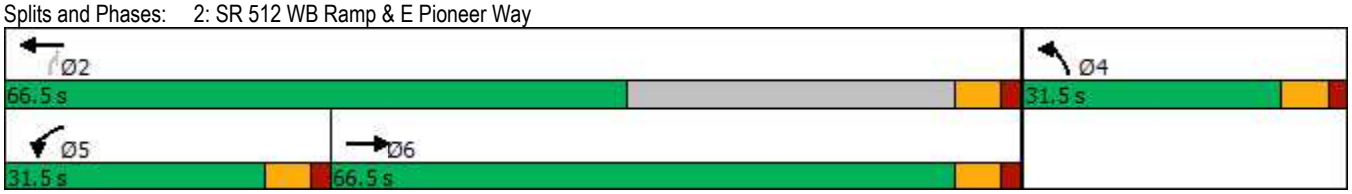
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	979	-	-	417	508	1247	-	-
HCM Lane V/C Ratio	0.005	-	-	0.053	0.004	0.002	-	-
HCM Control Delay (s)	8.7	0	-	14.1	12.1	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

2024 With Project PM Peak Hour
(Scenario B – Manufacturing)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	423	115	405	469	82	53
Future Volume (vph)	423	115	405	469	82	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		300	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	30	
Link Distance (ft)	470			785	513	
Travel Time (s)	9.2			15.3	11.7	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	2%	1%	1%	8%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						2
Detector Phase	6		5	2	4	2
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	40.5		11.5	16.5	16.5	16.5
Total Split (s)	66.5		31.5	66.5	31.5	66.5
Total Split (%)	51.4%		24.3%	51.4%	24.3%	51.4%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	Min

Intersection Summary	
Area Type:	Other
Cycle Length: 129.5	
Actuated Cycle Length: 71.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: SR 512 WB Ramp & E Pioneer Way



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	423	115	405	469	82	53
Future Volume (veh/h)	423	115	405	469	82	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1885	1885	1781
Adj Flow Rate, veh/h	455	124	435	504	88	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	2	1	1	8
Cap, veh/h	735	199	498	2318	263	221
Arrive On Green	0.26	0.26	0.28	0.65	0.15	0.15
Sat Flow, veh/h	2875	752	1781	3676	1795	1510
Grp Volume(v), veh/h	292	287	435	504	88	57
Grp Sat Flow(s),veh/h/ln	1791	1741	1781	1791	1795	1510
Q Serve(g_s), s	9.0	9.1	14.6	3.6	2.8	2.1
Cycle Q Clear(g_c), s	9.0	9.1	14.6	3.6	2.8	2.1
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	473	460	498	2318	263	221
V/C Ratio(X)	0.62	0.62	0.87	0.22	0.33	0.26
Avail Cap(c_a), veh/h	1708	1661	708	3416	713	600
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	20.3	20.4	21.6	4.6	24.1	23.8
Incr Delay (d2), s/veh	1.3	1.4	8.6	0.0	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.5	6.7	0.9	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	21.8	30.2	4.6	25.0	24.6
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	579			939	145	
Approach Delay, s/veh	21.7			16.5	24.8	
Approach LOS	C			B	C	

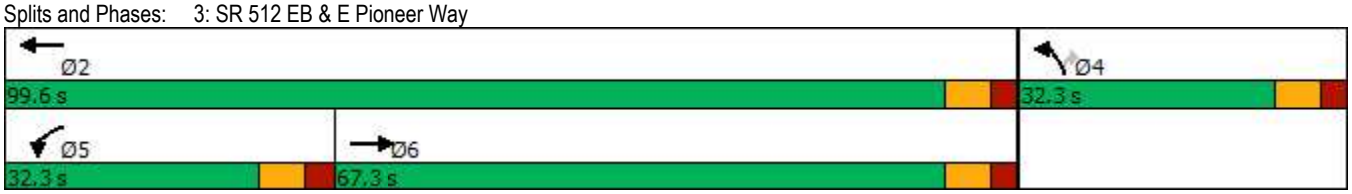
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.2		15.7	24.1	23.1
Change Period (Y+Rc), s		6.5		6.5	6.5	6.5
Max Green Setting (Gmax), s		60.0		25.0	25.0	60.0
Max Q Clear Time (g_c+I1), s		5.6		4.8	16.6	11.1
Green Ext Time (p_c), s		3.7		0.5	0.9	3.9

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	388	131	27	852	87	316
Future Volume (vph)	388	131	27	852	87	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Storage Length (ft)		0	250		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	785			556	336	
Travel Time (s)	15.3			10.8	6.5	
Confl. Peds. (#/hr)		4				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	4%	2%	3%	4%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						4
Detector Phase	6		5	2	4	4
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	39.3		12.3	17.3	17.3	17.3
Total Split (s)	67.3		32.3	99.6	32.3	32.3
Total Split (%)	51.0%		24.5%	75.5%	24.5%	24.5%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.8		2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3		7.3	7.3	7.3	7.3
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 131.9	
Actuated Cycle Length: 51.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SR 512 EB & E Pioneer Way



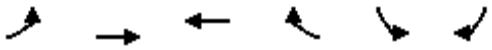
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	388	131	27	852	87	316
Future Volume (veh/h)	388	131	27	852	87	316
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1870	1841	1870	1973	1958
Adj Flow Rate, veh/h	431	146	30	947	97	351
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	4	2	3	4
Cap, veh/h	711	238	59	1589	502	443
Arrive On Green	0.27	0.27	0.03	0.45	0.27	0.27
Sat Flow, veh/h	2723	881	1753	3647	1879	1659
Grp Volume(v), veh/h	292	285	30	947	97	351
Grp Sat Flow(s),veh/h/ln	1791	1719	1753	1777	1879	1659
Q Serve(g_s), s	7.3	7.4	0.9	10.3	2.0	10.0
Cycle Q Clear(g_c), s	7.3	7.4	0.9	10.3	2.0	10.0
Prop In Lane		0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	484	465	59	1589	502	443
V/C Ratio(X)	0.60	0.61	0.50	0.60	0.19	0.79
Avail Cap(c_a), veh/h	2103	2019	858	6421	920	812
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.3	16.3	24.3	10.6	14.5	17.4
Incr Delay (d2), s/veh	1.2	1.3	6.5	0.4	0.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.6	0.4	3.1	0.8	9.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.5	17.6	30.7	11.0	14.7	21.3
LnGrp LOS	B	B	C	B	B	C
Approach Vol, veh/h	577			977	448	
Approach Delay, s/veh	17.5			11.6	19.9	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.1		20.9	9.0	21.1
Change Period (Y+Rc), s		* 7.3		* 7.3	* 7.3	* 7.3
Max Green Setting (Gmax), s		* 92		* 25	* 25	* 60
Max Q Clear Time (g_c+I1), s		12.3		12.0	2.9	9.4
Green Ext Time (p_c), s		8.4		1.6	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



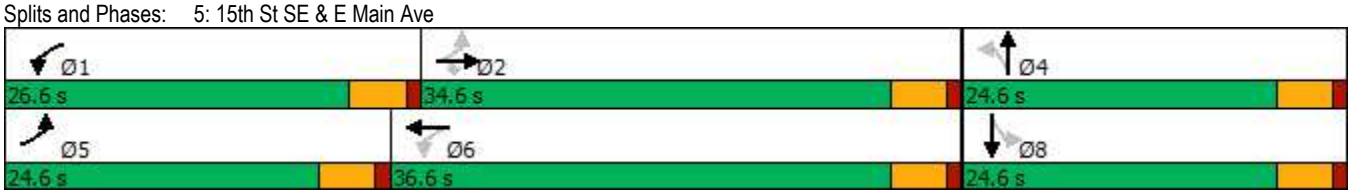
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	222	482	524	100	209	398
Future Volume (vph)	222	482	524	100	209	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3539	3460		1787	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1719	3539	3460		1787	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	247	536	582	111	232	442
RTOR Reduction (vph)	0	0	10	0	0	0
Lane Group Flow (vph)	247	536	683	0	232	442
Heavy Vehicles (%)	5%	2%	2%	1%	1%	1%
Turn Type	Prot	NA	NA		Prot	custom
Protected Phases	1	6	2		3	1 3 4
Permitted Phases						
Actuated Green, G (s)	21.0	55.3	28.3		23.4	69.2
Effective Green, g (s)	21.0	55.3	28.3		23.4	69.2
Actuated g/C Ratio	0.19	0.51	0.26		0.21	0.63
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		4.0	
Lane Grp Cap (vph)	329	1787	894		381	1010
v/s Ratio Prot	c0.14	0.15	c0.20		c0.13	c0.28
v/s Ratio Perm						
v/c Ratio	0.75	0.30	0.76		0.61	0.44
Uniform Delay, d1	41.8	15.8	37.5		38.9	10.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	9.3	0.1	3.9		3.2	0.3
Delay (s)	51.1	15.9	41.4		42.1	10.6
Level of Service	D	B	D		D	B
Approach Delay (s)		27.0	41.4		21.4	
Approach LOS		C	D		C	

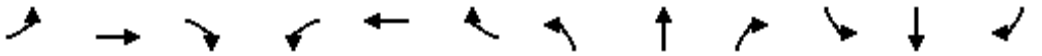
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	109.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	430	218	302	659	65	99	30	172	37	41	4
Future Volume (vph)	8	430	218	302	659	65	99	30	172	37	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			809			537			142	
Travel Time (s)		24.9			18.4			12.2			3.2	
Confl. Peds. (#/hr)	5		1	1		8			4	3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	1%	3%	5%	4%	0%	4%	3%	0%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Perm	NA	Free	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		Free	4		Free	8		
Detector Phase	5	2	2	1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	7.6	26.6	26.6	7.6	26.6		26.6	26.6		26.6	26.6	
Total Split (s)	24.6	34.6	34.6	26.6	36.6		24.6	24.6		24.6	24.6	
Total Split (%)	28.7%	40.3%	40.3%	31.0%	42.7%		28.7%	28.7%		28.7%	28.7%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6			4.6			4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	Min	Min	None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.8	
Actuated Cycle Length: 58.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 15th St SE & E Main Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	430	218	302	659	65	99	30	172	37	41	4
Future Volume (veh/h)	8	430	218	302	659	65	99	30	172	37	41	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		1.00	0.99		0.99
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	1900	1841	1900	1885	1856	1826	1841	1900	1841	1856	1900	1530
Adj Flow Rate, veh/h	9	457	232	321	701	0	105	32	0	39	44	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	4	0	1	3	5	4	0	4	3	0	25
Cap, veh/h	367	667	579	590	958		311	45		212	127	10
Arrive On Green	0.01	0.36	0.36	0.16	0.52	0.00	0.12	0.12	0.00	0.12	0.12	0.12
Sat Flow, veh/h	1810	1841	1599	1795	1856	1547	1221	372	1560	643	1050	82
Grp Volume(v), veh/h	9	457	232	321	701	0	137	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	1810	1841	1599	1795	1856	1547	1593	0	1560	1775	0	0
Q Serve(g_s), s	0.1	8.2	4.2	3.6	11.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	8.2	4.2	3.6	11.4	0.0	3.1	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.77		1.00	0.45		0.05
Lane Grp Cap(c), veh/h	367	667	579	590	958		356	0		349	0	0
V/C Ratio(X)	0.02	0.69	0.40	0.54	0.73		0.38	0.00		0.25	0.00	0.00
Avail Cap(c_a), veh/h	1286	1423	1236	1318	1530		935	0		986	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.1	10.5	9.2	6.5	7.3	0.0	16.3	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.4	0.8	1.1	0.0	0.7	0.0	0.0	0.4	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	0.0	2.7	1.2	0.8	2.9	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.2	11.8	9.7	7.3	8.4	0.0	17.0	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A	B	A	A	A		B	A		B	A	A
Approach Vol, veh/h		698			1022			137			87	
Approach Delay, s/veh		11.0			8.1			17.0			16.1	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.9	18.7		9.3	4.9	24.6		9.3				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	22.0	30.0		20.0	20.0	32.0		20.0				
Max Q Clear Time (g_c+I1), s	5.6	10.2		5.1	2.1	13.4		3.7				
Green Ext Time (p_c), s	0.9	3.7		0.6	0.0	4.8		0.3				

Intersection Summary		
HCM 6th Ctrl Delay	10.1	
HCM 6th LOS	B	

Notes

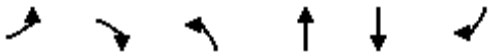
User approved pedestrian interval to be less than phase max green.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	460	233	1100	734	209	520
Future Volume (vph)	460	233	1100	734	209	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1599	3467	1863	1796	2856
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1599	3467	1863	1796	2856
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	479	243	1146	765	218	542
RTOR Reduction (vph)	0	194	0	0	0	59
Lane Group Flow (vph)	479	49	1146	765	218	483
Heavy Vehicles (%)	2%	1%	1%	2%	2%	1%
Turn Type	NA	Perm	Prot	NA	Prot	custom
Protected Phases	2		1	6	3	3 4 1
Permitted Phases		2				3
Actuated Green, G (s)	20.4	20.4	37.2	62.6	17.0	70.7
Effective Green, g (s)	20.4	20.4	37.2	62.6	17.0	66.2
Actuated g/C Ratio	0.20	0.20	0.37	0.62	0.17	0.65
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	714	322	1275	1153	301	1870
v/s Ratio Prot	0.14		c0.33	c0.41	c0.12	c0.17
v/s Ratio Perm		0.03				
v/c Ratio	0.67	0.15	0.90	0.66	0.72	0.26
Uniform Delay, d1	37.3	33.2	30.2	12.4	39.8	7.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2	8.7	1.5	8.4	0.1
Delay (s)	39.7	33.4	38.9	13.9	48.2	7.3
Level of Service	D	C	D	B	D	A
Approach Delay (s)	37.6			28.9	19.0	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	101.1	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	253	582	249	749	1124	141
Future Volume (vph)	253	582	249	749	1124	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	0%	
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	
Frt	0.92	0.85	1.00	1.00	0.98	
Flt Protected	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3034	1419	1787	3539	3469	
Flt Permitted	0.98	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	3034	1419	166	3539	3469	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	258	594	254	764	1147	144
RTOR Reduction (vph)	217	251	0	0	7	0
Lane Group Flow (vph)	338	46	254	764	1284	0
Heavy Vehicles (%)	14%	2%	1%	2%	2%	5%
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	8	8	1	6	2	
Permitted Phases			6			
Actuated Green, G (s)	15.5	15.5	69.5	69.5	48.6	
Effective Green, g (s)	15.5	15.5	69.5	69.5	48.6	
Actuated g/C Ratio	0.16	0.16	0.70	0.70	0.49	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	470	219	381	2459	1685	
v/s Ratio Prot	c0.11	0.03	c0.11	0.22	c0.37	
v/s Ratio Perm			0.35			
v/c Ratio	0.72	0.21	0.67	0.31	0.76	
Uniform Delay, d1	40.2	36.9	22.5	5.9	21.0	
Progression Factor	1.00	1.00	1.00	1.00	0.43	
Incremental Delay, d2	5.2	0.5	4.4	0.3	2.7	
Delay (s)	45.4	37.4	26.9	6.3	11.7	
Level of Service	D	D	C	A	B	
Approach Delay (s)	42.6			11.4	11.7	
Approach LOS	D			B	B	

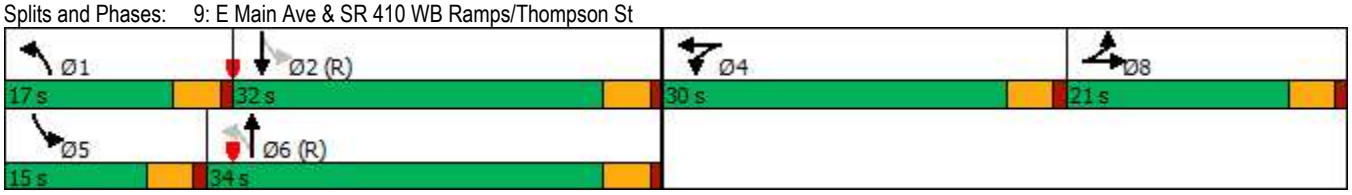
Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

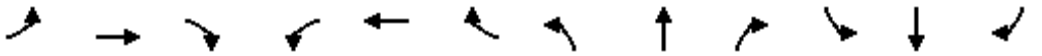
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	19	267	302	117	15	306	492	198	9	691	311
Future Volume (vph)	82	19	267	302	117	15	306	492	198	9	691	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			6%			-3%			-5%	
Storage Length (ft)	170		70	115		50	225		0	175		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			35			25	
Link Distance (ft)		499			309			676			392	
Travel Time (s)		11.3			8.4			13.2			10.7	
Confl. Peds. (#/hr)						6			6	6		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	2%	16%	1%	3%	3%	7%	3%	8%	4%	0%	3%	11%
Shared Lane Traffic (%)				32%								
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			Free			Free	6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	10.5		10.5	10.5		10.5	28.5		10.5	10.5	
Total Split (s)	21.0	21.0		30.0	30.0		17.0	34.0		15.0	32.0	
Total Split (%)	21.0%	21.0%		30.0%	30.0%		17.0%	34.0%		15.0%	32.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 61 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	

Splits and Phases: 9: E Main Ave & SR 410 WB Ramps/Thompson St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	19	267	302	117	15	306	492	198	9	691	311
Future Volume (veh/h)	82	19	267	302	117	15	306	492	198	9	691	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1870	1663	1885	1644	1644	1584	1973	1898	1958	2097	2052	1932
Adj Flow Rate, veh/h	83	19	0	212	249	0	309	497	200	9	698	314
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	16	1	3	3	7	3	8	4	0	3	11
Cap, veh/h	113	106		283	297		429	1411	565	478	1235	555
Arrive On Green	0.06	0.06	0.00	0.18	0.18	0.00	0.10	0.56	0.56	0.01	0.47	0.47
Sat Flow, veh/h	1781	1663	1598	1565	1644	1343	1879	2510	1004	1997	2608	1173
Grp Volume(v), veh/h	83	19	0	212	249	0	309	356	341	9	522	490
Grp Sat Flow(s),veh/h/ln	1781	1663	1598	1565	1644	1343	1879	1803	1711	1997	1949	1832
Q Serve(g_s), s	4.6	1.1	0.0	12.8	14.6	0.0	8.0	10.8	10.9	0.2	19.2	19.2
Cycle Q Clear(g_c), s	4.6	1.1	0.0	12.8	14.6	0.0	8.0	10.8	10.9	0.2	19.2	19.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.64
Lane Grp Cap(c), veh/h	113	106		283	297		429	1014	962	478	923	867
V/C Ratio(X)	0.73	0.18		0.75	0.84		0.72	0.35	0.35	0.02	0.57	0.57
Avail Cap(c_a), veh/h	294	274		399	419		472	1014	962	661	923	867
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	0.00	1.00	1.00	0.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	44.4	0.0	38.8	39.5	0.0	14.6	11.9	12.0	13.3	18.9	18.9
Incr Delay (d2), s/veh	8.8	0.8	0.0	4.8	10.0	0.0	4.1	0.8	0.9	0.0	2.5	2.7
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	2.3	0.5	0.0	5.3	6.7	0.0	3.5	4.2	4.1	0.1	9.2	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	45.2	0.0	43.6	49.5	0.0	18.7	12.8	12.8	13.3	21.4	21.6
LnGrp LOS	D	D		D	D		B	B	B	B	C	C
Approach Vol, veh/h		102			461			1006			1021	
Approach Delay, s/veh		53.0			46.8			14.6			21.4	
Approach LOS		D			D			B			C	

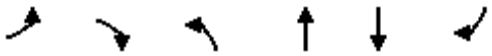
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.7	51.8		22.6	5.8	60.7		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	27.5		25.5	10.5	29.5		16.5				
Max Q Clear Time (g_c+I1), s	10.0	21.2		16.6	2.2	12.9		6.6				
Green Ext Time (p_c), s	0.2	3.5		1.5	0.0	4.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	24.5	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	24	14	307	568	5
Future Volume (vph)	8	24	14	307	568	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			30	30	
Link Distance (ft)	180			200	537	
Travel Time (s)	4.9			4.5	12.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	8%	15%	4%	1%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

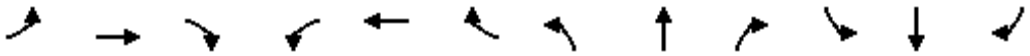
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	24	14	307	568	5
Future Vol, veh/h	8	24	14	307	568	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	8	15	4	1	0
Mvmt Flow	9	26	15	330	611	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	809	308	616	0	-	0
Stage 1	614	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.8	7.06	4.4	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.38	2.35	-	-	-
Pot Cap-1 Maneuver	322	670	876	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	315	670	876	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	876	-	523	-	-
HCM Lane V/C Ratio	0.017	-	0.066	-	-
HCM Control Delay (s)	9.2	-	12.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	26	1	0	1	11	295	16	2	580	11
Future Volume (vph)	25	0	26	1	0	1	11	295	16	2	580	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		109			98			426			200	
Travel Time (s)		3.0			2.7			9.7			4.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	26	1	0	1	11	295	16	2	580	11
Future Vol, veh/h	25	0	26	1	0	1	11	295	16	2	580	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	5	0	0	1	0
Mvmt Flow	26	0	27	1	0	1	12	311	17	2	611	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	801	973	312	654	971	164	623	0	0	328	0	0
Stage 1	621	621	-	344	344	-	-	-	-	-	-	-
Stage 2	180	352	-	310	627	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	279	254	690	356	255	858	968	-	-	1243	-	-
Stage 1	446	482	-	650	640	-	-	-	-	-	-	-
Stage 2	810	635	-	681	479	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	275	250	690	337	251	858	968	-	-	1243	-	-
Mov Cap-2 Maneuver	275	250	-	337	251	-	-	-	-	-	-	-
Stage 1	439	481	-	640	630	-	-	-	-	-	-	-
Stage 2	797	625	-	653	478	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	12.5	0.4	0
HCM LOS	C	B		

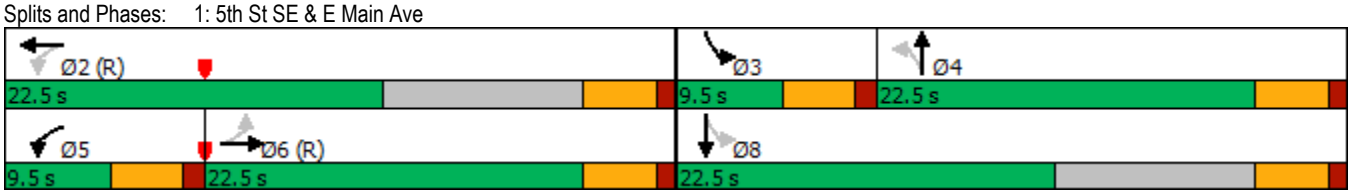
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	968	-	-	397	484	1243	-	-
HCM Lane V/C Ratio	0.012	-	-	0.135	0.004	0.002	-	-
HCM Control Delay (s)	8.8	0.1	-	15.5	12.5	7.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0	-	-

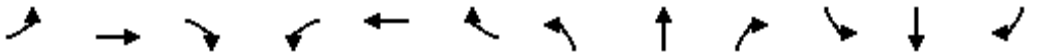
2024 With Project PM Peak Hour
(Scenario C – High-Cube Fulfillment Center (sort))

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	334	34	227	519	105	12	124	95	217	495	21
Future Volume (vph)	8	334	34	227	519	105	12	124	95	217	495	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	110		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		343			822			178			685	
Travel Time (s)		7.8			22.4			4.9			18.7	
Confl. Peds. (#/hr)	1		2	2		1	5		2	2		5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	5%	3%	2%	4%	1%	0%	3%	0%	4%	4%	10%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		6		5	2			4		3	8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	22.5	22.5		9.5	22.5		22.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5		9.5	22.5		22.5	22.5		9.5	22.5	
Total Split (%)	35.2%	35.2%		14.8%	35.2%		35.2%	35.2%		14.8%	35.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		

Intersection Summary	
Area Type:	Other
Cycle Length: 64	
Actuated Cycle Length: 64	
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 1: 5th St SE & E Main Ave





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	334	34	227	519	105	12	124	95	217	495	21
Future Volume (veh/h)	8	334	34	227	519	105	12	124	95	217	495	21
Initial Q (Qb), veh	0	7	0	2	4	0	0	2	0	1	3	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1826	1856	1870	1841	1885	1900	1856	1900	1841	1841	1752
Adj Flow Rate, veh/h	8	341	35	232	530	107	12	127	97	221	505	21
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, %	0	5	3	2	4	1	0	3	0	4	4	10
Cap, veh/h	189	465	39	306	654	120	262	307	204	418	758	30
Arrive On Green	0.28	0.28	0.28	0.08	0.43	0.43	0.28	0.28	0.28	0.08	0.43	0.43
Sat Flow, veh/h	803	1628	167	1781	1486	300	887	972	742	1753	1754	73
Grp Volume(v), veh/h	8	0	376	232	0	637	12	0	224	221	0	526
Grp Sat Flow(s),veh/h/ln	803	0	1795	1781	0	1786	887	0	1714	1753	0	1827
Q Serve(g_s), s	0.6	0.0	12.2	5.0	0.0	20.2	0.7	0.0	6.9	5.0	0.0	14.8
Cycle Q Clear(g_c), s	11.3	0.0	12.2	5.0	0.0	20.2	6.0	0.0	6.9	5.0	0.0	14.8
Prop In Lane	1.00		0.09	1.00		0.17	1.00		0.43	1.00		0.04
Lane Grp Cap(c), veh/h	189	0	506	306	0	769	262	0	483	418	0	785
V/C Ratio(X)	0.04	0.00	0.74	0.76	0.00	0.83	0.05	0.00	0.46	0.53	0.00	0.67
Avail Cap(c_a), veh/h	204	0	505	343	0	767	289	0	482	446	0	785
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	26.4	0.0	21.3	18.3	0.0	16.4	22.6	0.0	19.1	15.8	0.0	14.8
Incr Delay (d2), s/veh	0.4	0.0	9.5	16.1	0.0	10.0	0.3	0.0	3.2	4.7	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	5.3	1.3	0.0	1.1	0.0	0.0	0.2	0.1	0.0	0.3
%ile BackOfQ(50%),veh/ln	0.1	0.0	7.3	3.7	0.0	10.1	0.2	0.0	3.2	2.7	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	36.2	35.6	0.0	27.5	22.9	0.0	22.5	20.6	0.0	19.6
LnGrp LOS	C	A	D	D	A	C	C	A	C	C	A	B
Approach Vol, veh/h		384			869			236			747	
Approach Delay, s/veh		36.0			29.7			22.6			19.9	
Approach LOS		D			C			C			B	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		32.0	9.5	22.5	9.5	22.5		32.0				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		18.0	5.0	18.0	5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s		22.2	7.0	8.9	7.0	14.2		16.8				
Green Ext Time (p_c), s		0.0	0.0	0.9	0.0	0.8		0.5				

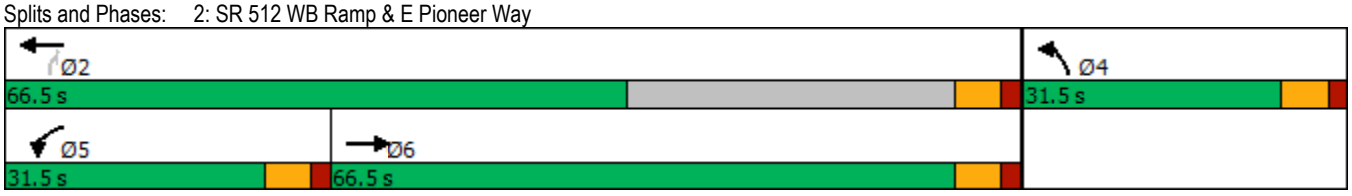
Intersection Summary	
HCM 6th Ctrl Delay	26.7
HCM 6th LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	427	115	410	472	82	53
Future Volume (vph)	427	115	410	472	82	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	275		300	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	30	
Link Distance (ft)	470			785	513	
Travel Time (s)	9.2			15.3	11.7	
Confl. Peds. (#/hr)		5	5			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	0%	2%	1%	1%	8%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						2
Detector Phase	6		5	2	4	2
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	40.5		11.5	16.5	16.5	16.5
Total Split (s)	66.5		31.5	66.5	31.5	66.5
Total Split (%)	51.4%		24.3%	51.4%	24.3%	51.4%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		6.5	6.5	6.5	6.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	Min

Intersection Summary

Area Type: Other
Cycle Length: 129.5
Actuated Cycle Length: 72
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: SR 512 WB Ramp & E Pioneer Way



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	427	115	410	472	82	53
Future Volume (veh/h)	427	115	410	472	82	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1885	1885	1781
Adj Flow Rate, veh/h	459	124	441	508	88	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	0	2	1	1	8
Cap, veh/h	738	198	503	2327	261	220
Arrive On Green	0.26	0.26	0.28	0.65	0.15	0.15
Sat Flow, veh/h	2881	747	1781	3676	1795	1510
Grp Volume(v), veh/h	294	289	441	508	88	57
Grp Sat Flow(s),veh/h/ln	1791	1742	1781	1791	1795	1510
Q Serve(g_s), s	9.1	9.3	15.0	3.7	2.8	2.1
Cycle Q Clear(g_c), s	9.1	9.3	15.0	3.7	2.8	2.1
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	474	461	503	2327	261	220
V/C Ratio(X)	0.62	0.63	0.88	0.22	0.34	0.26
Avail Cap(c_a), veh/h	1694	1648	702	3388	708	595
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	20.5	20.6	21.7	4.5	24.4	24.1
Incr Delay (d2), s/veh	1.3	1.4	9.1	0.0	0.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.6	6.9	0.9	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.8	22.0	30.8	4.6	25.3	24.8
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	583			949	145	
Approach Delay, s/veh	21.9			16.8	25.1	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		47.7		15.7	24.4	23.3
Change Period (Y+Rc), s		6.5		6.5	6.5	6.5
Max Green Setting (Gmax), s		60.0		25.0	25.0	60.0
Max Q Clear Time (g_c+I1), s		5.7		4.8	17.0	11.3
Green Ext Time (p_c), s		3.7		0.5	0.9	3.9

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	392	131	27	860	87	321
Future Volume (vph)	392	131	27	860	87	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Storage Length (ft)		0	250		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	785			556	336	
Travel Time (s)	15.3			10.8	6.5	
Confl. Peds. (#/hr)		4				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	4%	2%	3%	4%
Shared Lane Traffic (%)						
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	6		5	2	4	
Permitted Phases						4
Detector Phase	6		5	2	4	4
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	39.3		12.3	17.3	17.3	17.3
Total Split (s)	67.3		32.3	99.6	32.3	32.3
Total Split (%)	51.0%		24.5%	75.5%	24.5%	24.5%
Yellow Time (s)	4.5		4.5	4.5	4.5	4.5
All-Red Time (s)	2.8		2.8	2.8	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3		7.3	7.3	7.3	7.3
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	Min		None	Min	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 131.9	
Actuated Cycle Length: 51.6	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: SR 512 EB & E Pioneer Way

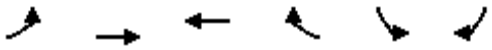
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	392	131	27	860	87	321
Future Volume (veh/h)	392	131	27	860	87	321
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.99	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1870	1841	1870	1973	1958
Adj Flow Rate, veh/h	436	146	30	956	97	357
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	2	4	2	3	4
Cap, veh/h	715	237	59	1587	508	448
Arrive On Green	0.27	0.27	0.03	0.45	0.27	0.27
Sat Flow, veh/h	2731	874	1753	3647	1879	1659
Grp Volume(v), veh/h	295	287	30	956	97	357
Grp Sat Flow(s),veh/h/ln	1791	1720	1753	1777	1879	1659
Q Serve(g_s), s	7.4	7.5	0.9	10.5	2.0	10.3
Cycle Q Clear(g_c), s	7.4	7.5	0.9	10.5	2.0	10.3
Prop In Lane		0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	486	467	59	1587	508	448
V/C Ratio(X)	0.61	0.62	0.51	0.60	0.19	0.80
Avail Cap(c_a), veh/h	2084	2002	850	6363	911	805
HCM Platoon Ratio	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
Uniform Delay (d), s/veh	16.4	16.4	24.5	10.8	14.5	17.5
Incr Delay (d2), s/veh	1.2	1.3	6.5	0.4	0.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.7	0.4	3.2	0.8	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.6	17.8	31.0	11.2	14.7	21.4
LnGrp LOS	B	B	C	B	B	C
Approach Vol, veh/h	582			986	454	
Approach Delay, s/veh	17.7			11.8	20.0	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		30.3		21.2	9.0	21.3
Change Period (Y+Rc), s		* 7.3		* 7.3	* 7.3	* 7.3
Max Green Setting (Gmax), s		* 92		* 25	* 25	* 60
Max Q Clear Time (g_c+I1), s		12.5		12.3	2.9	9.5
Green Ext Time (p_c), s		8.5		1.6	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



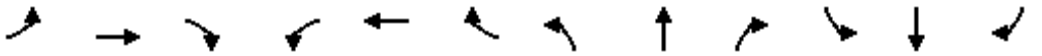
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	231	482	524	106	215	406
Future Volume (vph)	231	482	524	106	215	406
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1736	3539	3455		1787	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1736	3539	3455		1787	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	257	536	582	118	239	451
RTOR Reduction (vph)	0	0	11	0	0	0
Lane Group Flow (vph)	257	536	689	0	239	451
Heavy Vehicles (%)	4%	2%	2%	1%	1%	1%
Turn Type	Prot	NA	NA		Prot	custom
Protected Phases	1	6	2		3	1 3 4
Permitted Phases						
Actuated Green, G (s)	21.5	56.2	28.7		24.1	70.4
Effective Green, g (s)	21.5	56.2	28.7		24.1	70.4
Actuated g/C Ratio	0.19	0.51	0.26		0.22	0.63
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		4.0	
Lane Grp Cap (vph)	335	1790	892		387	1013
v/s Ratio Prot	c0.15	0.15	c0.20		c0.13	c0.28
v/s Ratio Perm						
v/c Ratio	0.77	0.30	0.77		0.62	0.45
Uniform Delay, d1	42.4	16.0	38.2		39.3	10.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.1	0.1	4.2		3.3	0.3
Delay (s)	52.5	16.1	42.4		42.7	10.7
Level of Service	D	B	D		D	B
Approach Delay (s)		27.9	42.4		21.8	
Approach LOS		C	D		C	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	111.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	430	224	313	659	65	105	30	182	37	41	4
Future Volume (vph)	8	430	224	313	659	65	105	30	182	37	41	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			809			537			142	
Travel Time (s)		24.9			18.4			12.2			3.2	
Confl. Peds. (#/hr)	5		1	1		8			4	3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	1%	3%	5%	4%	0%	4%	3%	0%	25%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Free	Perm	NA	Free	Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		Free	4		Free	8		
Detector Phase	5	2	2	1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Split (s)	7.6	26.6	26.6	7.6	26.6		26.6	26.6		26.6	26.6	
Total Split (s)	24.6	34.6	34.6	26.6	36.6		24.6	24.6		24.6	24.6	
Total Split (%)	28.7%	40.3%	40.3%	31.0%	42.7%		28.7%	28.7%		28.7%	28.7%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6			4.6			4.6	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Recall Mode	None	Min	Min	None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 85.8	
Actuated Cycle Length: 58.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 5: 15th St SE & E Main Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	430	224	313	659	65	105	30	182	37	41	4
Future Volume (veh/h)	8	430	224	313	659	65	105	30	182	37	41	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		1.00	0.99		0.99
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	1900	1841	1900	1885	1856	1826	1841	1900	1841	1856	1900	1530
Adj Flow Rate, veh/h	9	457	238	333	701	0	112	32	0	39	44	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	4	0	1	3	5	4	0	4	3	0	25
Cap, veh/h	365	662	575	590	962		318	45		210	137	10
Arrive On Green	0.01	0.36	0.36	0.17	0.52	0.00	0.13	0.13	0.00	0.13	0.13	0.13
Sat Flow, veh/h	1810	1841	1599	1795	1856	1547	1230	352	1560	621	1074	82
Grp Volume(v), veh/h	9	457	238	333	701	0	144	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	1810	1841	1599	1795	1856	1547	1582	0	1560	1777	0	0
Q Serve(g_s), s	0.1	8.4	4.4	3.8	11.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	8.4	4.4	3.8	11.6	0.0	3.3	0.0	0.0	1.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.78		1.00	0.45		0.05
Lane Grp Cap(c), veh/h	365	662	575	590	962		362	0		357	0	0
V/C Ratio(X)	0.02	0.69	0.41	0.56	0.73		0.40	0.00		0.24	0.00	0.00
Avail Cap(c_a), veh/h	1263	1390	1207	1287	1495		912	0		965	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	10.8	9.6	6.7	7.4	0.0	16.5	0.0	0.0	15.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.5	0.8	1.1	0.0	0.7	0.0	0.0	0.3	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	0.0	2.8	1.2	0.9	3.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	12.1	10.0	7.6	8.5	0.0	17.2	0.0	0.0	16.2	0.0	0.0
LnGrp LOS	A	B	B	A	A		B	A		B	A	A
Approach Vol, veh/h		704			1034			144			87	
Approach Delay, s/veh		11.4			8.2			17.2			16.2	
Approach LOS		B			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.2	18.9		9.7	4.9	25.2		9.7				
Change Period (Y+Rc), s	4.6	4.6		4.6	4.6	4.6		4.6				
Max Green Setting (Gmax), s	22.0	30.0		20.0	20.0	32.0		20.0				
Max Q Clear Time (g_c+I1), s	5.8	10.4		5.3	2.1	13.6		3.7				
Green Ext Time (p_c), s	0.9	3.7		0.6	0.0	4.8		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		10.3
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	470	233	1100	745	209	520
Future Volume (vph)	470	233	1100	745	209	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1599	3467	1863	1796	2856
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1599	3467	1863	1796	2856
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	490	243	1146	776	218	542
RTOR Reduction (vph)	0	193	0	0	0	56
Lane Group Flow (vph)	490	50	1146	776	218	486
Heavy Vehicles (%)	2%	1%	1%	2%	2%	1%
Turn Type	NA	Perm	Prot	NA	Prot	custom
Protected Phases	2		1	6	3	3 4 1
Permitted Phases		2				3
Actuated Green, G (s)	20.7	20.7	37.2	62.9	17.0	70.7
Effective Green, g (s)	20.7	20.7	37.2	62.9	17.0	66.2
Actuated g/C Ratio	0.20	0.20	0.37	0.62	0.17	0.65
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	722	326	1271	1155	301	1864
v/s Ratio Prot	0.14		c0.33	c0.42	c0.12	c0.17
v/s Ratio Perm		0.03				
v/c Ratio	0.68	0.15	0.90	0.67	0.72	0.26
Uniform Delay, d1	37.3	33.1	30.4	12.5	40.0	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2	9.1	1.6	8.4	0.1
Delay (s)	39.8	33.4	39.4	14.1	48.3	7.4
Level of Service	D	C	D	B	D	A
Approach Delay (s)	37.7			29.2	19.2	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	19.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

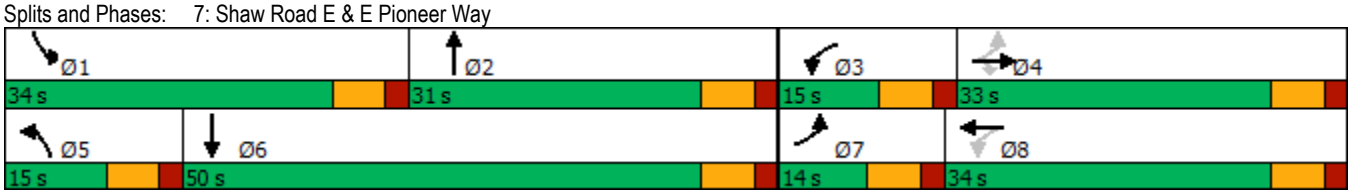
c Critical Lane Group

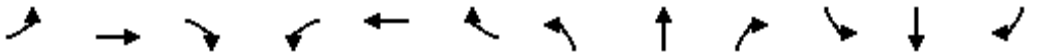
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	276	271	183	282	68	149	466	66	84	951	208
Future Volume (vph)	189	276	271	183	282	68	149	466	66	84	951	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	180		0	250		0	400		0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			No
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			1013			763			634	
Travel Time (s)		15.6			19.7			14.9			12.4	
Confl. Peds. (#/hr)	1		11	11		1			7			3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	1%	2%	0%	6%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8								
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.5	43.5	43.5	11.5	53.5		11.5	36.5		11.5	39.5	
Total Split (s)	14.0	33.0	33.0	15.0	34.0		15.0	31.0		34.0	50.0	
Total Split (%)	12.4%	29.2%	29.2%	13.3%	30.1%		13.3%	27.4%		30.1%	44.2%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	None		None	None	

Intersection Summary

Area Type: Other
Cycle Length: 113
Actuated Cycle Length: 112.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: Shaw Road E & E Pioneer Way





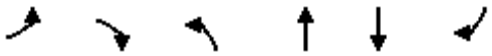
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	276	271	183	282	68	149	466	66	84	951	208
Future Volume (veh/h)	189	276	271	183	282	68	149	466	66	84	951	208
Initial Q (Qb), veh	3	6	1	1	11	0	0	2	0	0	12	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1885	1870	1885	1870	1900	1811	1885	1885
Adj Flow Rate, veh/h	201	294	288	195	300	72	159	496	70	89	1012	221
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	2	1	2	1	2	0	6	1	1
Cap, veh/h	185	422	350	220	373	50	221	1202	167	114	1192	209
Arrive On Green	0.07	0.22	0.22	0.08	0.23	0.23	0.06	0.38	0.38	0.07	0.39	0.39
Sat Flow, veh/h	1795	1885	1574	1781	1464	351	3483	3124	439	1725	2923	637
Grp Volume(v), veh/h	201	294	288	195	0	372	159	281	285	89	619	614
Grp Sat Flow(s),veh/h/ln	1795	1885	1574	1781	0	1816	1742	1777	1787	1725	1791	1769
Q Serve(g_s), s	7.5	15.1	18.3	8.5	0.0	20.8	4.7	12.2	12.3	5.3	34.1	34.3
Cycle Q Clear(g_c), s	7.5	15.1	18.3	8.5	0.0	20.8	4.7	12.2	12.3	5.3	34.1	34.3
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.25	1.00		0.36
Lane Grp Cap(c), veh/h	185	422	350	220	0	440	221	682	686	114	694	692
V/C Ratio(X)	1.08	0.70	0.82	0.89	0.00	0.85	0.72	0.41	0.42	0.78	0.89	0.89
Avail Cap(c_a), veh/h	230	475	397	277	0	475	282	682	686	451	741	732
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	38.5	39.2	33.9	0.0	40.5	49.3	23.8	23.8	49.3	31.4	31.2
Incr Delay (d2), s/veh	83.6	3.8	11.9	23.7	0.0	12.5	6.3	0.4	0.4	10.9	12.6	12.3
Initial Q Delay(d3),s/veh	58.3	4.8	0.3	1.3	0.0	29.0	0.0	0.0	0.0	0.0	5.0	4.8
%ile BackOfQ(50%),veh/ln	8.7	8.7	8.2	5.5	0.0	15.8	2.3	5.2	5.2	2.7	18.6	18.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.9	47.1	51.4	59.0	0.0	82.0	55.5	24.2	24.3	60.2	49.0	48.3
LnGrp LOS	F	D	D	E	A	F	E	C	C	E	D	D
Approach Vol, veh/h		783			567			725			1322	
Approach Delay, s/veh		82.2			74.1			31.1			49.4	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	46.9	15.0	29.8	13.2	47.1	14.0	30.8
Change Period (Y+Rc), s	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Max Green Setting (Gmax), s	27.5	24.5	8.5	26.5	8.5	43.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	7.3	14.3	10.5	20.3	6.7	36.3	9.5	22.8
Green Ext Time (p_c), s	0.2	2.4	0.0	1.5	0.1	4.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	253	587	252	756	1130	141
Future Volume (vph)	253	587	252	756	1130	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	0%	
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	0.97	0.91	1.00	0.95	0.95	
Frt	0.92	0.85	1.00	1.00	0.98	
Flt Protected	0.98	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3034	1419	1787	3539	3469	
Flt Permitted	0.98	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	3034	1419	161	3539	3469	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	258	599	257	771	1153	144
RTOR Reduction (vph)	220	253	0	0	7	0
Lane Group Flow (vph)	338	46	257	771	1290	0
Heavy Vehicles (%)	14%	2%	1%	2%	2%	5%
Turn Type	Prot	Prot	pm+pt	NA	NA	
Protected Phases	8	8	1	6	2	
Permitted Phases			6			
Actuated Green, G (s)	15.5	15.5	69.5	69.5	48.3	
Effective Green, g (s)	15.5	15.5	69.5	69.5	48.3	
Actuated g/C Ratio	0.16	0.16	0.70	0.70	0.48	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	470	219	383	2459	1675	
v/s Ratio Prot	c0.11	0.03	c0.11	0.22	c0.37	
v/s Ratio Perm			0.35			
v/c Ratio	0.72	0.21	0.67	0.31	0.77	
Uniform Delay, d1	40.2	36.9	23.2	5.9	21.3	
Progression Factor	1.00	1.00	1.00	1.00	0.43	
Incremental Delay, d2	5.2	0.5	4.6	0.3	2.8	
Delay (s)	45.4	37.4	27.8	6.3	11.9	
Level of Service	D	D	C	A	B	
Approach Delay (s)	42.6			11.7	11.9	
Approach LOS	D			B	B	

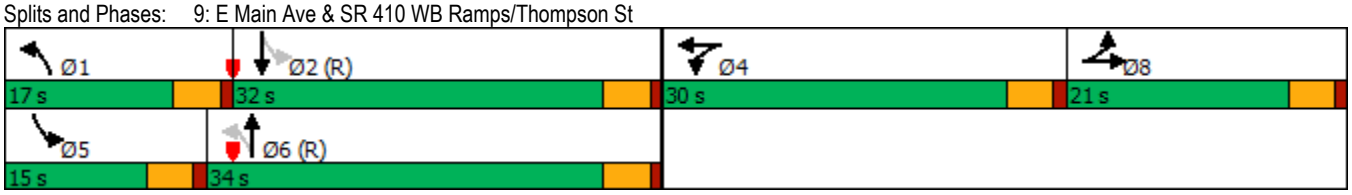
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

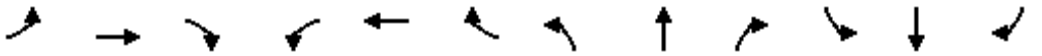
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	19	271	302	117	15	311	494	198	9	693	311
Future Volume (vph)	82	19	271	302	117	15	311	494	198	9	693	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			6%			-3%			-5%	
Storage Length (ft)	170		70	115		50	225		0	175		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			35			25	
Link Distance (ft)		499			309			676			392	
Travel Time (s)		11.3			8.4			13.2			10.7	
Confl. Peds. (#/hr)						6			6	6		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	2%	16%	1%	3%	3%	7%	3%	8%	4%	0%	3%	11%
Shared Lane Traffic (%)				32%								
Turn Type	Split	NA	Free	Split	NA	Free	pm+pt	NA		pm+pt	NA	
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			Free			Free	6			2		
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	10.5		10.5	10.5		10.5	28.5		10.5	10.5	
Total Split (s)	21.0	21.0		30.0	30.0		17.0	34.0		15.0	32.0	
Total Split (%)	21.0%	21.0%		30.0%	30.0%		17.0%	34.0%		15.0%	32.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 61 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	

Splits and Phases: 9: E Main Ave & SR 410 WB Ramps/Thompson St





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	19	271	302	117	15	311	494	198	9	693	311
Future Volume (veh/h)	82	19	271	302	117	15	311	494	198	9	693	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1870	1663	1885	1644	1644	1584	1973	1898	1958	2097	2052	1932
Adj Flow Rate, veh/h	83	19	0	212	249	0	314	499	200	9	700	314
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	16	1	3	3	7	3	8	4	0	3	11
Cap, veh/h	113	106		283	297		430	1413	563	477	1232	553
Arrive On Green	0.06	0.06	0.00	0.18	0.18	0.00	0.10	0.56	0.56	0.01	0.47	0.47
Sat Flow, veh/h	1781	1663	1598	1565	1644	1343	1879	2513	1002	1997	2610	1171
Grp Volume(v), veh/h	83	19	0	212	249	0	314	357	342	9	523	491
Grp Sat Flow(s),veh/h/ln	1781	1663	1598	1565	1644	1343	1879	1803	1711	1997	1949	1832
Q Serve(g_s), s	4.6	1.1	0.0	12.8	14.6	0.0	8.1	10.8	10.9	0.2	19.3	19.4
Cycle Q Clear(g_c), s	4.6	1.1	0.0	12.8	14.6	0.0	8.1	10.8	10.9	0.2	19.3	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		0.64
Lane Grp Cap(c), veh/h	113	106		283	297		430	1014	962	477	920	865
V/C Ratio(X)	0.73	0.18		0.75	0.84		0.73	0.35	0.36	0.02	0.57	0.57
Avail Cap(c_a), veh/h	294	274		399	419		470	1014	962	660	920	865
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	0.00	1.00	1.00	0.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	44.4	0.0	38.8	39.5	0.0	14.7	11.9	12.0	13.3	19.0	19.1
Incr Delay (d2), s/veh	8.8	0.8	0.0	4.8	10.0	0.0	4.4	0.8	0.9	0.0	2.5	2.7
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	2.3	0.5	0.0	5.3	6.7	0.0	3.6	4.3	4.1	0.1	9.2	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	45.2	0.0	43.6	49.5	0.0	19.2	12.8	12.8	13.3	21.6	21.8
LnGrp LOS	D	D		D	D		B	B	B	B	C	C
Approach Vol, veh/h		102			461			1013			1023	
Approach Delay, s/veh		53.0			46.8			14.8			21.6	
Approach LOS		D			D			B			C	

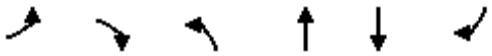
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	51.7		22.6	5.8	60.7		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	27.5		25.5	10.5	29.5		16.5				
Max Q Clear Time (g_c+I1), s	10.1	21.4		16.6	2.2	12.9		6.6				
Green Ext Time (p_c), s	0.2	3.4		1.5	0.0	4.0		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	24.6	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	28	16	320	581	10
Future Volume (vph)	12	28	16	320	581	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			30	30	
Link Distance (ft)	180			200	537	
Travel Time (s)	4.9			4.5	12.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	7%	4%	1%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

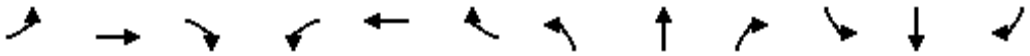
Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	28	16	320	581	10
Future Vol, veh/h	12	28	16	320	581	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	7	7	4	1	0
Mvmt Flow	13	30	17	344	625	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	837	318	636	0	-	0
Stage 1	631	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Critical Hdwy	6.8	7.04	4.24	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.37	2.27	-	-	-
Pot Cap-1 Maneuver	309	663	910	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	663	910	-	-	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	487	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	910	-	488	-	-
HCM Lane V/C Ratio	0.019	-	0.088	-	-
HCM Control Delay (s)	9	-	13.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	0	36	1	0	1	23	298	16	2	584	24
Future Volume (vph)	37	0	36	1	0	1	23	298	16	2	584	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		109			98			426			200	
Travel Time (s)		3.0			2.7			9.7			4.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	1%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	0	36	1	0	1	23	298	16	2	584	24
Future Vol, veh/h	37	0	36	1	0	1	23	298	16	2	584	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	4	0	0	1	0
Mvmt Flow	39	0	38	1	0	1	24	314	17	2	615	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	837	1011	320	683	1015	166	640	0	0	331	0	0
Stage 1	632	632	-	371	371	-	-	-	-	-	-	-
Stage 2	205	379	-	312	644	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	263	241	682	339	240	856	954	-	-	1240	-	-
Stage 1	440	477	-	627	623	-	-	-	-	-	-	-
Stage 2	784	618	-	679	471	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	256	233	682	312	232	856	954	-	-	1240	-	-
Mov Cap-2 Maneuver	256	233	-	312	232	-	-	-	-	-	-	-
Stage 1	426	476	-	608	604	-	-	-	-	-	-	-
Stage 2	759	599	-	639	470	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	12.9	0.7	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	954	-	-	370	457	1240	-	-
HCM Lane V/C Ratio	0.025	-	-	0.208	0.005	0.002	-	-
HCM Control Delay (s)	8.9	0.1	-	17.3	12.9	7.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0	0	-	-

Appendix D

Trip Generation Calculations

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO A

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
Warehousing	135,100 GFA	150	50%	50%	T = 1.58(X)+38.29	126	126	252	0.60	50%	50%	41	40	81	85	86	171
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130	-131	-261	0.75	50%	50%	-46	-46	-92	-84	-85	-169
					Net New Daily Trips =	**-4**	**-5**	**-9**				**-5**	**-6**	**-11**	**1**	**1**	**2**
AM Peak Hour																	
Proposed Use:																	
Warehousing	135,100 GFA	150	77%	23%	T = 0.12(X)+23.62	31	9	40	0.02	52%	48%	2	1	3	29	8	37
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-7	-7	-14	0.03	33%	67%	-1	-3	-4	-6	-4	-10
					Net New AM Peak Hour Trips =	**24**	**2**	**26**				**1**	**-2**	**-1**	**23**	**4**	**27**
PM Peak Hour																	
Proposed Use:																	
Warehousing	135,100 GFA	150	28%	72%	T = 0.12(X)+26.48	12	31	43	0.03	52%	48%	2	2	4	10	29	39
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7	-8	-15	0.03	50%	50%	-2	-2	-4	-5	-6	-11
					Net New PM Peak Hour Trips =	**5**	**23**	**28**				**0**	**0**	**0**	**5**	**23**	**28**

Notes:

[1] GFA = Gross Floor Area.

[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO A (Warehousing)

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
Warehousing	135,100 GFA	150	50%	50%	T = 1.58(X)+38.29	125.8	125.9	251.7	0.60	50%	50%	40.6	40.5	81.1	85.2	85.4	170.6
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130.7	-130.7	-261.4	0.75	50%	50%	-46.3	-46.2	-92.5	-84.4	-84.5	-168.9
					Net New Daily Trips =	**-4.9**	**-4.8**	**-9.7**				**-5.7**	**-5.7**	**-11.4**	**0.8**	**0.9**	**1.7**
AM Peak Hour																	
Proposed Use:																	
Warehousing	135,100 GFA	150	77%	23%	T = 0.12(X)+23.62	30.6	9.2	39.8	0.02	52%	48%	1.4	1.3	2.7	29.2	7.9	37.1
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-6.8	-6.8	-13.6	0.03	33%	67%	-1.2	-2.5	-3.7	-5.6	-4.3	-9.9
					Net New AM Peak Hour Trips =	**23.8**	**2.4**	**26.2**				**0.2**	**-1.2**	**-1.0**	**23.6**	**3.6**	**27.2**
PM Peak Hour																	
Proposed Use:																	
Warehousing	135,100 GFA	150	28%	72%	T = 0.12(X)+26.48	12	30.7	42.7	0.03	52%	48%	2.1	2.0	4.1	9.9	28.7	38.6
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7.4	-7.4	-14.8	0.03	50%	50%	-1.9	-1.8	-3.7	-5.5	-5.6	-11.1
					Net New PM Peak Hour Trips =	**4.6**	**23.3**	**27.9**				**0.2**	**0.2**	**0.4**	**4.4**	**23.1**	**27.5**

Notes:
[1] GFA = Gross Floor Area.
[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO B

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	50%	50%	T = 3.77(X)+201.98	355	356	711	0.45	50%	50%	31	30	61	324	326	650
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130	-131	-261	0.75	50%	50%	-46	-46	-92	-84	-85	-169
					Net New Daily Trips =	**225**	**225**	**450**				**-15**	**-16**	**-31**	**240**	**241**	**481**
AM Peak Hour																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	76%	24%	T = 0.61(X)+9.54	70	22	92	0.03	56%	44%	2	2	4	68	20	88
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-7	-7	-14	0.03	33%	67%	-1	-3	-4	-6	-4	-10
					Net New AM Peak Hour Trips =	**63**	**15**	**78**				**1**	**-1**	**0**	**62**	**16**	**78**
PM Peak Hour																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	31%	69%	T = 0.87(X)-17.5	31	69	100	0.03	41%	59%	2	2	4	29	67	96
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7	-8	-15	0.03	50%	50%	-2	-2	-4	-5	-6	-11
					Net New PM Peak Hour Trips =	**24**	**61**	**85**				**0**	**0**	**0**	**24**	**61**	**85**

Notes:
[1] GFA = Gross Floor Area.
[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO B (Manufacturing)

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	50%	50%	T = 3.77(X)+201.98	355.6	355.7	711.3	0.45	50%	50%	30.4	30.4	60.8	325	325	651
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130.7	-130.7	-261.4	0.75	50%	50%	-46.3	-46.2	-92.5	-84	-85	-169
					Net New Daily Trips =	**224.9**	**225.0**	**449.9**				**-15.9**	**-15.8**	**-31.7**	**240.8**	**240.8**	**481.6**
AM Peak Hour																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	76%	24%	T = 0.61(X)+9.54	69.9	22.1	92.0	0.03	56%	44%	2.3	1.8	4.1	68	20	88
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-6.8	-6.8	-13.6	0.03	33%	67%	-1.2	-2.5	-3.7	-6	-4	-10
					Net New AM Peak Hour Trips =	**63.1**	**15.3**	**78.4**				**1.10**	**-0.70**	**0.40**	**62.00**	**16.00**	**78.00**
PM Peak Hour																	
Proposed Use:																	
Manufacturing	135,100 GFA	140	31%	69%	T = 0.87(X)-17.5	31.0	69.0	100.0	0.03	41%	59%	1.7	2.4	4.1	29	67	96
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7.4	-7.4	-14.8	0.03	50%	50%	-1.9	-1.8	-3.7	-6	-6	-11
					Net New PM Peak Hour Trips =	**23.6**	**61.6**	**85.2**				**-0.2**	**0.6**	**0.4**	**23.8**	**61.0**	**84.8**

Notes:
[1] GFA = Gross Floor Area.
[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO C

Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	50%	50%	6.44	435	435	870	0.19	50%	50%	13	13	26	422	422	844
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130	-131	-261	0.75	50%	50%	-46	-46	-92	-84	-85	-169
					Net New Daily Trips =	**305**	**304**	**609**				**-33**	**-33**	**-66**	**338**	**337**	**675**
AM Peak Hour																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	81%	19%	0.87	96	22	118	0.02	50%	50%	2	1	3	94	21	115
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-7	-7	-14	0.03	33%	67%	-1	-3	-4	-6	-4	-10
					Net New AM Peak Hour Trips =	**89**	**15**	**104**				**1**	**-2**	**-1**	**88**	**17**	**105**
PM Peak Hour																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	39%	61%	1.20	63	99	162	0.02	46%	54%	1	2	3	62	97	159
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7	-8	-15	0.03	50%	50%	-2	-2	-4	-5	-6	-11
					Net New PM Peak Hour Trips =	**56**	**91**	**147**				**-1**	**0**	**-1**	**57**	**91**	**148**

Notes:
[1] GFA = Gross Floor Area.
[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

240 15th Street SE (Puyallup)
Trip Generation Summary - SCENARIO C (High-Cube Fulfillment Center)

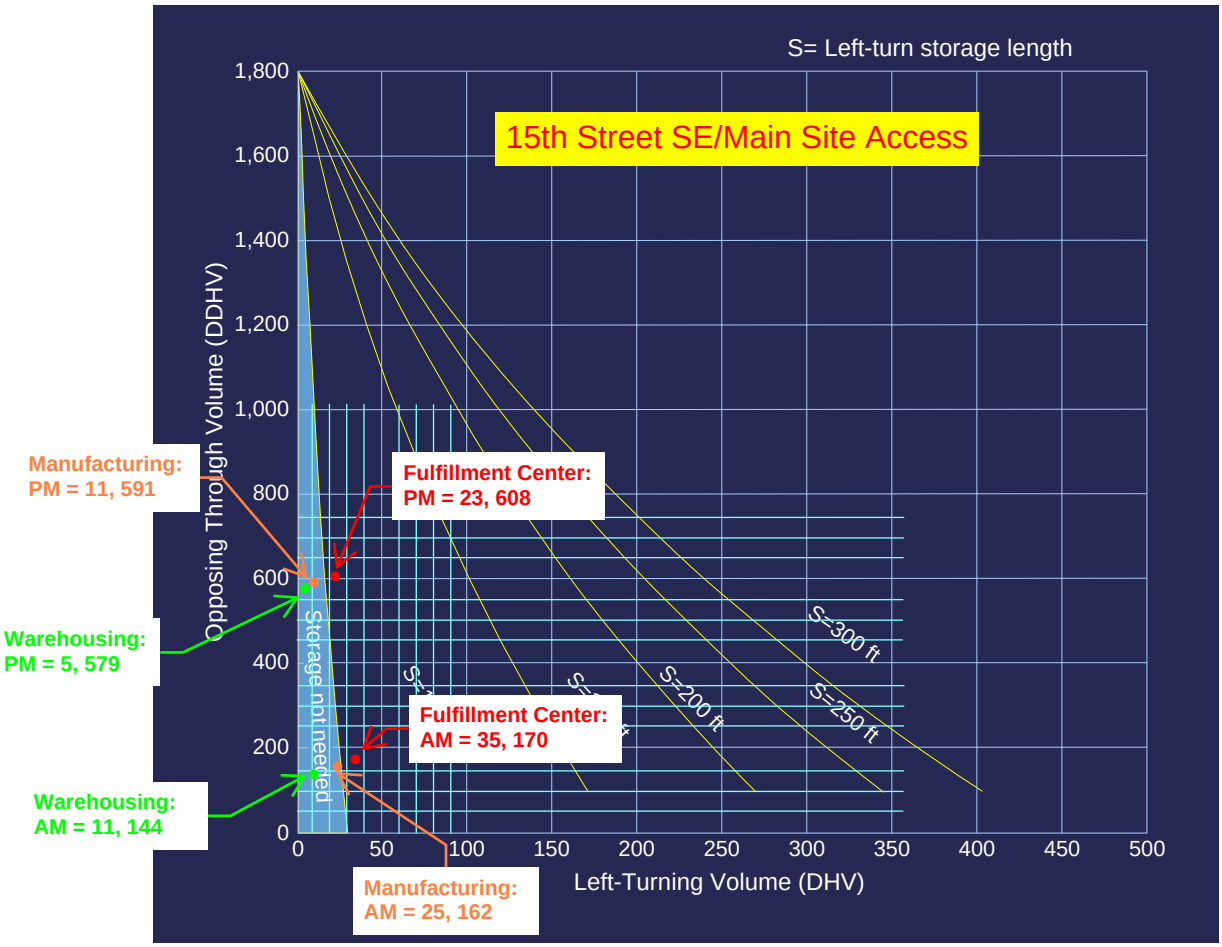
Land Use	Units [1]	ITE LUC [2]	Directional Distribution In	Directional Distribution Out	Trip Rate or Equation [2]	Trips Generated In	Trips Generated Out	Trips Generated Total	TRUCKS Truck Trip Rate [2]	Truck Distribution In	Truck Distribution Out	Truck Trip Generation In	Truck Trip Generation Out	Truck Trip Generation Total	Non-Truck Trip Generation In	Non-Truck Trip Generation Out	Non-Truck Trip Generation Total
Daily																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	50%	50%	6.44	435.0	435.0	870.0	0.19	50%	50%	12.9	12.8	25.7	422.1	422.2	844.3
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	2.12	-130.7	-130.7	-261.4	0.75	50%	50%	-46.3	-46.2	-92.5	-84.4	-84.5	-168.9
					Net New Daily Trips =	**304.3**	**304.3**	**608.6**				**-33.4**	**-33.4**	**-66.8**	**337.7**	**337.7**	**675.4**
AM Peak Hour																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	81%	19%	0.87	95.2	22.3	117.5	0.02	50%	50%	1.4	1.3	2.7	93.8	21.0	114.8
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.11	-6.8	-6.8	-13.6	0.03	33%	67%	-1.2	-2.5	-3.7	-5.6	-4.3	-9.9
					Net New AM Peak Hour Trips =	**88.4**	**15.5**	**103.9**				**0.2**	**-1.2**	**-1.0**	**88.2**	**16.7**	**104.9**
PM Peak Hour																	
Proposed Use:																	
High Cube Fulfillment Center - Sort	135,100 GFA	155	39%	61%	1.20	63.2	98.9	162.1	0.02	46%	54%	1.2	1.5	2.7	62.0	97.4	159.4
Existing Use:																	
High-Cube Cold-Storage Warehouse	123,313 GFA	157	50%	50%	0.12	-7.4	-7.4	-14.8	0.03	50%	50%	-1.9	-1.8	-3.7	-5.5	-5.6	-11.1
					Net New PM Peak Hour Trips =	**55.8**	**91.5**	**147.3**				**-0.7**	**-0.3**	**-1.0**	**56.5**	**91.8**	**148.3**

Notes:
[1] GFA = Gross Floor Area.
[2] Land Use Code and trip rates/equations based on ITE *Trip Generation* Manual, 11th Edition, 2021.

Appendix E

Turn Lane Evaluations

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



Determine the storage length on two-lane highways by using Exhibits 1310-8a through 8c. On four-lane highways, use Exhibit 1310-7b. These lengths do not consider trucks. Use Exhibit 1310-9 for storage length when trucks are present.

Use turn simulation software (such as AutoTURN®) to verify that left-turn movements for the design vehicle(s) do not have conflicts. Design opposing left-turn design vehicle paths with a minimum 4-foot (12-foot desirable) clearance between opposing turning paths.

Where one-way left-turn channelization with curbing is to be provided, evaluate surface water runoff and design additional drainage facilities if needed to control the runoff.

Provide illumination at left-turn lanes in accordance with the guidelines in Chapter 1040.

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

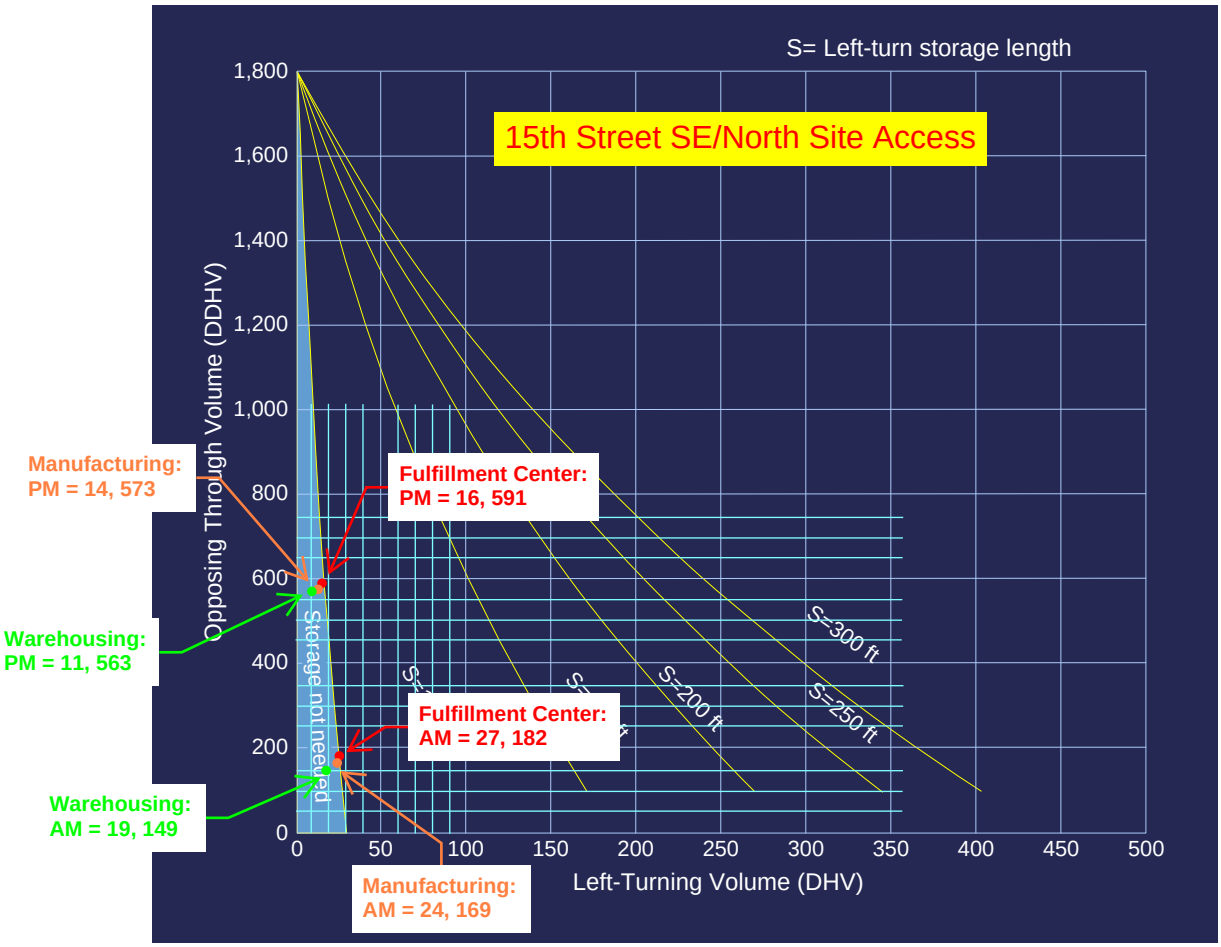


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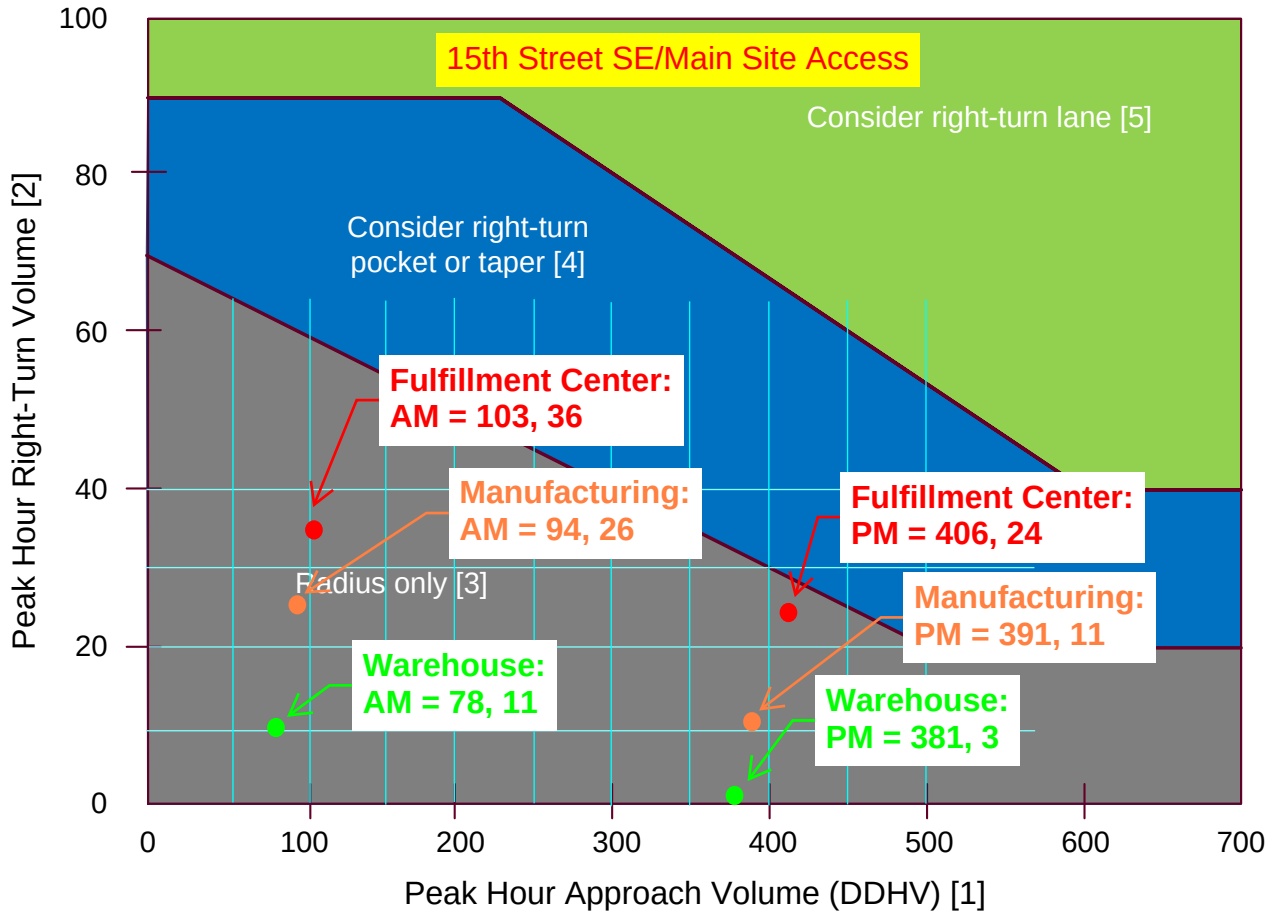
Exhibit 1310-11 Right-Turn Lane Guidelines



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn).
For multilane, high-speed highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:

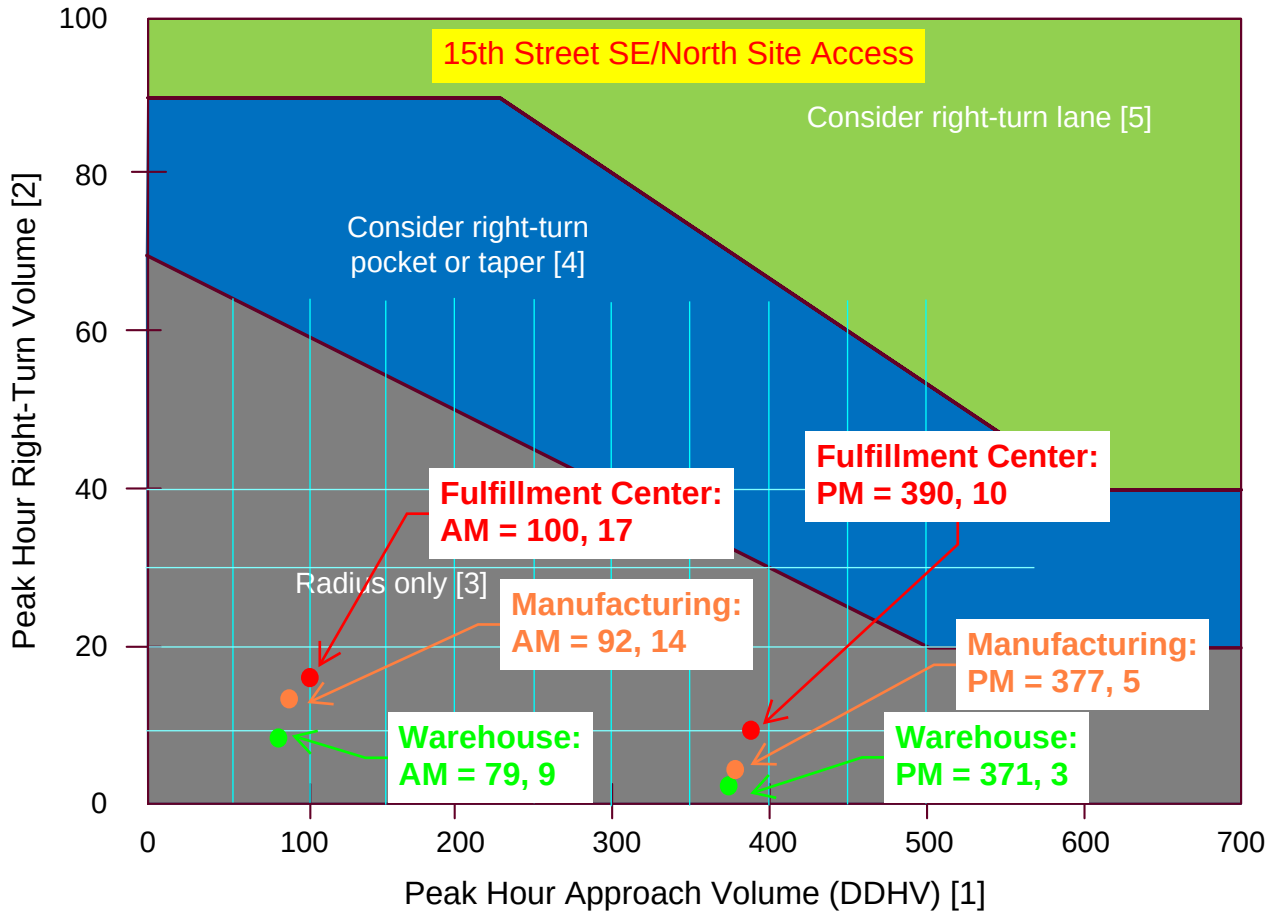
- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

[3] For right-turn corner design, see Exhibit 1310-6.

[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

Exhibit 1310-11 Right-Turn Lane Guidelines



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[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

Appendix F

WSDOT Crash Data

OFFICER REPORTED CRASHES THAT OCCURRED *on* OR *in the vicinity of* THE FOLLOWING ROAD SEGMENT IN THE CITY OF PUYALLUP

15TH ST FROM MAIN AVE TO PIONEER

01/01/2011 - 12/31/2021

Under 23 U.S. Code § 148 and 23 U.S. Code § 407, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any

JURISDICTION	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO
City Street	15TH ST SE	6800		80	F	S	E MAIN	EB43428	##########	03:00	Unknown	Not at Intersection and Not Related	Tree or Stump (stationary)	Starting in Traffic Lane					
City Street	15TH ST SE	100		250	F	S	E MAIN	E906518	##########	07:20	No Apparent Injury	Not at Intersection and Not Related	Utility Pole	Going Straight Ahead		North	North		
City Street	15TH ST SE	100		197	F	S	E MAIN	E757801	##########	11:13	No Apparent Injury	At Driveway	From opposite direction - all others	Making Left Turn	Making Left Turn	East	South	West	North
City Street	15TH ST SE	200		98	F	N	E PIONEER	EB61902	##########	12:03	No Apparent Injury	At Driveway	One parked--one moving	Backing	Legally Parked, Unoccupied	Southeast	West	Vehicle Stopped	Vehicle Stopped
City Street	15TH ST SE	200		398	F	NE	E PIONEER	E670193	##########	18:37	No Apparent Injury	Not at Intersection and Not Related	From same direction - one right turn - one straight	Making Right Turn	Going Straight Ahead	South	Northeast	South	North
City Street	15TH ST SE	200		440	F	NE	E PIONEER	E856956	##########	21:08	No Apparent Injury	Not at Intersection and Not Related	Utility Pole	Going Straight Ahead		South	North		

Appendix G

Railroad Crossing Volumes

Location: 15th St SE / RR Crossing
Date: Wednesday 12/7/2022

	Wednesday, December 07, 2022 (4-6 PM)					
	Gate Close Time	Train Arrival Time	Train Departure Time	Gate Open Time	Train Crossing Time	Total Time Gate is Down
1	16:15:29	16:15:50	16:15:55	16:16:04	0:00:05	0:00:35
2	16:21:04	16:21:28	16:21:37	16:21:44	0:00:09	0:00:40
3	16:29:05	16:29:42	16:31:46	16:31:56	**0:02:04**	**0:02:51**
4	16:34:40	16:34:57	16:35:04	16:35:11	0:00:07	0:00:31
5	16:44:52	16:45:13	16:45:19	16:45:28	0:00:06	0:00:36
6	17:07:33	17:07:50	17:07:54	17:08:02	0:00:04	0:00:29
7	17:19:10	17:19:24	17:19:29	17:19:37	0:00:05	0:00:27
8	17:34:07	17:34:34	17:34:42	17:34:50	0:00:08	0:00:43
9	17:43:53	17:44:16	17:46:13	17:46:22	**0:01:57**	**0:02:29**
10	17:50:39	17:50:58	17:51:06	17:51:17	0:00:08	0:00:38
				Passenger Trains	0:00:06	0:00:35
				Freight Trains	0:02:01	0:02:40

Location: 15th St SE / RR Crossing
Date: Thursday 12/8/2022

	Thursday, December 08, 2022 (4-6 PM)					
	Gate Close Time	Train Arrival Time	Train Departure Time	Gate Open Time	Train Crossing Time	Total Time Gate is Down
1	16:15:28	16:15:48	16:15:54	16:16:03	0:00:06	0:00:35
2	16:20:40	16:21:07	16:21:15	16:21:26	0:00:08	0:00:46
3	16:24:16	16:24:42	16:26:40	16:26:48	**0:01:58**	**0:02:32**
4	16:35:12	16:35:32	16:35:36	16:35:44	0:00:04	0:00:32
5	16:49:58	16:50:19	16:50:25	16:50:33	0:00:06	0:00:35
6	16:52:35	16:53:11	16:55:10	16:55:17	**0:01:59**	**0:02:42**
7	16:59:49	17:00:12	17:00:21	17:00:29	0:00:09	0:00:40
8	17:16:59	17:17:19	17:17:24	17:17:31	0:00:05	0:00:32
9	17:29:10	17:29:34	17:29:39	17:29:47	0:00:05	0:00:37
10	17:38:04	17:38:23	17:38:28	17:38:35	0:00:05	0:00:31

Passenger Trains	0:00:06	0:00:36
Freight Trains	0:01:59	0:02:37

Location: **15th St SE / RR Crossing**
Date: **Tuesday 12/13/2022**

	Tuesday, December 13, 2022 (4-6 PM)					
	Gate Close Time	Train Arrival Time	Train Departure Time	Gate Open Time	Train Crossing Time	Total Time Gate is Down
1	* Start Of Survey	* Start Of Survey	16:01:09	16:01:21	--	--
2	16:16:49	16:17:03	16:17:08	16:17:16	0:00:05	0:00:27
3	16:20:59	16:21:16	16:21:22	16:21:30	0:00:06	0:00:31
4	16:39:33	16:39:46	16:39:52	16:40:02	0:00:06	0:00:29
5	16:47:56	16:48:17	16:48:24	16:48:33	0:00:07	0:00:37
6	16:56:19	16:56:32	16:56:38	16:56:46	0:00:06	0:00:27
7	17:16:13	17:16:27	17:16:32	17:16:42	0:00:05	0:00:29
8	17:30:22	17:30:43	17:30:49	17:30:59	0:00:06	0:00:37
9	17:38:29	17:38:47	17:38:53	17:39:01	0:00:06	0:00:32
				Passenger Trains	0:00:06	0:00:31
				Freight Trains		