Puyallup School District
South Hill Support Campus
Capital Project

Puyallup, WA

Updated Traffic Impact Analysis

October 12, 2023

Prepared for:

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Table of Contents

Appendices

List of Figures and Tables

Glossary of Terms

LOS – Level of Service

TIA – Traffic Impact Analysis

PSD – Puyallup School District

SPED – Special Education

DOC – Downtown Operations Campus

RTOR – Right Turn on Red

TIP – Transportation Improvement Program/Plan

FINDINGS & CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the Puyallup School District's proposed *South Hill Support Campus* project located in the City of Puyallup, WA. This TIA has been updated based on comments received from the City of Puyallup on September 27, 2023.

Project Proposal. The proposed Puyallup School District (PSD) capital project includes the addition of new surface parking at their existing South Hill Support Campus located at 3607 17th Street SW to accommodate the SPED bus fleet (including spare buses) and its associated bus drivers and staff that will be relocated from the Downtown Operations Campus (DOC) to the South Hill Support Campus.

Based on detailed information provided by PSD, a total of 60 staff (56 SPED bus drivers and 4 transportation admin) are anticipated to be relocated from the DOC to the South Hill Support Campus as a result of the proposed capital project. The relocation of the SPED bus fleet from the DOC to South Hill Support Campus is not anticipated to result in any new staff.

Vehicular access to the existing South Hill Support Campus site is provided via two full access driveways on 17th Street SW and also via a right-in right-out only access driveway on 39th Ave SW. Access would remain the same as existing with the proposed project. The project is expected to be completed by the start of the 2024-25 school year, subject to the procurement of funds.

Project Trip Generation. The relocation of the District's small SPED bus fleet to the South Hill Support Campus would result in a total of 364 new weekday daily trips at the South Hill Support Campus, of which 13 new trips would occur during the weekday AM peak hour (3 in, 10 out) and 95 new trips would occur during the weekday PM peak hour (37 in, 58 out).

Intersection LOS Results. Intersection Level of Service (LOS) were evaluated at 3 study intersections for weekday PM peak hour conditions with the project. The LOS analysis results indicate that two of the three signalized study intersections are anticipated to meet established LOS standards under 2026 weekday PM peak hour conditions with the project. However, the study intersection of 14th Street Place SW/39th Ave SW is anticipated to operate at LOS E without or with the proposed project in 2026 during the weekday PM peak hour which would not meet the City's established LOS standards. The City's 39th Ave SW Adaptive Signals Intersection Improvements Project (TIP #26) would improve operations at the 14th Street Place SW/39th Ave SW intersection to LOS C during the weekday PM peak hour in 2026 without or with the proposed project.

Site Access Analysis. Based on the results of the analysis, the individual movements entering and exiting the site at the stop-controlled site access locations on 17th Street SW and 39th Ave SW are expected to operate at acceptable levels (LOS B or better) with minimal queuing during the weekday PM peak hour with the proposed project.

Mitigation

Based on the results of the detailed analysis contained in this TIA, no off-site mitigation is required for the proposed *South Hill Support Campus* project and payment of transportation impact fees would fully mitigate the project's traffic impacts as summarized below.

Off-Site SEPA Improvements – Two of the three study intersections are anticipated to meet established LOS standards under 2026 weekday PM peak hour conditions with the project.

However, the study intersection of 14th Street Place SW/39th Ave SW is anticipated to operate at LOS E without or with the proposed project in 2026 during the weekday PM peak hour which would not meet the City's established LOS standards. The City's 39th Ave SW Adaptive Signals Intersection Improvements Project (Transportation Improvement Program (TIP) #26) would improve operations at the 14th Street Place SW/39th Ave SW intersection to LOS C during the weekday PM peak hour in 2026 without or with the proposed project.

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 City's current adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation impact fee for the proposed project is $427,500 ($4,500 X 95 new PM peak hour trips).

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the Puyallup School District's proposed *South Hill Support Campus* project located in the City of Puyallup, WA (see Figure 1). This TIA has been updated based on comments received from the City of Puyallup on September 27, 2023.

Project Description

The Puyallup School District's existing South Hill Support Campus is located at 3607 17th Street SW and the District's large bus fleet is currently stored at the site. The District's existing Downtown Operations Campus (DOC) is located at 323 12th Street NW and the District's small "special education" (SPED) bus fleet is currently stored at the site.

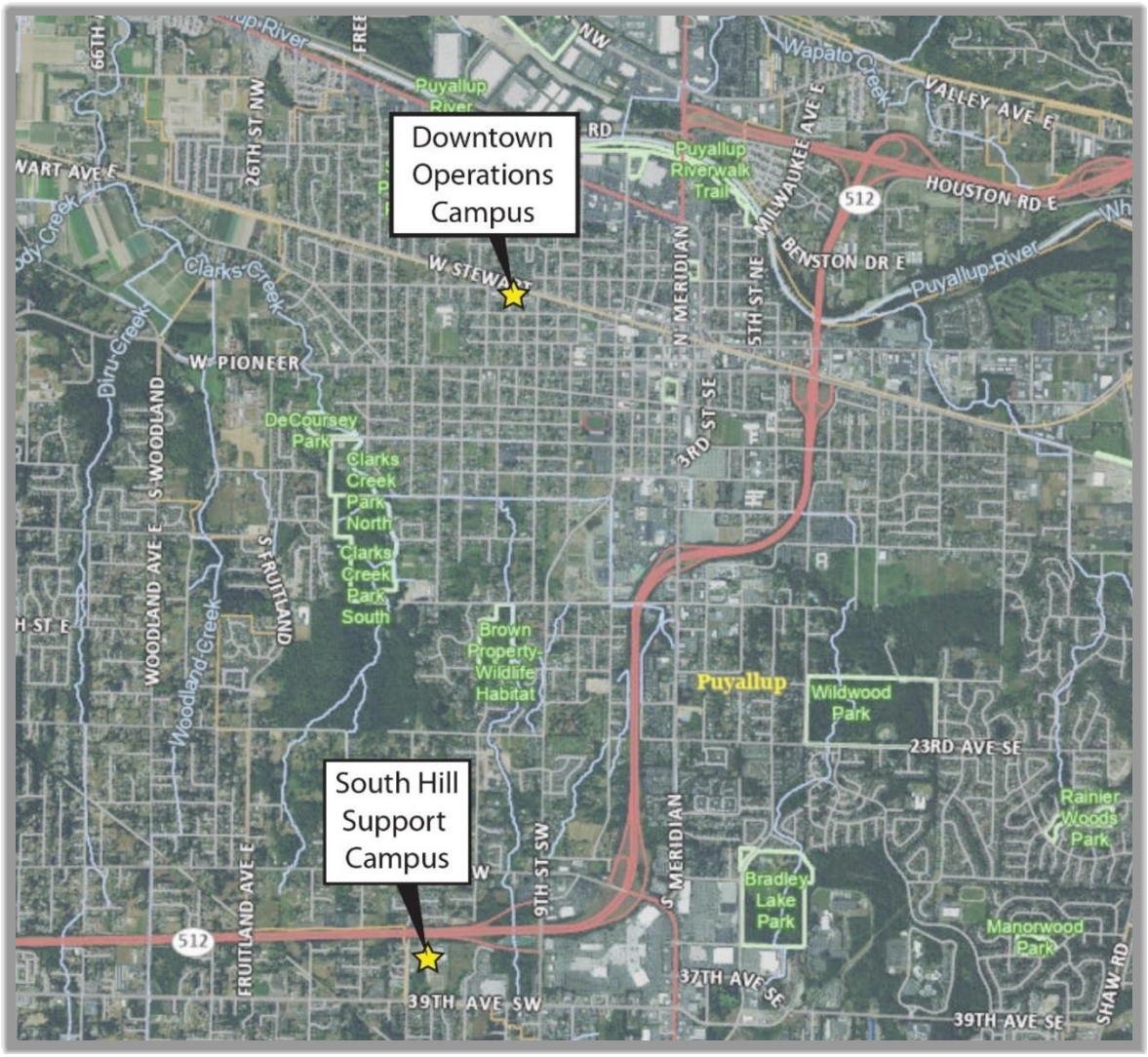
The proposed Puyallup School District (PSD) capital project includes the addition of new surface parking at the South Hill Support Campus to accommodate the SPED bus fleet (including spare buses) and its associated bus drivers and staff that will be relocated from the DOC campus to the South Hill Support Campus.

Based on detailed information provided by PSD, a total of 60 staff (56 SPED bus drivers and 4 transportation admin) are anticipated to be relocated from the DOC to the South Hill Support Campus as a result of the proposed capital project. The relocation of the SPED bus fleet from the DOC to South Hill Support Campus is not anticipated to result in any new staff.

District owned autos and trucks used by PSD staff (the "white fleet") are currently stored at the DOC site and will remain at the DOC site with the proposed capital project. Additionally, fueling of the District's gasoline vehicles and buses (including the relocated SPED bus fleet) that currently occurs at the DOC site will continue to occur at the DOC site with the proposed capital project. Also, all repairs and maintenance of PSD vehicles (including buses, trucks, and autos) are currently conducted at the DOC site and will continue to be conducted at the DOC site with the proposed capital project.

Vehicular access to the existing South Hill Support Campus site is provided via two full access driveways on 17th Street SW and also via a right-in right-out only access driveway on 39th Ave SW. Access would remain the same as existing with the proposed project.

The project is expected to be completed by the start of the 2024-25 school year, subject to the procurement of funds. A project vicinity map illustrating the Downtown Operations Campus and South Hill Support Campus locations is included on the next page. A preliminary site plan for the South Hill Support Campus is included in Appendix A.



Project Approach

The following tasks were undertaken to evaluate and disclose the traffic impacts associated with the *South Hill Support Campus* 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;
5. Documented traffic forecasts and assumptions for year 2026 weekday PM peak hour conditions without the project and with the project;

6. Conducted weekday PM peak hour level of service analyses at three (3) study intersections for 2023 existing and year 2026 conditions without and with the project;
7. Assessed future PM peak hour LOS and queuing at the three (3) existing site access locations.
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, 2023.
- Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.
- *Highway Capacity Manual (HCM) 7th Edition,* TRB.
- City of Puyallup *2023-2028 Six Year Transportation Improvement Program.*
- *Pierce County 2023-2028 Transportation Improvement Program.*
- WSDOT *2023-2026 Statewide Transportation Improvement Program (STIP).*
- Pierce Transit website, May 2023.
- City of Puyallup *Comprehensive Plan*, 2015.

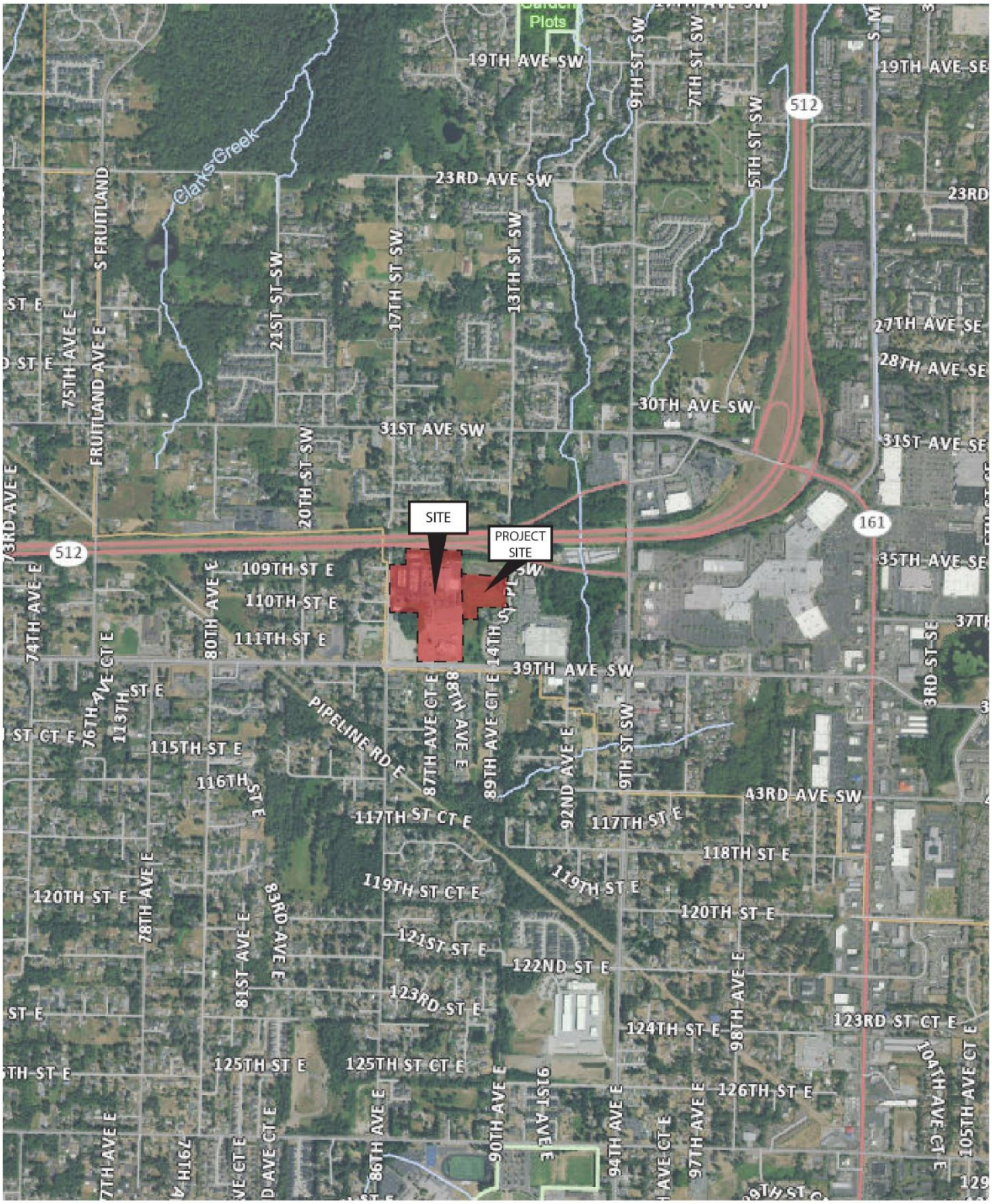


Figure 1: Project Site Vicinity

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
39th Ave SW	East/West	Major Arterial	4-5	40 (west of 17th St SW) 35 (east of 17th St SW)	No	Both Sides	No
17th Street SW (north of 39th Ave SW)	North/South	Local Road	2	25	No	No	No
14th Street Place SW (north of 39th Ave SW)	North/South	Local Road	2	25	No	East Side	No
9th Street SW	North/South	Major Arterial	5	35	No	Both Sides	No

Study Intersections

The City of Puyallup requires a detailed traffic analysis at intersections impacted by 25 or more PM peak hour project trips. Based on this requirement, the following three (3) study intersections were included in this traffic study:

1. 17th Street SW / 39th Ave SW
2. 14th Street Place SW / 39th Ave SW
3. 9th Street SW / 39th Ave SW

Existing Traffic Volumes

Existing weekday PM peak hour traffic volumes at the study intersections were based on traffic counts conducted in May 2023. The PM peak hour represents the highest one-hour time period between 4:00 and 6:00 PM. Appendix B includes the existing peak hour traffic count sheets.

Consistent with current City of Puyallup standards, true (unserved) demand was accounted for at the three study intersections during the weekday PM peak hour as described below.

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 the study intersections, 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 7th 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 2023 existing PM peak hour true demand volumes and the initial and residual vehicle queues associated with each turning movement are included in Appendix C. A summary of the true demand methodology and detailed true demand volume calculations are also included in Appendix C.

The 2023 existing weekday PM peak hour traffic volumes at the study intersections are illustrated in Figure 2 and reflect true demand volumes.

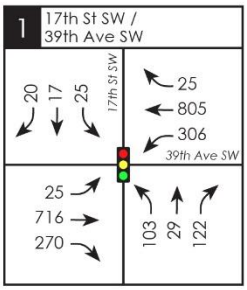
Public Transportation Services

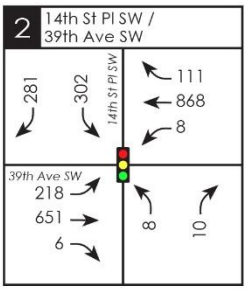
Pierce Transit provides public transportation services in the immediate vicinity of the proposed project. The nearest bus stops are located on 39th Ave SW at 17th Street SW (west of the site) and 14th Street Place SW (east of the site) and provide access to Route 4.

Route 4 offers weekday and weekend transit service from the Lakewood Transit Center to South Hill and Pierce College. The current schedule for Route 4 includes approximate 30-minute headways from 6:00 a.m. to 8:00 p.m. on weekdays.

Non-motorized Transportation Facilities

Non-motorized transportation facilities in the project site vicinity include sidewalks on both sides of 39th Ave SW. Pedestrian crosswalks are provided at all three (3) signalized study intersections. Based on traffic counts conducted at the study intersections, there is minimal pedestrian activity in the site vicinity.





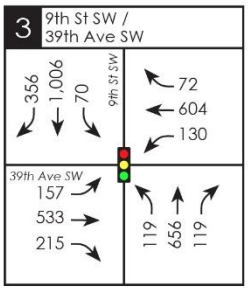


Figure 2: 2023 Existing Weekday PM Peak Hour Traffic Volumes

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Level of Service

Existing weekday PM peak hour level of service (LOS) analyses were conducted at three (3) study intersections using *Synchro 12* traffic analysis software. LOS methodology is included in Appendix D. Existing signal timing used in the analysis was provided by the City of Puyallup.

It should be noted that true demand traffic volumes and existing peak hour factors (PHF) from the turning movement count volumes were included in the LOS analyses at all study intersections. Additionally, right turn on red (RTOR) volumes were included in the LOS analyses at all study intersections. Per Highway Capacity Manual methodology, the RTOR volumes were based on the video collected at the same time of the existing turning movement counts in May 2023.

Based on the City of Puyallup's LOS standards, the LOS standard is LOS D at all study intersections with exception to the study intersection along 9th Street SW (intersection #3) where the LOS standard is LOS E per the Transportation Element of the *Puyallup Comprehensive Plan*.

The 2023 existing PM peak hour LOS analysis results for the study intersections are summarized in Table 2. The detailed LOS worksheets are included in Appendix D.

Table 2
2023 Existing PM Peak Hour Level of Service Summary

	PM Peak Hour	
Signalized Study Intersection	LOS	Delay (sec/veh)
1. 17th Street SW / 39th Ave SW	B	15.7
2. 14th Street Place SW / 39th Ave SW	C	25.4
3. 9th Street SW / 39th Ave SW	E	62.7

As shown in Table 2, all signalized study intersections currently meet established LOS standards under 2023 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 *2023-2028 Six Year Transportation Improvement Plan (TIP)*, Pierce County's *2023-2028 Transportation Improvement Program (TIP)*, and the Washington State Department of Transportation (WSDOT) *2023-2026 Statewide Transportation Improvement Program (STIP)*.

Puyallup 2023-2028 TIP

- TIP #26: 39th Ave SW Adaptive Signals Intersection Improvements (17th St SW to Meridian) Traffic signal improvements including flashing yellow arrows and adaptive signal control technology.

Pierce County 2023-2028 TIP

No capacity related projects were identified within the project vicinity in Pierce County's 2023-2028 *Transportation Improvement Program* (TIP).

WSDOT 2023-2026 STIP

No capacity related projects were identified within the project vicinity in WSDOT's 2023-2026 *Statewide Transportation Improvement Program* (STIP).

Project Trip Generation

The Puyallup School District's existing Downtown Operations and South Hill Support Campuses are located approximately 2.5 miles apart. The proposed PSD capital project would result in a shift in existing trips from their DOC to South Hill Support Campus as a result of relocating the small SPED bus fleet. Therefore, it is anticipated that there will be a reduction in vehicular trips within the immediate (local) vicinity of the DOC and an increase in vehicular trips within the immediate (local) vicinity of the South Hill Support Campus.

Based on information provided by the District and correspondence with the City of Puyallup, the proposed relocation of the SPED bus fleet from the DOC to the South Hill Support Campus is not consistent with a specific land use category established in the current Institute of Transportation Engineers (ITE) *Trip Generation* manual. As such, the weekday vehicular trip generation estimates for the proposed project were based on detailed information provided by the District.

To estimate weekday trip generation for the proposed capital project, the District and their transportation department provided detailed forecasts of the existing trips that would shift from the DOC to the South Hill Support Campus as a result of the relocation of the SPED bus fleet. The weekday trips are comprised of the following categories:

SPED Bus Driver Trips – A total of 56 SPED bus drivers arrive in their private vehicles between 5:00 and 7:15 AM and depart between 4:30 and 5:30 PM.

Transportation Admin Trips – A total of four (4) transportation admin staff arrive between 5:00 and 8:15 AM and depart between 2:30 and 5:30 PM.

SPED Bus Trips – A total of 244 SPED bus trips (122 in, 122 out) occur over a typical weekday.

As noted above, fueling of the SPED bus fleet would continue to occur at the DOC site with the proposed capital project. Based on information provided by the District and their transportation department, approximately 80 percent of SPED buses are fueled daily, while the remaining 20% are fueled every other day. Refueling of SPED buses occurs mid-day (approximately 11 AM to 1 PM) as buses will either refuel at the DOC before travelling back to the South Hill Support Camus once they are done with their morning route or they will refuel at the DOC before starting their afternoon route. Vehicular trips associated with refueling of the SPED buses are accounted for in the detailed SPED Bus Trips forecasts included in Appendix E.

The majority of SPED buses who require refueling (approximately 75%) are anticipated to travel between the DOC and the South Hill Support Campus via Fruitland Ave East between the DOC and South Hill Support Campus sites, while the remaining SPED buses who require refueling (approximately 25%) are anticipated to travel between the DOC and South Hill Support Campus sites via 9th Street SW. The estimated routing of SPED buses who require refueling is illustrated in Appendix F.

Additionally, any new vehicular trips associated with the SPED buses travelling to/from the South Hill Support Campus where they will be stored and the Downtown Operations Campus site for repairs or maintenance are expected to occur infrequently and would not result in additional trips during the weekday AM or PM peak periods (7-9 AM and 4-6 PM) since transporting for repair/maintenance would occur outside of these periods.

The resulting new weekday daily, AM peak hour, and PM peak hour trip generation estimates for the *South Hill Support Campus* project are summarized in Table 3. The detailed trip generation calculations are included in Appendix E.

Table 3
Project Trip Generation Summary

	SPED Bus Trips Generated			Non-Bus Trips Generated			TOTAL Trips Generated		
Weekday Time Period	In	Out	Total	In	Out	Total	In	Out	Total
Daily	60	60	120	122	122	244	182	182	364
AM Peak Hour	3	0	3	0	10	10	3	10	13
PM Peak Hour	0	56	56	37	2	39	37	58	95

As shown in Table 3, relocation of the District's small SPED bus fleet would result in a total of 364 new weekday daily trips at the South Hill Support Campus, of which 13 new trips would occur during the weekday AM peak hour (3 in, 10 out) and 95 new trips would occur during the weekday PM peak hour (37 in, 58 out). *It should be noted that although these trips are "new" to the South Hill Support Campus, these trips are not new to the overall transportation system. These trips are existing trips that will be relocated from the PSD Downtown Operations Campus to the South Hill Support Campus, resulting in a reduction in vehicular trips in the immediate vicinity of the DOC, an increase vehicular trips in the immediate vicinity of the South Hill Support Campus, and thus, no net new vehicular trip impact to the overall City transportation system.*

Project Trip Distribution and Assignment

The estimated distribution of new weekday PM peak hour trips at the South Hill Support Campus as a result of the proposed capital project was based on school boundaries, existing travel patterns, SPED bus routing provided by the District and their transportation department, and estimated

employee/staff origins/destinations. The estimated project trip distribution was confirmed by the City of Puyallup during traffic scoping.

The estimated distribution and assignment of new weekday PM peak hour project trips is provided in Figure 3. For comparison purposes, the distribution pattern based on existing counts conducted at the site driveways on May 16, 2023 is illustrated in Appendix G.

Future Traffic Volumes

Although the *South Hill Support Campus* project is anticipated to be complete and operational for the 2024-2025 school year, a 3-year horizon year was evaluated for the future analysis based on direction from the City of Puyallup. Future year 2026 No Action (without project) weekday PM peak hour traffic volumes were estimated by applying a 3.0 percent annual growth rate to the existing year 2023 volumes. The future 2026 No Action PM peak hour traffic volumes at the study intersections are shown in Figure 4.

Future year 2026 weekday PM peak hour traffic volumes with the proposed *South Hill Support Campus* project were estimated by adding the peak hour trip assignment from the proposed project (Figure 3) to the No Action weekday PM peak hour traffic volumes (Figure 4). The 2026 With Project weekday PM peak hour traffic volumes at the study intersections are shown in Figure 5.

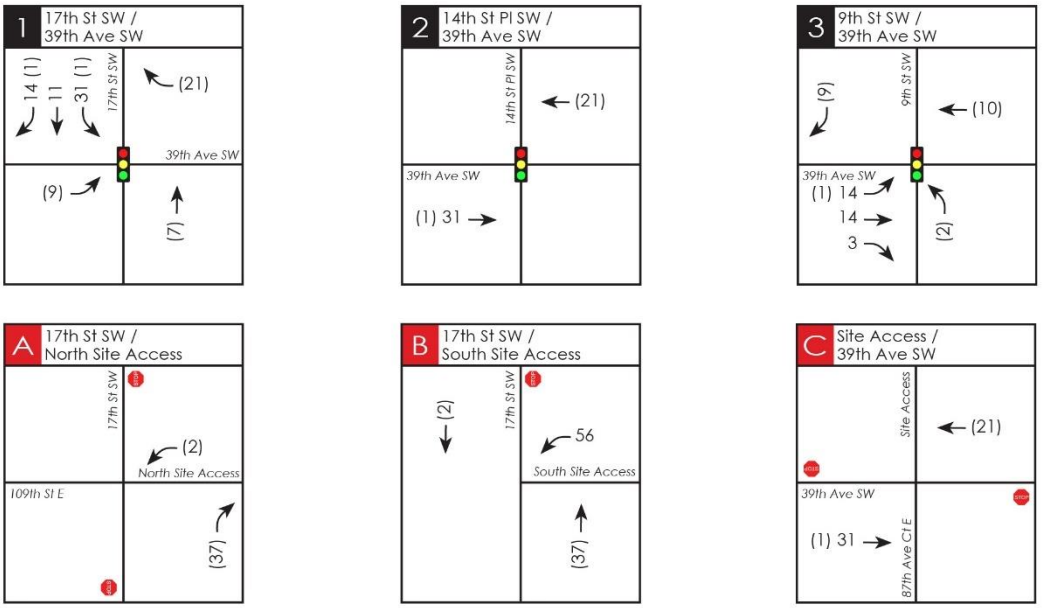

Figure 3: Weekday PM Peak Hour Project Trip Distribution and Assignment

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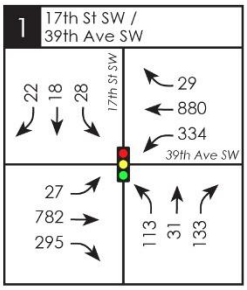

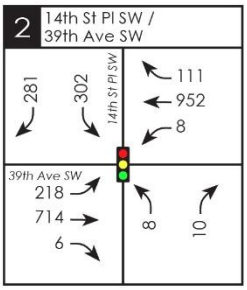

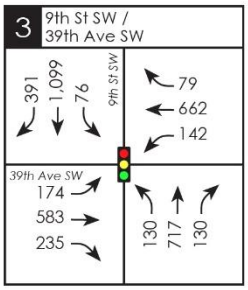

Figure 4: 2026 No Action Weekday PM Peak Hour Traffic Volumes

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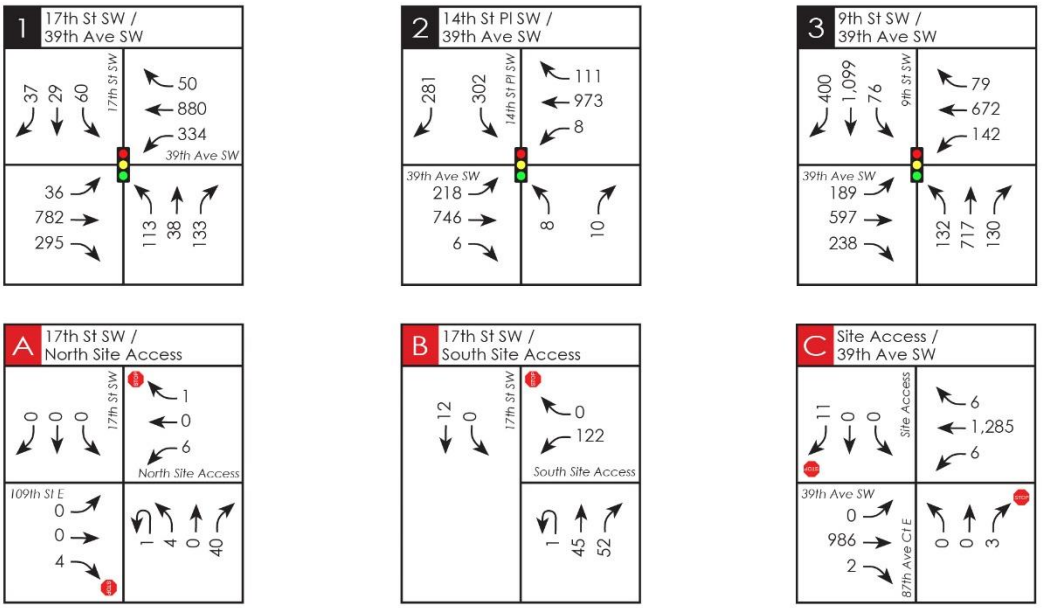

Figure 5: 2026 With Project Weekday PM Peak Hour Traffic Volumes

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Intersection Levels of Service

Future intersection LOS analyses were evaluated at the study intersections for future year 2026 conditions without and with the proposed *South Hill Support Campus* project. Given there are no planned roadway improvements identified at the study intersections, the roadway network assumed in the future LOS analyses at the study intersections was based on existing intersection geometry. Signal timing for the future LOS analysis was based on existing signal timing except at intersection #3 where an eastbound right-turn overlap phase was assumed to be implemented by 2026.

It should be noted that the percent heavy vehicles (%HV) used in the future year 2026 with project analysis was adjusted to account for the new trips at the study intersections associated with SPED buses. Additionally, right turn on red (RTOR) volumes were included in the LOS analyses at all study intersections. Per Highway Capacity Manual methodology, the RTOR volumes were based on the video collected at the same time of the existing turning movement counts in May 2023.

The 2026 weekday PM peak hour LOS results at the study intersections without and with the proposed project are summarized in Table 4. The LOS worksheets are included in Appendix D.

Based on the City of Puyallup's LOS standards, the LOS standard is LOS D at all study intersections with exception to the study intersection along 9th Street SW (intersection #3) where the LOS standard is LOS E per the Transportation Element of the *Puyallup Comprehensive Plan*.

Table 4
2026 PM Peak Hour Level of Service Summary

	2026 No Action		2026 With Project	
Signalized Study Intersection	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
1. 17th Street SW / 39th Ave SW	B	17.8	B	18.4
2. 14th Street Place SW / 39th Ave SW	E	56.2	E	61.4
3. 9th Street SW / 39th Ave SW	E	73.5	E	78.7

As shown in Table 4, the study intersections of 17th Street SW/39th Ave SW and 9th Street SW/39th Ave SW are anticipated to meet established LOS standards without or with the proposed project under 2026 weekday PM peak hour conditions. However, the study intersection of 14th Street Place SW/39th Ave SW is anticipated to operate at LOS E without or with the proposed project in 2026 during the weekday PM peak hour which would not meet the City's established LOS standards.

The City's 39th Ave SW Adaptive Signals Intersection Improvements Project (TIP #26) would improve operations at the 14th Street Place SW/39th Ave SW intersection to LOS C during the weekday PM peak hour in 2026 without or with the proposed project. The LOS worksheets (with adaptive signal control at intersection #2) are included in Appendix D.

Site Access Operations

Vehicular access to/from the proposed *South Hill Support Campus* project is proposed via the three (3) existing Puyallup School District (PSD) South Hill site access driveways as follows:

A) 17th Street NW / North Site Access – this existing full access driveway provides access for buses. With the *South Hill Support Campus* project, the relocated SPED bus fleet is anticipated to use this driveway to access the site.

B) 17th Street NW / South Site Access – this existing full access driveway provides access for employees and visitors and is anticipated to provide primary access for employees associated with the *South Hill Support Campus* project.

C) 39th Ave SW / Site Access – this existing right-in right-out (RIRO) only driveway provides access to the site for employees and visitors and is anticipated to provide secondary access for employees associated with the *South Hill Support Campus* project.

To assess the operations of the site access locations, level of service (LOS) and queuing were analyzed using Synchro 12 traffic analysis software (see LOS methodology included in Appendix D). The reported queues are estimated 95th percentile queues that are exceeded only 5 percent of the time. It should be noted that the percent heavy vehicles (%HV) used in the future year 2026 with project analysis at the site driveways was adjusted to account for the new trips at the study intersections associated with SPED buses.

Table 5 summarizes the results of the LOS and queue analyses at the site access locations for 2026 with project PM peak hour conditions. The LOS and queue worksheets are included in Appendix D.

Table 5
2026 With Project PM Peak Hour Site Access LOS and Queue Summary

	2026 With Project		
Site Access / Movement	LOS	Delay (sec/ veh)	95th % Queue (ft)[1]
A. 17th Street SW / North Site Access			
Westbound Left-Turn (Site Access) stop-controlled	A	9.5	0'
B. 17th Street SW / South Site Access			
Westbound Left-Turn (Site Access) stop-controlled	A	9.9	25'
C. 39th Ave SW / Site Access			
Southbound Right-Turn (Site Access) Stop-controlled	B	14.4	<25'

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

As shown in Table 5, all controlled movements at the site access locations are expected to operate at LOS B or better with minimal queueing in 2026 during the weekday PM peak hour.

MITIGATION

Based on the results of the detailed analysis contained in this TIA, no off-site mitigation is required for the proposed *South Hill Support Campus* project and payment of transportation impact fees would fully mitigate the project's traffic impacts as summarized below.

Off-Site SEPA Improvements

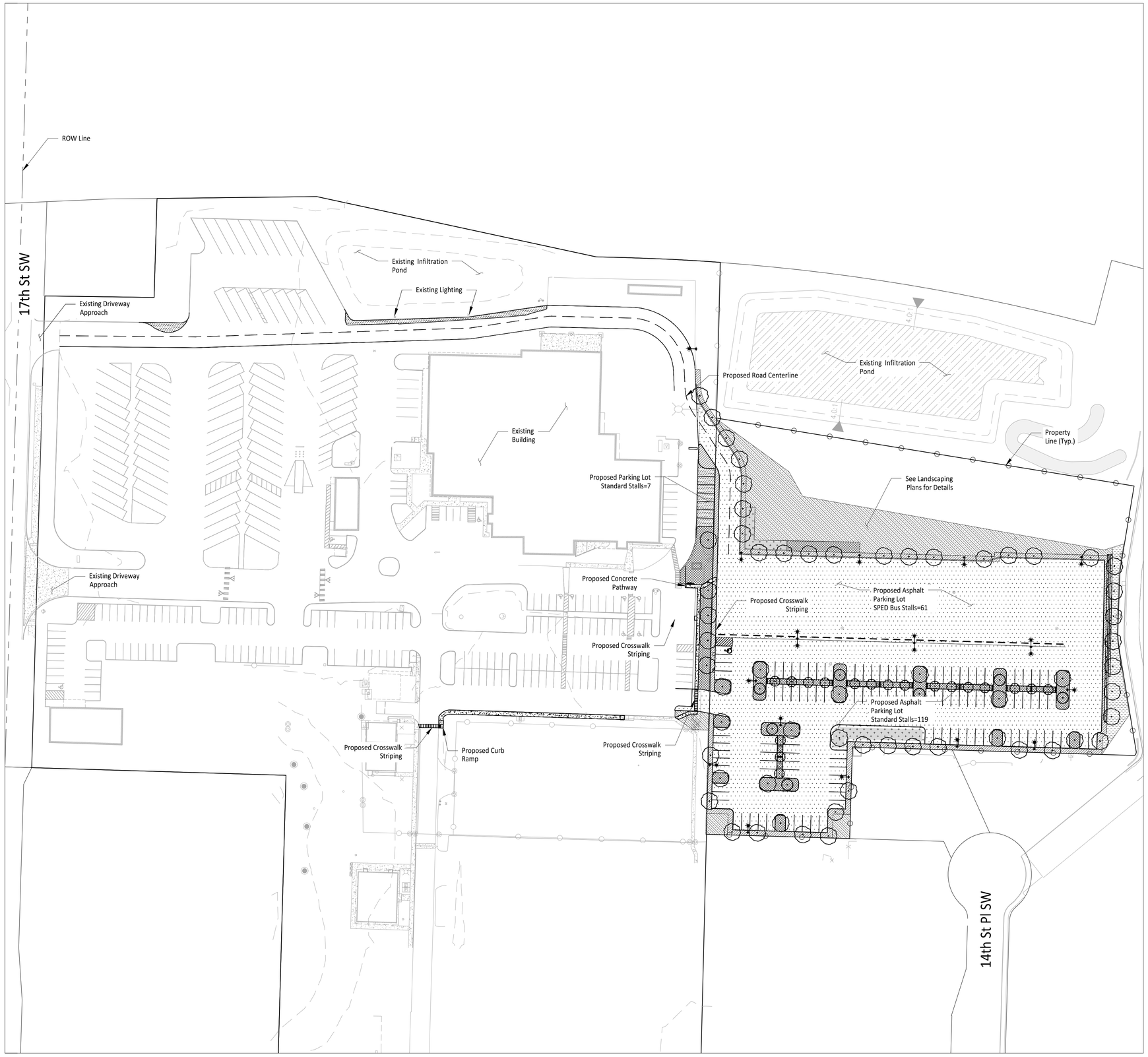
Two of the three study intersections are anticipated to meet established LOS standards under 2026 weekday PM peak hour conditions with the project. However, the study intersection of 14th Street Place SW/39th Ave SW is anticipated to operate at LOS E without or with the proposed project in 2026 during the weekday PM peak hour which would not meet the City's established LOS standards. The City's 39th Ave SW Adaptive Signals Intersection Improvements Project (TIP #26) would improve operations at the 14th Street Place SW/39th Ave SW intersection to LOS C during the weekday PM peak hour in 2026 with the proposed project.

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 City's current adopted transportation impact fee is $4,500 per PM peak hour trip. The preliminary estimated transportation impact fee for the proposed project is $427,500 ($4,500 X 95 new PM peak hour trips).

Appendix A

Preliminary Site Plan



LEGEND

- Concrete
- Asphalt
- Bioretention Swale (Typ.)
- Property Fence

GENERAL NOTES

- Total Proposed Impervious Areas = 118,583 SF
- Parcel Area to be Acquired = 195,918 SF

Criteria	Count	Total:
Existing # of Stalls	158	
Proposed # of New Stalls	125	
		283
# of Required ADA Parking:		7
Existing # of ADA Stalls	9	
Proposed # of New ADA Stalls	1	
		10

0 60 120 FT

1" = 60'

TCF Architecture

P.253.572.3993
F.253.572.1445
902 North SecondStreet
Tacoma, Washington98403
www.tcfarchitecture.com

TCF Architecture , PLLC

JMJTEAM

P.206.596.2020
905 Main St. Suite 200
Sumner, Washington 98390
www.jmjteam.com

PUYALLUP SCHOOL DISTRICT
A Tradition of Excellence

Project Title

SOUTH HILL SUPPORT CAMPUS IMPROVEMENTS - PHASE 1

1501 39th AVE SW
PUYALLUP, WA 98371

Project Numbers
2022-002

Issue & Revision Dates

23 JUNE, 2022	SCHEMATIC DESIGN
11 AUGUST, 2022	DESIGN DEVELOPMENT
27 JULY, 2022	CONDITIONAL USE PERMIT
21 DECEMBER, 2022	CUP REVISION 1
23 JUNE, 2023	CUP REVISION 2

CONDITIONAL USE PERMIT
NOT FOR CONSTRUCTION

JUSTIN M. JONES — STATE OF WASHINGTON — 41828 — REGISTERED PROFESSIONAL ENGINEER

06/23/2023

Sheet Title

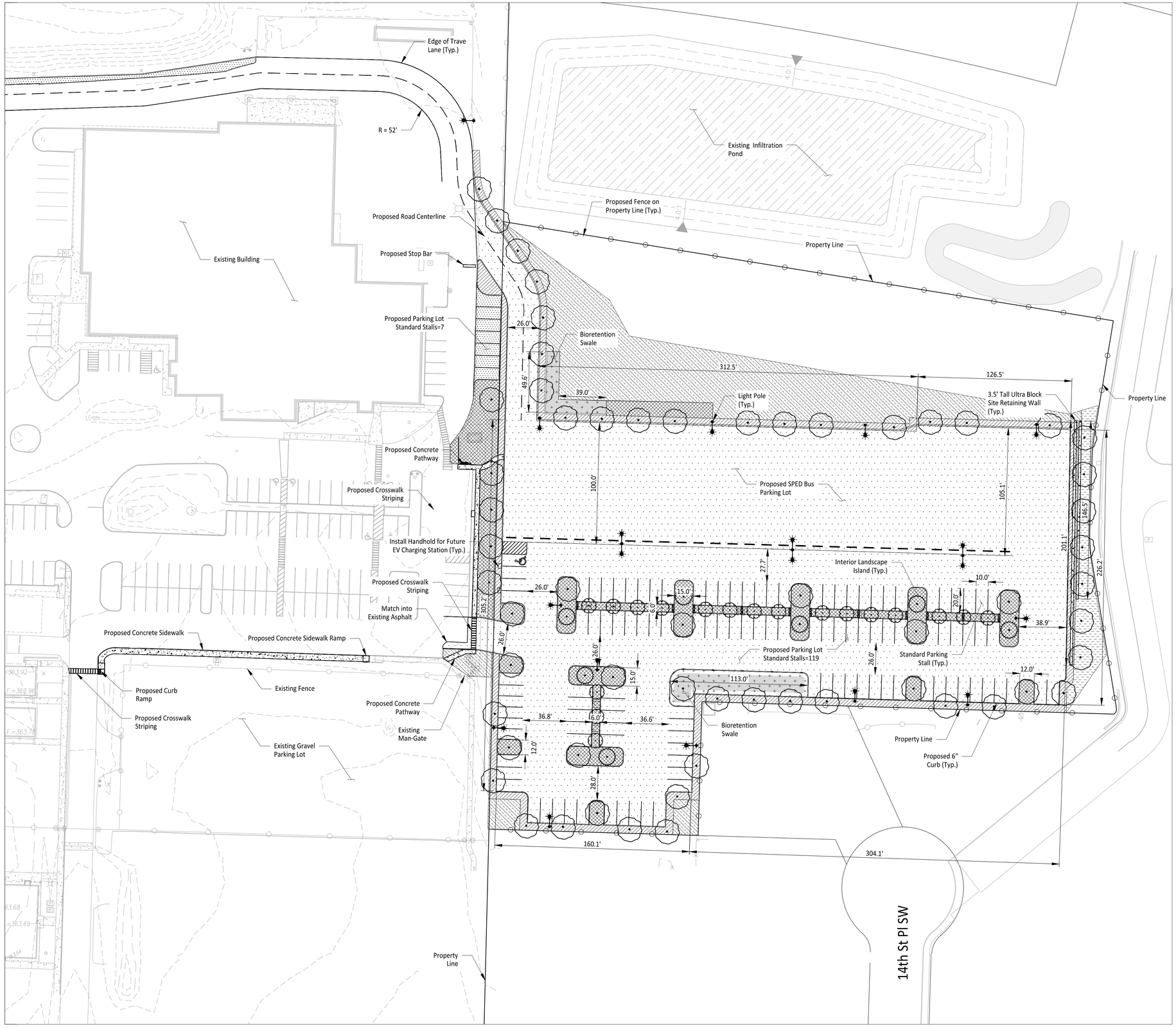
Composite Site Plan

Drawn By Checked By

Sheet Number

C3-301

Sheet Number Of



LEGEND

- Concrete
- Asphalt
- Bioretention Swale (Typ.)
- Property Fence

TCF Architecture

P.253.572.3993
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902 North SecondStreet
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CONDITIONAL USE PERMIT
NOT FOR CONSTRUCTION

JUSTIN M. JUNKA — STATE OF WASHINGTON — 41828 — REGISTERED PROFESSIONAL ENGINEER

06/23/2023

Sheet Title

Site Plan

Drawn By | Checked By

Sheet Number

C3-302

Sheet Number Of

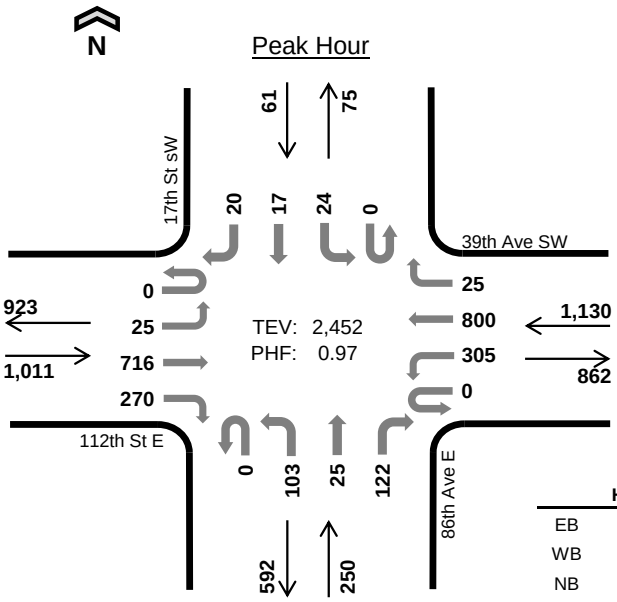
0 40 80 FT
1" = 40'

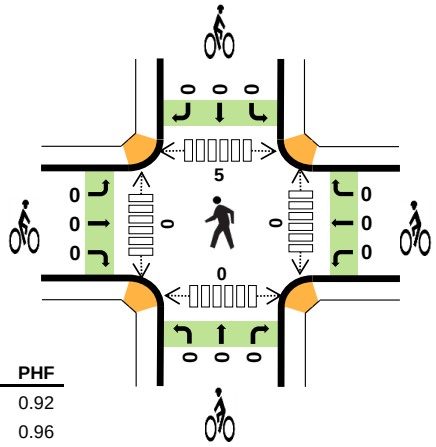
Appendix B

Existing Peak Hour Turning Movement Count Sheets

17th St sW
112th St E

Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.7%	0.92
WB	2.9%	0.96
NB	7.2%	0.80
SB	3.3%	0.69
TOTAL	2.9%	0.97

Two-Hour Count Summaries

Interval Start		112th St E Eastbound				39th Ave SW Westbound				86th Ave E Northbound				17th St sW 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	9	162	83	0	62	176	5	0	21	6	35	0	13	8	7	587	0
4:15 PM		**0**	**6**	**151**	**72**	**0**	**70**	**212**	**8**	**0**	**36**	**7**	**35**	**0**	**6**	**4**	**4**	**611**	0
4:30 PM		**0**	**4**	**202**	**70**	**0**	**85**	**177**	**9**	**0**	**27**	**6**	**29**	**0**	**10**	**6**	**6**	**631**	0
4:45 PM		**0**	**8**	**180**	**62**	**0**	**88**	**183**	**4**	**0**	**24**	**5**	**30**	**0**	**3**	**5**	**9**	**601**	2,430
5:00 PM		**0**	**7**	**183**	**66**	**0**	**62**	**228**	**4**	**0**	**16**	**7**	**28**	**0**	**5**	**2**	**1**	**609**	**2,452**
5:15 PM		0	2	172	60	0	65	195	2	0	38	3	26	0	6	2	4	575	2,416
5:30 PM		0	5	165	60	0	51	209	8	0	55	3	42	0	4	1	2	605	2,390
5:45 PM		0	2	159	56	0	80	229	3	0	30	5	38	0	4	0	1	607	2,396
Count Total		0	43	1,374	529	0	563	1,609	43	0	247	42	263	0	51	28	34	4,826	0
Peak Hour	**All**	**0**	**25**	**716**	**270**	**0**	**305**	**800**	**25**	**0**	**103**	**25**	**122**	**0**	**24**	**17**	**20**	**2,452**	**0**
	HV	**0**	**9**	**7**	**1**	**0**	**2**	**17**	**14**	**0**	**5**	**12**	**1**	**0**	**0**	**2**	**0**	**70**	**0**
	HV%	**-**	**36%**	**1%**	**0%**	**-**	**1%**	**2%**	**56%**	**-**	**5%**	**48%**	**1%**	**-**	**0%**	**12%**	**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
4:00 PM	9	3	8	1	*21*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	**7**	**10**	**7**	**0**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
4:30 PM	**5**	**8**	**8**	**1**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**4**	**11**	**2**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	*2*
5:00 PM	**1**	**4**	**1**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	3	4	1	2	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	0	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	5	2	0	*9*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	33	45	29	6	*113*	0	0	0	0	*0*	0	0	6	0	*6*
Peak Hour	**17**	**33**	**18**	**2**	***70***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**5**	**0**	***5***

Two-Hour Count Summaries - Heavy Vehicles

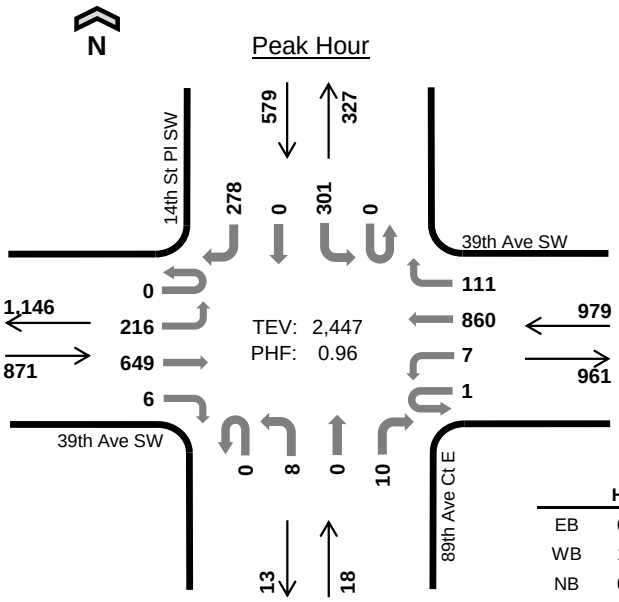
Interval Start	112th St E				39th Ave SW				86th Ave E				17th St sW				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	2	3	0	0	0	3	0	2	4	2	0	0	1	0	21	0
4:15 PM	**0**	**3**	**3**	**1**	**0**	**0**	**4**	**6**	**0**	**2**	**4**	**1**	**0**	**0**	**0**	**0**	**24**	0
4:30 PM	**0**	**4**	**1**	**0**	**0**	**0**	**3**	**5**	**0**	**2**	**6**	**0**	**0**	**0**	**1**	**0**	**22**	0
4:45 PM	**0**	**2**	**2**	**0**	**0**	**2**	**7**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**18**	85
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**70**
5:15 PM	0	0	2	1	0	2	2	0	0	0	1	0	0	1	1	0	10	56
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	37
5:45 PM	0	0	2	0	0	1	4	0	0	1	1	0	0	0	0	0	9	28
Count Total	0	14	13	6	0	5	23	17	0	8	18	3	0	1	4	1	113	0
Peak Hour	**0**	**9**	**7**	**1**	**0**	**2**	**17**	**14**	**0**	**5**	**12**	**1**	**0**	**0**	**2**	**0**	**70**	**0**

Two-Hour Count Summaries - Bikes

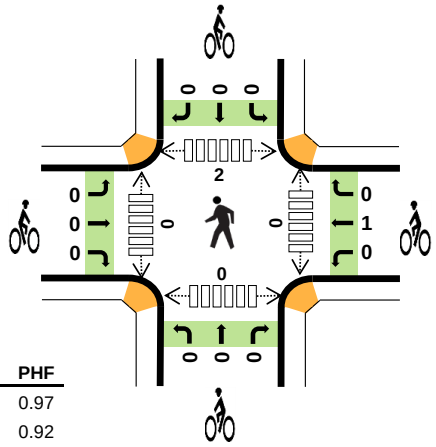
Interval Start	112th St E			39th Ave SW			86th Ave E			17th St sW			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**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.

14th St Pl SW
39th Ave SW



Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.6%	0.97
WB	1.1%	0.92
NB	0.0%	0.64
SB	0.2%	0.97
TOTAL	0.7%	0.96

Two-Hour Count Summaries

Interval Start		39th Ave SW Eastbound				39th Ave SW Westbound				89th Ave Ct E Northbound				14th St Pl SW 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	48	168	1	0	2	166	33	0	1	0	4	0	76	0	75	574	0
4:15 PM		0	52	144	1	0	6	249	22	0	1	0	5	0	69	1	65	615	0
4:30 PM		0	54	188	3	0	2	193	18	0	1	0	1	0	70	0	76	606	0
4:45 PM		0	56	155	1	0	5	186	31	0	3	0	1	0	73	0	69	580	2,375
5:00 PM		**0**	**62**	**161**	**1**	**1**	**1**	**232**	**24**	**0**	**2**	**0**	**1**	**0**	**81**	**0**	**68**	**634**	2,435
5:15 PM		**0**	**58**	**158**	**1**	**0**	**2**	**200**	**34**	**0**	**2**	**0**	**0**	**0**	**76**	**0**	**71**	**602**	2,422
5:30 PM		**0**	**51**	**158**	**3**	**0**	**2**	**191**	**25**	**0**	**2**	**0**	**4**	**0**	**74**	**0**	**65**	**575**	2,391
5:45 PM		**0**	**45**	**172**	**1**	**0**	**2**	**237**	**28**	**0**	**2**	**0**	**5**	**0**	**70**	**0**	**74**	**636**	**2,447**
Count Total		0	426	1,304	12	1	22	1,654	215	0	14	0	21	0	589	1	563	4,822	0
Peak Hour	**All**	**0**	**216**	**649**	**6**	**1**	**7**	**860**	**111**	**0**	**8**	**0**	**10**	**0**	**301**	**0**	**278**	**2,447**	**0**
	HV	**0**	**0**	**5**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**0**
	HV%	**-**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**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	4	4	0	0	*8*	0	0	0	0	*0*	0	0	3	0	*3*
4:15 PM	4	9	0	1	*14*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	1	8	0	0	*9*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	2	9	0	1	*12*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	**1**	**4**	**0**	**0**	***5***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**4**	**0**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**3**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	***2***
Count Total	16	41	0	3	*60*	0	1	0	0	*1*	0	0	5	0	*5*
Peak Hour	**5**	**11**	**0**	**1**	***17***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**2**	**0**	***2***

Two-Hour Count Summaries - Heavy Vehicles

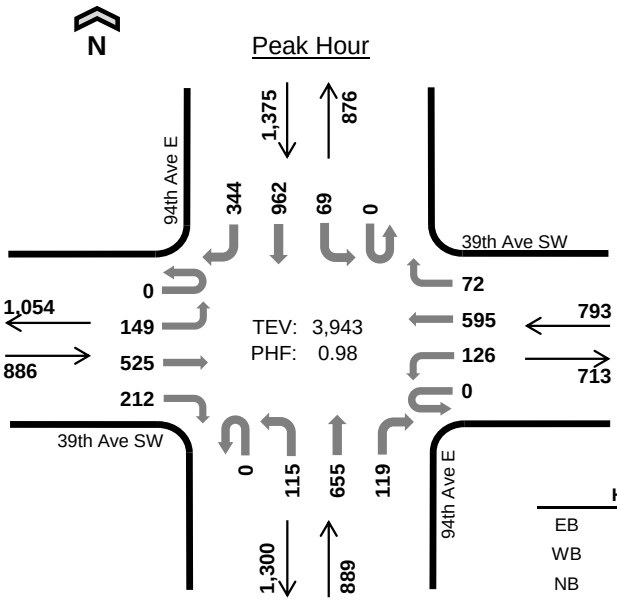
Interval Start	39th Ave SW Eastbound				39th Ave SW Westbound				89th Ave Ct E Northbound				14th St Pl SW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	4	0	0	0	3	1	0	0	0	0	0	0	0	0	8	0
4:15 PM	0	0	4	0	0	0	9	0	0	0	0	0	0	0	0	1	14	0
4:30 PM	0	1	0	0	0	0	8	0	0	0	0	0	0	0	0	0	9	0
4:45 PM	0	0	2	0	0	0	9	0	0	0	0	0	0	1	0	0	12	43
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	40
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	30
5:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	23
5:45 PM	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**17**
Count Total	0	1	15	0	0	0	40	1	0	0	0	0	0	1	0	2	60	0
Peak Hour	**0**	**0**	**5**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**0**

Two-Hour Count Summaries - Bikes

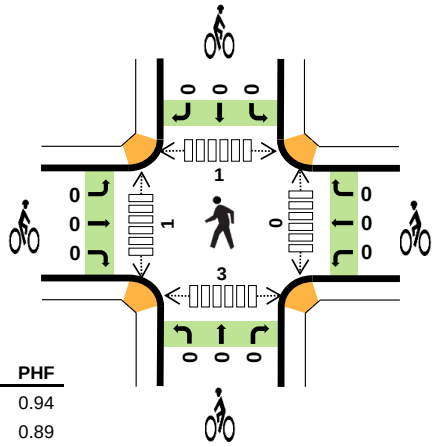
Interval Start	39th Ave SW Eastbound			39th Ave SW Westbound			89th Ave Ct E Northbound			14th St Pl SW Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**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	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.

94th Ave E
39th Ave SW



Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.0%	0.94
WB	2.3%	0.89
NB	2.4%	0.95
SB	2.6%	0.93
TOTAL	2.1%	0.98

Two-Hour Count Summaries

Interval Start		39th Ave SW Eastbound				39th Ave SW Westbound				94th Ave E Northbound				94th Ave 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	48	145	49	0	34	127	15	0	35	133	35	0	38	239	75	973	0
4:15 PM		0	57	108	42	0	29	133	8	0	33	137	35	0	30	245	67	924	0
4:30 PM		**0**	**44**	**144**	**47**	**0**	**28**	**154**	**26**	**0**	**21**	**170**	**23**	**0**	**11**	**238**	**86**	**992**	0
4:45 PM		**0**	**31**	**125**	**53**	**0**	**23**	**114**	**16**	**0**	**33**	**164**	**36**	**0**	**24**	**267**	**79**	**965**	3,854
5:00 PM		**0**	**34**	**127**	**53**	**0**	**46**	**165**	**13**	**0**	**31**	**168**	**27**	**0**	**15**	**244**	**84**	**1,007**	3,888
5:15 PM		**0**	**40**	**129**	**59**	**0**	**29**	**162**	**17**	**0**	**30**	**153**	**33**	**0**	**19**	**213**	**95**	**979**	**3,943**
5:30 PM		0	37	139	45	0	32	111	11	0	30	144	23	0	15	243	74	904	3,855
5:45 PM		0	41	125	52	0	36	159	21	0	32	149	16	0	35	239	84	989	3,879
Count Total		0	332	1,042	400	0	257	1,125	127	0	245	1,218	228	0	187	1,928	644	7,733	0
Peak Hour	**All**	**0**	**149**	**525**	**212**	**0**	**126**	**595**	**72**	**0**	**115**	**655**	**119**	**0**	**69**	**962**	**344**	**3,943**	**0**
	HV	**0**	**1**	**6**	**2**	**0**	**1**	**15**	**2**	**0**	**1**	**19**	**1**	**0**	**1**	**24**	**11**	**84**	**0**
	HV%	**-**	**1%**	**1%**	**1%**	**-**	**1%**	**3%**	**3%**	**-**	**1%**	**3%**	**1%**	**-**	**1%**	**2%**	**3%**	**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	4	1	8	11	*24*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	7	2	5	*15*	0	0	0	0	*0*	0	0	1	0	*1*
4:30 PM	**3**	**3**	**7**	**12**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	*2*
4:45 PM	**3**	**7**	**10**	**10**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**1**	**3**	**3**	**12**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
5:15 PM	**2**	**5**	**1**	**2**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	1	-1	4	7	*11*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	4	2	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	16	29	37	63	*145*	0	0	0	0	*0*	0	1	2	3	*6*
Peak Hour	**9**	**18**	**21**	**36**	***84***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**3**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SW Eastbound				39th Ave SW Westbound				94th Ave E Northbound				94th Ave 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	2	2	0	0	1	0	0	0	1	7	0	0	1	6	4	24	0
4:15 PM	0	0	0	1	0	0	6	1	0	0	2	0	0	0	5	0	15	0
4:30 PM	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**6**	**0**	**0**	**1**	**5**	**6**	**25**	0
4:45 PM	**0**	**0**	**2**	**1**	**0**	**0**	**6**	**1**	**0**	**0**	**9**	**1**	**0**	**-1**	**10**	**1**	**30**	94
5:00 PM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**0**	**0**	**1**	**8**	**3**	**19**	89
5:15 PM	**0**	**1**	**0**	**1**	**0**	**0**	**4**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**10**	**84**
5:30 PM	0	0	1	0	0	0	-1	0	0	0	4	0	0	1	6	0	11	70
5:45 PM	0	0	0	1	0	0	3	1	0	0	1	1	0	0	4	0	11	51
Count Total	0	3	9	4	0	2	23	4	0	2	33	2	0	3	45	15	145	0
Peak Hour	**0**	**1**	**6**	**2**	**0**	**1**	**15**	**2**	**0**	**1**	**19**	**1**	**0**	**1**	**24**	**11**	**84**	**0**

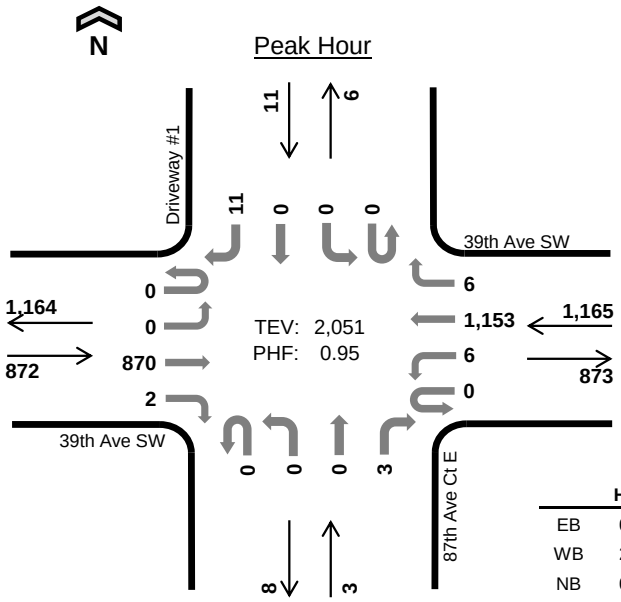
Two-Hour Count Summaries - Bikes

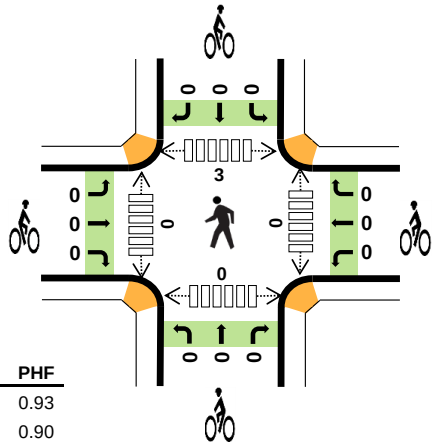
Interval Start	39th Ave SW Eastbound			39th Ave SW Westbound			94th Ave E Northbound			94th Ave E Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**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.

Driveway #1
39th Ave SW

Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	0.8%	0.93
WB	2.7%	0.90
NB	0.0%	0.38
SB	0.0%	0.69
TOTAL	1.9%	0.95

Two-Hour Count Summaries

Interval Start		39th Ave SW Eastbound				39th Ave SW Westbound				87th Ave Ct E Northbound				Driveway #1 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	214	1	0	1	232	10	0	1	0	1	0	0	0	8	470	0
4:15 PM		**0**	**0**	**200**	**0**	**0**	**1**	**320**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**529**	0
4:30 PM		**0**	**0**	**233**	**2**	**0**	**1**	**266**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**508**	0
4:45 PM		**0**	**0**	**210**	**0**	**0**	**2**	**260**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**477**	1,984
5:00 PM		**0**	**0**	**227**	**0**	**0**	**2**	**307**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**537**	**2,051**
5:15 PM		1	0	207	2	0	0	271	0	0	1	0	0	0	0	0	1	483	2,005
5:30 PM		0	0	215	0	0	0	258	0	0	0	0	1	0	0	0	2	476	1,973
5:45 PM		0	0	207	1	0	2	313	1	0	0	0	3	0	0	0	1	528	2,024
Count Total		1	2	1,713	6	0	9	2,227	17	0	2	0	8	0	0	0	23	4,008	0
Peak Hour	**All**	**0**	**0**	**870**	**2**	**0**	**6**	**1,153**	**6**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**11**	**2,051**	**0**
	HV	**0**	**0**	**7**	**0**	**0**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**38**	**0**
	HV%	**-**	**-**	**1%**	**0%**	**-**	**0%**	**3%**	**0%**	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**0%**	**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	4	3	0	0	*7*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	**4**	**10**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**2**	**0**	*2*
4:30 PM	**1**	**8**	**0**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**9**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**4**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:15 PM	3	3	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	3	4	1	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	17	42	1	0	*60*	0	0	0	0	*0*	0	0	4	0	*4*
Peak Hour	**7**	**31**	**0**	**0**	***38***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	***3***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	39th Ave SW				39th Ave SW				87th Ave Ct E				Driveway #1				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	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7	0
4:15 PM	**0**	**0**	**4**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	0
4:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	40
5:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**38**
5:15 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	30
5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	22
5:45 PM	0	0	2	1	0	0	4	0	0	0	0	1	0	0	0	0	8	20
Count Total	0	0	16	1	0	0	42	0	0	0	0	1	0	0	0	0	60	0
Peak Hour	**0**	**0**	**7**	**0**	**0**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**38**	**0**

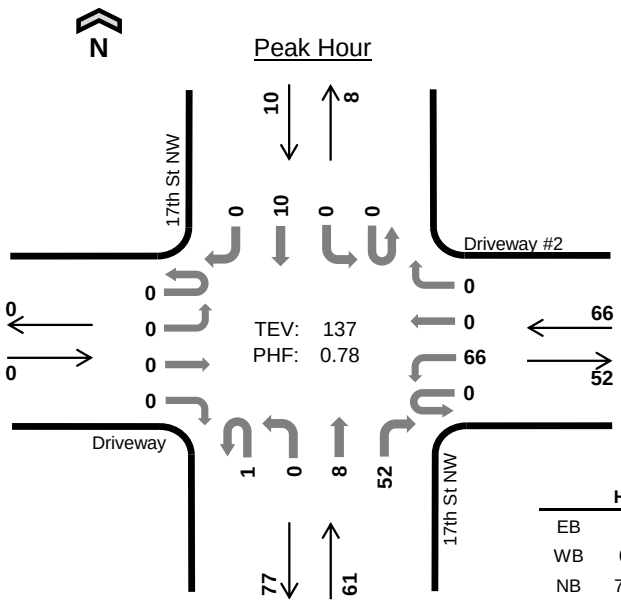
Two-Hour Count Summaries - Bikes

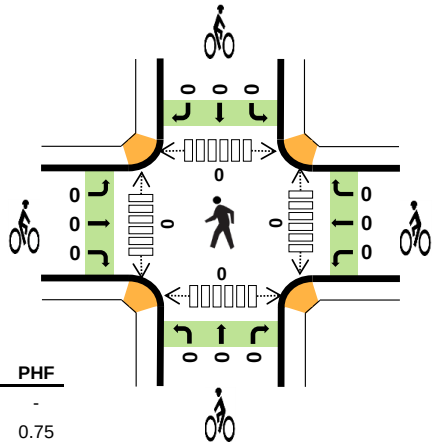
Interval Start	39th Ave SW			39th Ave SW			87th Ave Ct E			Driveway #1			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**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.

17th St NW
Driveway

Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	-	-
WB	0.0%	0.75
NB	72.1%	0.80
SB	30.0%	0.50
TOTAL	34.3%	0.78

Two-Hour Count Summaries

Interval Start	Driveway Eastbound				Driveway #2 Westbound				17th St NW Northbound				17th St NW 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**	**20**	**0**	**0**	**0**	**0**	**3**	**16**	**0**	**0**	**5**	**0**	**44**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**3**	**16**	**0**	**0**	**2**	**0**	**32**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**0**	**1**	**0**	**38**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**1**	**0**	**1**	**6**	**0**	**0**	**2**	**0**	**23**	**137**
5:00 PM	0	0	0	0	0	5	0	0	0	0	2	2	0	0	1	0	10	103
5:15 PM	0	0	0	0	0	7	0	0	0	0	0	1	0	0	1	0	9	80
5:30 PM	0	0	0	0	0	2	0	0	0	0	3	2	0	0	2	0	9	51
5:45 PM	0	0	0	0	0	2	0	0	0	0	1	1	0	0	1	0	5	33
Count Total	0	0	0	0	0	82	0	0	1	0	14	58	0	0	15	0	170	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**66**	**0**	**0**	**1**	**0**	**8**	**52**	**0**	**0**	**10**	**0**	**137**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**41**	**0**	**0**	**3**	**0**	**47**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**0%**	**-**	**-**	**0%**	**-**	**38%**	**79%**	**-**	**-**	**30%**	**-**	**34%**	**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**	**11**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**0**	**0**	**13**	**0**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**0**	**15**	**1**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**5**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	1	1	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	1	49	6	*56*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**0**	**0**	**44**	**3**	***47***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Driveway				Driveway #2				17th St NW				17th St NW				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**	**11**	**0**	**0**	**1**	**0**	**12**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**12**	**0**	**0**	**0**	**0**	**13**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**0**	**1**	**0**	**16**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**1**	**0**	**6**	**47**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3	38
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	3	28
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	14
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	9
Count Total	0	0	0	0	0	1	0	0	0	0	3	46	0	0	6	0	56	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**41**	**0**	**0**	**3**	**0**	**47**	**0**

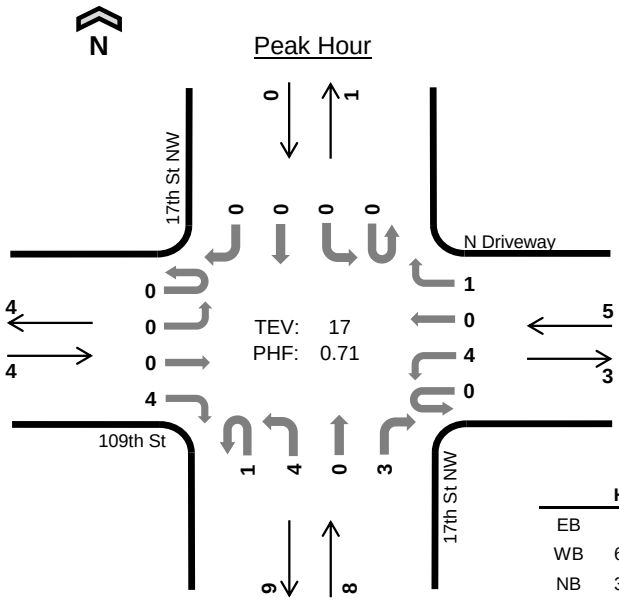
Two-Hour Count Summaries - Bikes

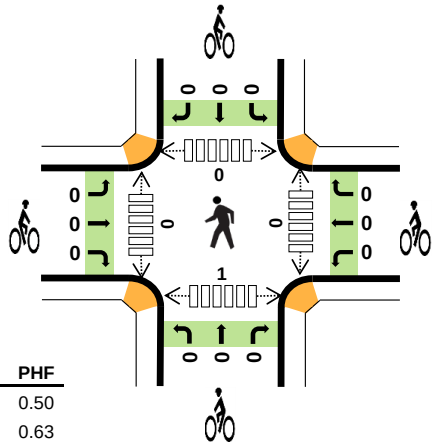
Interval Start	Driveway			Driveway #2			17th St NW			17th St NW			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**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.

17th St NW
N Driveway

Date: 05/16/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.0%	0.50
WB	60.0%	0.63
NB	37.5%	0.67
SB	-	-
TOTAL	35.3%	0.71

Two-Hour Count Summaries

Interval Start		109th St Eastbound				N Driveway Westbound				17th St NW Northbound				17th St NW 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**	**1**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:15 PM		**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	0
4:30 PM		**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	0
4:45 PM		**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**17**
5:00 PM		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	12
5:15 PM		0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	8
5:30 PM		0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	0	4	9
5:45 PM		0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	8
Count Total		0	0	0	6	0	6	0	1	1	8	0	3	0	0	0	0	25	0
Peak Hour	**All**	**0**	**0**	**0**	**4**	**0**	**4**	**0**	**1**	**1**	**4**	**0**	**3**	**0**	**0**	**0**	**0**	**17**	**0**
	HV	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**0**
	HV%	**-**	**-**	**-**	**0%**	**-**	**75%**	**-**	**0%**	**0%**	**0%**	**-**	**100%**	**-**	**-**	**-**	**-**	**35%**	**0**

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

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

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	109th St				N Driveway				17th St NW				17th St NW				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**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**6**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	5	0	0	0	0	0	3	0	0	0	0	8	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	109th St			N Driveway			17th St NW			17th St NW			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.

Appendix C

True Demand

Year 2023 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. 17th St SW / 39th Ave SW				
Eastbound Left	1	25	0	25
Eastbound Thru	4	716	0	716
Eastbound Right	1	270	0	270
Westbound Left	2	306	1	306
Westbound Thru	2	800	5	805
Westbound Right	0	25	0	25
Northbound Left	1	103	0	103
Northbound Thru	2	25	4	29
Northbound Right	0	122	0	122
Southbound Left	0	24	1	25
Southbound Thru	2	17	0	17
Southbound Right	0	20	0	20
2. 14th St SW / 39th Ave SW				
Eastbound Left	1	216	2	218
Eastbound Thru	0	649	2	651
Eastbound Right	0	6	0	6
Westbound Left	0	8	0	8
Westbound Thru	5	850	8	868
Westbound Right	0	111	0	111
Northbound Left	0	8	0	8
Northbound Thru	0	0	0	0
Northbound Right	0	10	0	10
Southbound Left	2	301	1	302
Southbound Thru	0	0	0	0
Southbound Right	7	278	3	281
3. 9th St SW / 39th Ave SW				
Eastbound Left	5	149	8	157
Eastbound Thru	18	525	8	533
Eastbound Right	3	212	3	215
Westbound Left	5	126	4	130
Westbound Thru	36	595	9	604
Westbound Right	3	72	0	72
Northbound Left	0	115	4	119
Northbound Thru	4	665	1	656
Northbound Right	0	119	0	119
Southbound Left	0	69	1	70
Southbound Thru	32	962	44	1,006
Southbound Right	19	344	12	356

It should be noted that the volumes above are summarized by movement and are not associated with an individual lane.

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.

Puyallup School District South Hill Site
True Demand Calculations
17th St SW / 112th St E
PM PEAK HOUR

	True Demand Raw Counts - TOTAL [1]											
	112th St E Eastbound			39th Ave SW Westbound			96th Ave E Northbound			17th St SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	10	166	84	64	178	5	22	8	35	13	10	7
4:15 PM	6	161	74	73	219	8	36	8	35	6	4	4
4:30 PM	4	208	74	85	180	9	27	7	29	10	8	6
4:45 PM	9	206	67	90	190	4	24	6	30	3	7	9
5:00 PM	7	183	66	63	233	4	16	11	28	6	2	1
5:15 PM	2	172	60	65	203	2	38	11	32	6	3	4
5:30 PM	5	167	60	53	210	8	57	4	43	4	1	2
5:45 PM	2	163	58	83	235	3	30	6	38	4	0	1
4:15 - 5:15 PM	26	758	281	311	822	25	103	32	122	25	21	20

[1] Volumes at each 15-min interval represent TMCs for the interval + the # of vehicles that were in queue at the end of each interval.

	Turning Movement Counts - TOTAL											
	112th St E Eastbound			39th Ave SW Westbound			96th Ave E Northbound			17th St SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	9	162	83	62	176	5	21	6	35	13	8	7
4:15 PM	6	151	72	70	212	8	36	7	35	6	4	4
4:30 PM	4	202	70	85	177	9	27	6	29	10	6	6
4:45 PM	8	180	62	88	183	4	24	5	30	3	5	9
5:00 PM	7	183	66	62	228	4	16	7	28	5	2	1
5:15 PM	2	172	60	65	195	2	38	3	26	6	2	4
5:30 PM	5	165	60	51	209	8	55	3	42	4	1	2
5:45 PM	2	159	56	80	229	3	30	5	38	4	0	1
4:15 - 5:15 PM	25	716	270	305	800	25	103	25	122	24	17	20

Peak Hour Factor = 0.97

	DELTA = VEHICLES IN QUEUE											
	112th St E Eastbound			39th Ave SW Westbound			96th Ave E Northbound			17th St SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	1	4	1	2	2	0	1	2	0	0	2	0
4:15 PM	0	10	2	3	7	0	0	1	0	0	0	0
4:30 PM	0	6	4	0	3	0	0	1	0	0	2	0
4:45 PM	1	26	5	2	7	0	0	1	0	0	2	0
5:00 PM	0	0	0	1	5	0	0	4	0	1	0	0
5:15 PM	0	0	0	0	8	0	0	8	6	0	1	0
5:30 PM	0	2	0	2	1	0	2	1	1	0	0	0
5:45 PM	0	4	2	3	6	0	0	1	0	0	0	0
4:15 - 5:15 PM	1	42	11	6	22	0	0	7	0	1	4	0

4:15-5:15 PM True Demand Volumes

Initial Queue @ 4:15	1	4	1	2	2	0	1	2	0	0	2	0
Stop Line Count (TMC)	25	716	270	305	800	25	103	25	122	24	17	20
Queued vehicles @ 5:15	0	0	0	1	5	0	0	4	0	1	0	0
True Demand Volumes	25	716	270	306	805	25	103	29	122	25	17	20

Puyallup School District South Hill Site
True Demand Calculations
14th St Pl SW / 39th Ave SW
PM PEAK HOUR

	True Demand Raw Counts - TOTAL [1]											
	39th Ave SW Eastbound			39th Ave SW Westbound			89th Ave Ct E Northbound			14th St Pl SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	49	172	1	2	208	34	1	0	5	77	0	81
4:15 PM	54	145	1	6	250	22	1	0	5	73	1	68
4:30 PM	56	192	3	3	204	18	1	0	1	71	0	81
4:45 PM	57	155	1	5	191	31	3	0	1	75	0	76
5:00 PM	67	164	1	1	241	24	2	0	2	83	0	74
5:15 PM	61	159	1	2	215	34	2	0	0	78	0	74
5:30 PM	56	161	3	2	223	26	2	0	4	77	0	65
5:45 PM	47	174	1	2	245	28	2	0	5	71	0	77
5:00 - 6:00 PM	231	658	6	7	924	112	8	0	11	309	0	290

[1] Volumes at each 15-min interval represent TMCs for the interval + the # of vehicles that were in queue at the end of each interval.

	Turning Movement Counts - TOTAL											
	39th Ave SW Eastbound			39th Ave SW Westbound			89th Ave Ct E Northbound			14th St Pl SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	48	168	1	2	166	33	1	0	4	76	0	75
4:15 PM	52	144	1	6	249	22	1	0	5	69	1	65
4:30 PM	54	188	3	2	193	18	1	0	1	70	0	76
4:45 PM	56	155	1	5	186	31	3	0	1	73	0	69
5:00 PM	62	161	1	1	232	24	2	0	1	81	0	68
5:15 PM	58	158	1	2	200	34	2	0	0	76	0	71
5:30 PM	51	158	3	2	191	25	2	0	4	74	0	65
5:45 PM	45	172	1	2	237	28	2	0	5	70	0	74
5:00 - 6:00 PM	216	649	6	7	860	111	8	0	10	301	0	278

Peak Hour Factor = 0.96

	DELTA = VEHICLES IN QUEUE											
	39th Ave SW Eastbound			39th Ave SW Westbound			89th Ave Ct E Northbound			14th St Pl SW Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	1	4	0	0	42	1	0	0	1	1	0	6
4:15 PM	2	1	0	0	1	0	0	0	0	4	0	3
4:30 PM	2	4	0	1	11	0	0	0	0	1	0	5
4:45 PM	1	0	0	0	5	0	0	0	0	2	0	7
5:00 PM	5	3	0	0	9	0	0	0	1	2	0	6
5:15 PM	3	1	0	0	15	0	0	0	0	2	0	3
5:30 PM	5	3	0	0	32	1	0	0	0	3	0	0
5:45 PM	2	2	0	0	8	0	0	0	0	1	0	3
5:00 - 6:00 PM	15	9	0	0	64	1	0	0	1	8	0	12

5:00-6:00 PM True Demand Volumes												
Initial Queue @ 5:00	1	0	0	0	5	0	0	0	0	2	0	7
Stop Line Count (TMC)	216	649	6	7	860	111	8	0	10	301	0	278
Queued vehicles @ 6:00	2	2	0	0	8	0	0	0	0	1	0	3
True Demand Volumes	218	651	6	7	868	111	8	0	10	302	0	281

Puyallup School District South Hill Site
True Demand Calculations
94th Ave E / 39th Ave SW
PM PEAK HOUR

	True Demand Raw Counts - TOTAL [1]											
	39th Ave SW Eastbound			39th Ave SW Westbound			94th Ave E Northbound			94th Ave E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	56	152	53	41	150	17	36	135	35	46	271	86
4:15 PM	62	126	45	34	169	11	33	141	35	30	277	86
4:30 PM	49	161	48	37	164	27	21	172	25	18	272	101
4:45 PM	37	137	55	41	150	17	33	165	36	28	296	90
5:00 PM	45	140	60	52	184	13	31	172	28	16	275	100
5:15 PM	48	137	62	33	171	17	34	154	33	20	257	107
5:30 PM	48	144	47	38	146	17	38	148	24	18	281	84
5:45 PM	49	138	53	43	160	21	33	150	16	36	275	93
4:30 - 5:30 PM	179	575	225	163	669	74	119	663	122	82	1,100	398

[1] Volumes at each 15-min interval represent TMCs for the interval + the # of vehicles that were in queue at the end of each interval.

	Turning Movement Counts - TOTAL											
	39th Ave SW Eastbound			39th Ave SW Westbound			94th Ave E Northbound			94th Ave E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	48	145	49	34	127	15	35	133	35	38	239	75
4:15 PM	57	108	42	29	133	8	33	137	35	30	245	67
4:30 PM	44	144	47	28	154	26	21	170	23	11	238	86
4:45 PM	31	125	53	23	114	16	33	164	36	24	267	79
5:00 PM	34	127	53	46	165	13	31	168	27	15	244	84
5:15 PM	40	129	59	29	162	17	30	153	33	19	213	95
5:30 PM	37	139	45	32	111	11	30	144	23	15	243	74
5:45 PM	41	125	52	36	159	21	32	149	16	35	239	84
4:30 - 5:30 PM	149	525	212	126	595	72	115	655	119	69	962	344

Peak Hour Factor = 0.98

	DELTA = VEHICLES IN QUEUE											
	39th Ave SW Eastbound			39th Ave SW Westbound			94th Ave E Northbound			94th Ave E Southbound		
Interval Start	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
4:00 PM	8	7	4	7	23	2	1	2	0	8	32	11
4:15 PM	5	18	3	5	36	3	0	4	0	0	32	19
4:30 PM	5	17	1	9	10	1	0	2	2	7	34	15
4:45 PM	6	12	2	18	36	1	0	1	0	4	29	11
5:00 PM	11	13	7	6	19	0	0	4	1	1	31	16
5:15 PM	8	8	3	4	9	0	4	1	0	1	44	12
5:30 PM	11	5	2	6	35	6	8	4	1	3	38	10
5:45 PM	8	13	1	7	1	0	1	1	0	1	36	9
4:30 - 5:30 PM	30	50	13	37	74	2	4	8	3	13	138	54

4:30-5:30 PM True Demand Volumes

Initial Queue @ 4:30	5	18	3	5	36	3	0	4	0	0	32	19
Stop Line Count (TMC)	149	525	212	126	595	72	115	655	119	69	962	344
Queued vehicles @ 5:30	8	8	3	4	9	0	4	1	0	1	44	12
True Demand Volumes	157	533	215	130	604	72	119	656	119	70	1006	356

Appendix D

Level of Service (LOS) Methodology and Calculations at Study Intersections

Level of Service Methodology

Level of Service (LOS) generally refers to the degree of congestion at an 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.

Signalized Intersection LOS 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 table below outlines the HCM (7th Edition) LOS criteria for signalized intersections.

LOS Criteria for Signalized Intersections [1]

Control Delay (sec/veh)	Level of Service [2]	General Description [3]
≤ 10	A	Exceptionally Favorable Progression (or very short cycle lengths) – Most vehicles arrive during the green indication and travel through the intersection without stopping.
> 10 to ≤ 20	B	Highly Favorable Progression (or short cycle lengths) – While more vehicles than LOS A stop, most vehicles still pass through the intersection without stopping.
> 20 to ≤ 35	C	Favorable Progression (or moderate cycle lengths) – Individual cycle failures begin to appear, but many vehicles still pass through the intersection without stopping.
> 35 to ≤ 55	D	Ineffective Progression (or long cycle lengths) – Many vehicles stop and individual cycle failures are noticeable.
> 55 to ≤ 80	E	Unfavorable Progression (and long cycle lengths) – Individual cycle failures are frequent.
> 80	F	Very Poor Progression (and long cycle lengths) – Most cycles fail to clear the queue at this level.

1 Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2022.
2 If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.
3 Individual cycle failures: one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle.

Synchro 12 and/or HCM 2000 LOS methodology may be used when HCM 7th Edition methodology is not supported at an intersection (i.e., intersection geometry and/or custom phasing) or jurisdictional standards require use of an alternative methodology.

Unsignalized Intersection LOS (two-way stop control, all-way stop control, and roundabouts) is based on the average control delay. For two-way stop-controlled intersections, the LOS criteria apply to each controlled minor-street approach, controlled minor-street lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group LOS only). LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop-controlled intersections. For all-way stop-controlled intersections and roundabouts, LOS 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 table below outlines the HCM (7th Edition) LOS criteria for unsignalized intersections based on these methodologies.

LOS Criteria for Unsignalized Intersections[1]

Control Delay (sec/veh)	Level of Service [2]
≤ 10	A
> 10 to ≤ 15	B
> 15 to ≤ 25	C
> 25 to ≤ 35	D
> 35 to ≤ 50	E
> 50	F

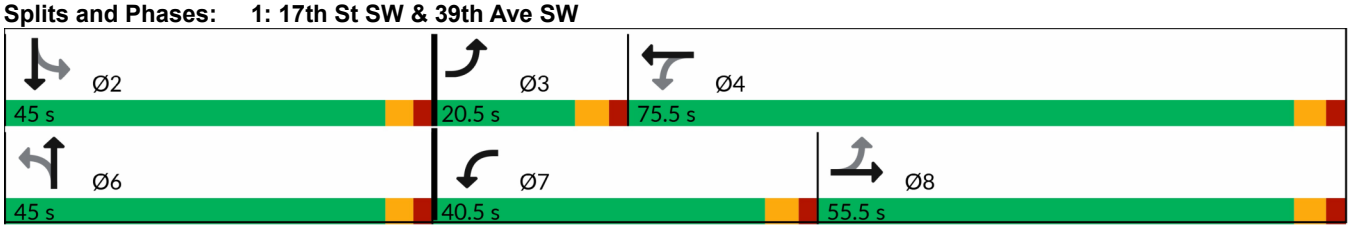
1 Source: Highway Capacity Manual 7th Edition, Transportation Research Board, 2022.
2 If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0, LOS F is assigned to the individual lane group. For approach-based and intersection-wide assessments at unsignalized intersections, LOS is defined solely by control delay.

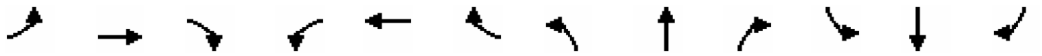
2023 Existing PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	716	270	306	805	25	103	29	122	25	17	20
Future Volume (vph)	25	716	270	306	805	25	103	29	122	25	17	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-4%			0%	
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			35			35			35	
Link Distance (ft)		691			505			443			367	
Travel Time (s)		11.8			9.8			8.6			7.1	
Confl. Peds. (#/hr)	5					5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	7%	7%	7%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	
Total Split (s)	20.5	55.5		40.5	75.5		45.0	45.0		45.0	45.0	
Total Split (%)	14.5%	39.4%		28.7%	53.5%		31.9%	31.9%		31.9%	31.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 141	
Actuated Cycle Length: 101.1	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: 17th St SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	716	270	306	805	25	103	29	122	25	17	20
Future Volume (veh/h)	25	716	270	306	805	25	103	29	122	25	17	20
Initial Q (Qb), veh	1	5	0	2	2	0	0	3	0	0	2	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1952	1952	1952	1856	1856	1856
Adj Flow Rate, veh/h	26	738	249	315	830	24	106	30	87	26	18	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	3	3	3	7	7	7	3	3	3
Cap, veh/h	409	1085	346	467	1825	52	201	68	112	174	133	87
Arrive On Green	0.03	0.41	0.41	0.14	0.52	0.52	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	2604	879	1767	3498	101	673	313	631	500	647	495
Grp Volume(v), veh/h	26	504	483	315	418	436	223	0	0	63	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1706	1767	1763	1837	1617	0	0	1642	0	0
Q Serve(g_s), s	0.5	14.0	14.0	5.4	9.0	9.0	5.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	14.0	14.0	5.4	9.0	9.0	7.8	0.0	0.0	1.8	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.06	0.48		0.39	0.41		0.30
Lane Grp Cap(c), veh/h	409	726	701	467	920	958	386	0	0	388	0	0
V/C Ratio(X)	0.06	0.69	0.69	0.67	0.45	0.45	0.58	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	804	1475	1416	1249	2049	2135	1140	0	0	1101	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	16.9	16.4	12.2	9.3	9.2	24.9	0.0	0.0	21.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.5	1.5	1.7	0.4	0.4	1.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.3	0.3	0.4	0.0	0.0	1.0	0.0	0.0	0.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	6.2	5.8	2.4	3.0	3.1	3.7	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.3	18.7	18.1	14.3	9.7	9.7	27.3	0.0	0.0	21.8	0.0	0.0
LnGrp LOS	B	B	B	B	A	A	C			C		
Approach Vol, veh/h		1013			1169			223			63	
Approach Delay, s/veh		18.2			10.9			27.3			21.8	
Approach LOS		B			B			C			C	

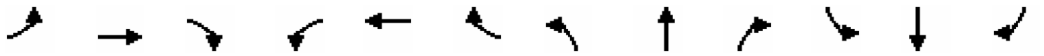
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	16.0	7.3	36.9	16.0	13.8	30.4
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	40.0	15.0	70.0	40.0	35.0	50.0
Max Q Clear Time (g_c+I1), s	3.8	2.5	11.0	9.8	7.4	16.0
Green Ext Time (p_c), s	0.3	0.0	7.9	1.4	0.9	8.9

Intersection Summary	
HCM 7th Control Delay, s/veh	15.7
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	651	6	8	868	111	8	0	10	302	0	281
Future Volume (vph)	218	651	6	8	868	111	8	0	10	302	0	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-3%			6%			4%	
Storage Length (ft)	225		0	200		0	0		0	175		225
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		679			603			351			365	
Travel Time (s)		13.2			11.7			9.6			10.0	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)										50%		
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	3	8		7	4		6	6		2	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		6	6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	30.0
Total Split (s)	50.5	85.5		20.5	55.5		20.0	20.0		65.0	65.0	65.0
Total Split (%)	26.4%	44.8%		10.7%	29.1%		10.5%	10.5%		34.0%	34.0%	34.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	3.0
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
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 191	
Actuated Cycle Length: 102.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: 14th St Pl SW & 39th Ave SW



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	651	6	8	868	111	8	0	10	302	0	281
Future Volume (veh/h)	218	651	6	8	868	111	8	0	10	302	0	281
Initial Q (Qb), veh	1	0	0	0	5	0	0	0	0	2	0	7
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1738	1738	1738	2003	2003	2003	1673	1673	1673	1791	1791	1791
Adj Flow Rate, veh/h	227	678	4	8	904	101	8	0	7	315	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	380	1651	10	399	1246	124	14	0	12	610	0	290
Arrive On Green	0.11	0.49	0.49	0.01	0.38	0.38	0.02	0.00	0.02	0.18	0.00	0.18
Sat Flow, veh/h	1655	3365	20	1908	3450	385	803	0	703	3411	0	1518
Grp Volume(v), veh/h	227	333	349	8	499	506	15	0	0	315	0	193
Grp Sat Flow(s),veh/h/ln	1655	1651	1734	1908	1903	1932	1506	0	0	1706	0	1518
Q Serve(g_s), s	5.1	8.8	8.8	0.2	14.9	14.9	0.7	0.0	0.0	5.7	0.0	8.2
Cycle Q Clear(g_c), s	5.1	8.8	8.8	0.2	14.9	14.9	0.7	0.0	0.0	5.7	0.0	8.2
Prop In Lane	1.00		0.01	1.00		0.20	0.53		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	380	810	851	399	672	703	27	0	0	610	0	290
V/C Ratio(X)	0.60	0.41	0.41	0.02	0.74	0.72	0.56	0.00	0.00	0.52	0.00	0.66
Avail Cap(c_a), veh/h	1284	1938	2036	815	1396	1418	332	0	0	3003	0	1336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	13.0	13.0	16.6	31.3	27.1	39.9	0.0	0.0	25.7	0.0	29.3
Incr Delay (d2), s/veh	1.5	0.4	0.4	0.0	2.0	1.7	17.2	0.0	0.0	0.7	0.0	2.6
Initial Q Delay(d3), s/veh	0.1	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.2	0.0	12.5
%ile BackOfQ(50%),veh/ln	2.0	3.6	3.7	0.1	11.6	10.2	0.4	0.0	0.0	2.5	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.0	13.4	13.4	16.6	33.7	29.1	57.1	0.0	0.0	26.6	0.0	44.4
LnGrp LOS	B	B	B	B	C	C	E			C		D
Approach Vol, veh/h		909			1013			15			508	
Approach Delay, s/veh		13.8			31.3			57.1			33.4	
Approach LOS		B			C			E			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.1	13.2	31.6	6.2	6.2	38.6
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	60.0	45.0	50.0	15.0	15.0	80.0
Max Q Clear Time (g_c+I1), s	10.2	7.1	16.9	2.7	2.2	10.8
Green Ext Time (p_c), s	1.9	0.7	9.2	0.0	0.0	5.8

Intersection Summary	
HCM 7th Control Delay, s/veh	25.4
HCM 7th LOS	C

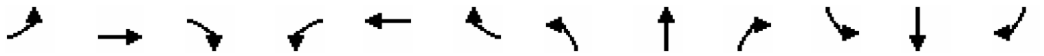
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	533	215	130	604	72	119	656	119	70	1006	356
Future Volume (vph)	157	533	215	130	604	72	119	656	119	70	1006	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			0%			-3%	
Storage Length (ft)	400		175	350		0	200		0	275		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		632			654			404			483	
Travel Time (s)		12.3			12.7			7.9			9.4	
Confl. Peds. (#/hr)	1		3	3		1	1					1
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 (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.1	38.1	38.1	10.6	35.6		10.1	32.1		10.1	37.1	
Total Split (s)	23.0	49.3	49.3	20.7	47.0		20.0	98.2		11.8	90.0	
Total Split (%)	12.8%	27.4%	27.4%	11.5%	26.1%		11.1%	54.6%		6.6%	50.0%	
Yellow Time (s)	3.6	3.6	3.6	4.1	4.1		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
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)	5.1	5.1	5.1	5.6	5.6		5.1	5.1		5.1	5.1	
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: 180	
Actuated Cycle Length: 141.3	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: 9th St SW & 39th Ave SW



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	533	215	130	604	72	119	656	119	70	1006	356
Future Volume (veh/h)	157	533	215	130	604	72	119	656	119	70	1006	356
Initial Q (Qb), veh	5	18	3	5	39	0	0	4	0	0	51	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2067	2067	2067	1870	1870	1870	1973	1973	1973
Adj Flow Rate, veh/h	160	544	147	133	616	69	121	669	110	71	1027	327
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, %	1	1	1	2	2	2	2	2	2	3	3	3
Cap, veh/h	231	744	324	258	858	45	185	1291	209	270	1385	284
Arrive On Green	0.10	0.23	0.23	0.07	0.21	0.21	0.06	0.42	0.42	0.05	0.41	0.41
Sat Flow, veh/h	1593	3179	1412	1968	3558	398	1781	3055	502	1879	2802	885
Grp Volume(v), veh/h	160	544	147	133	339	346	121	389	390	71	684	670
Grp Sat Flow(s),veh/h/ln	1593	1589	1412	1968	1963	1993	1781	1777	1780	1879	1874	1813
Q Serve(g_s), s	7.1	14.6	8.2	4.8	15.1	15.2	3.6	14.9	14.9	2.0	31.2	31.8
Cycle Q Clear(g_c), s	7.1	14.6	8.2	4.8	15.1	15.2	3.6	14.9	14.9	2.0	31.2	31.8
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.28	1.00		0.49
Lane Grp Cap(c), veh/h	231	744	324	258	441	452	185	749	751	270	832	815
V/C Ratio(X)	0.69	0.73	0.45	0.52	0.77	0.76	0.65	0.52	0.52	0.26	0.82	0.82
Avail Cap(c_a), veh/h	419	1536	682	461	888	902	393	1808	1811	404	1739	1682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	43.2	32.6	34.7	56.7	54.3	32.2	20.0	20.0	24.2	33.8	32.8
Incr Delay (d2), s/veh	1.4	0.5	0.4	0.6	1.1	1.0	1.4	0.2	0.2	0.2	0.8	0.8
Initial Q Delay(d3), s/veh	11.0	15.7	1.1	5.6	60.8	56.6	0.0	0.1	0.1	0.0	38.1	39.5
%ile BackOfQ(50%),veh/ln	5.5	10.8	3.6	3.9	23.7	22.9	2.8	6.4	6.4	1.0	33.5	32.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.0	59.4	34.1	40.9	118.5	111.9	33.6	20.4	20.3	24.4	72.6	73.2
LnGrp LOS	D	E	C	D	F	F	C	C	C	C	E	E
Approach Vol, veh/h		851			818			900			1425	
Approach Delay, s/veh		53.8			103.1			22.1			70.5	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	43.5	12.2	26.5	10.4	42.4	14.1	24.6
Change Period (Y+Rc), s	5.1	5.1	5.6	* 5.6	5.1	5.1	5.1	5.6
Max Green Setting (Gmax), s	6.7	93.1	15.1	* 44	14.9	84.9	17.9	41.4
Max Q Clear Time (g_c+I1), s	4.0	16.9	6.8	16.6	5.6	33.8	9.1	17.2
Green Ext Time (p_c), s	0.0	1.6	0.0	1.4	0.0	3.5	0.0	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	62.7
HCM 7th LOS	E

Notes

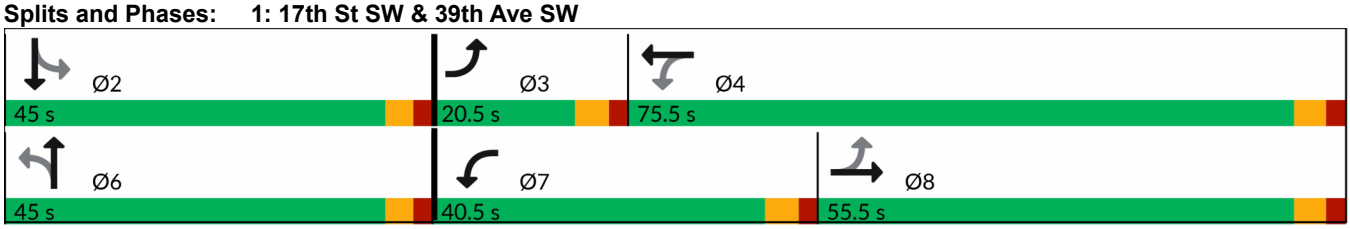
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

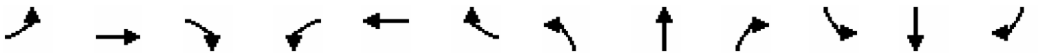
2026 No Action PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	782	295	334	880	29	113	31	133	28	18	22
Future Volume (vph)	27	782	295	334	880	29	113	31	133	28	18	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-4%			0%	
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			35			35			35	
Link Distance (ft)		691			505			443			367	
Travel Time (s)		11.8			9.8			8.6			7.1	
Confl. Peds. (#/hr)	5					5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	7%	7%	7%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	
Total Split (s)	20.5	55.5		40.5	75.5		45.0	45.0		45.0	45.0	
Total Split (%)	14.5%	39.4%		28.7%	53.5%		31.9%	31.9%		31.9%	31.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 141	
Actuated Cycle Length: 112.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: 17th St SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	782	295	334	880	29	113	31	133	28	18	22
Future Volume (veh/h)	27	782	295	334	880	29	113	31	133	28	18	22
Initial Q (Qb), veh	1	5	0	2	2	0	0	3	0	0	2	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1952	1952	1952	1856	1856	1856
Adj Flow Rate, veh/h	28	806	275	344	907	28	116	32	98	29	19	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	3	3	3	7	7	7	3	3	3
Cap, veh/h	384	1126	356	447	1887	58	198	70	120	171	131	88
Arrive On Green	0.03	0.43	0.43	0.14	0.54	0.54	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1781	2597	885	1767	3491	108	683	290	644	506	580	475
Grp Volume(v), veh/h	28	551	530	344	458	477	246	0	0	69	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1705	1767	1763	1836	1617	0	0	1561	0	0
Q Serve(g_s), s	0.6	17.4	17.5	6.6	11.0	11.0	7.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	17.4	17.5	6.6	11.0	11.0	9.7	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.06	0.47		0.40	0.42		0.30
Lane Grp Cap(c), veh/h	384	747	726	447	953	992	392	0	0	380	0	0
V/C Ratio(X)	0.07	0.74	0.73	0.77	0.48	0.48	0.63	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	726	1306	1253	1105	1814	1889	1009	0	0	959	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	19.8	18.6	14.2	9.9	9.9	27.8	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.7	1.7	2.8	0.5	0.4	1.6	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.1	0.3	0.3	0.6	0.0	0.0	1.1	0.0	0.0	0.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	8.3	7.5	3.1	3.8	4.0	4.6	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.0	21.8	20.6	17.7	10.4	10.4	30.6	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C			C		
Approach Vol, veh/h		1109			1279			246			69	
Approach Delay, s/veh		21.0			12.3			30.6			24.0	
Approach LOS		C			B			C			C	

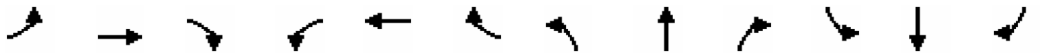
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	18.2	7.6	42.3	18.2	15.1	34.8
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	40.0	15.0	70.0	40.0	35.0	50.0
Max Q Clear Time (g_c+I1), s	4.2	2.6	13.0	11.7	8.6	19.5
Green Ext Time (p_c), s	0.4	0.0	9.0	1.5	1.0	9.8

Intersection Summary	
HCM 7th Control Delay, s/veh	17.8
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	714	6	8	952	111	8	0	10	302	0	281
Future Volume (vph)	218	714	6	8	952	111	8	0	10	302	0	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-3%			6%			4%	
Storage Length (ft)	225		0	200		0	0		0	175		225
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		679			603			351			365	
Travel Time (s)		13.2			11.7			9.6			10.0	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)										50%		
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	3	8		7	4		6	6		2	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		6	6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	30.0
Total Split (s)	50.5	85.5		20.5	55.5		20.0	20.0		65.0	65.0	65.0
Total Split (%)	26.4%	44.8%		10.7%	29.1%		10.5%	10.5%		34.0%	34.0%	34.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	3.0
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
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 191	
Actuated Cycle Length: 102.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: 14th St Pl SW & 39th Ave SW



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	714	6	8	952	111	8	0	10	302	0	281
Future Volume (veh/h)	218	714	6	8	952	111	8	0	10	302	0	281
Initial Q (Qb), veh	1	0	0	0	5	0	0	0	0	2	0	7
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1738	1738	1738	2003	2003	2003	1673	1673	1673	1791	1791	1791
Adj Flow Rate, veh/h	227	744	4	8	992	101	8	0	7	315	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	363	1725	9	344	1058	30	13	0	12	601	0	287
Arrive On Green	0.11	0.50	0.50	0.01	0.41	0.41	0.02	0.00	0.02	0.17	0.00	0.17
Sat Flow, veh/h	1655	3368	18	1908	3486	355	803	0	703	3411	0	1518
Grp Volume(v), veh/h	227	365	383	8	541	552	15	0	0	315	0	193
Grp Sat Flow(s),veh/h/ln	1655	1651	1735	1908	1903	1938	1506	0	0	1706	0	1518
Q Serve(g_s), s	5.2	10.1	10.1	0.2	16.9	17.0	0.7	0.0	0.0	6.0	0.0	8.6
Cycle Q Clear(g_c), s	5.2	10.1	10.1	0.2	16.9	17.0	0.7	0.0	0.0	6.0	0.0	8.6
Prop In Lane	1.00		0.01	1.00		0.18	0.53		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	363	846	888	344	533	555	25	0	0	601	0	287
V/C Ratio(X)	0.63	0.43	0.43	0.02	1.02	0.99	0.60	0.00	0.00	0.52	0.00	0.67
Avail Cap(c_a), veh/h	1219	1840	1934	777	1326	1350	315	0	0	2852	0	1269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	17.6	17.6	26.3	64.3	64.3	57.2	0.0	0.0	27.2	0.0	30.8
Incr Delay (d2), s/veh	1.8	0.4	0.4	0.0	24.1	18.0	20.9	0.0	0.0	0.7	0.0	2.7
Initial Q Delay(d3), s/veh	0.1	0.0	0.0	0.0	16.9	13.3	0.0	0.0	0.0	0.2	0.0	13.1
%ile BackOfQ(50%),veh/ln	2.1	6.0	6.3	0.2	30.2	30.0	0.6	0.0	0.0	2.7	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.0	18.0	18.0	26.3	105.3	95.7	78.1	0.0	0.0	28.1	0.0	46.6
LnGrp LOS	B	B	B	C	F	F	E			C		D
Approach Vol, veh/h		975			1101			15			508	
Approach Delay, s/veh		17.5			99.9			78.1			35.1	
Approach LOS		B			F			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.5	13.3	34.6	6.3	6.2	41.7
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	60.0	45.0	50.0	15.0	15.0	80.0
Max Q Clear Time (g_c+I1), s	10.6	7.2	19.0	2.7	2.2	12.1
Green Ext Time (p_c), s	1.9	0.7	10.2	0.0	0.0	6.5

Intersection Summary	
HCM 7th Control Delay, s/veh	56.2
HCM 7th LOS	E

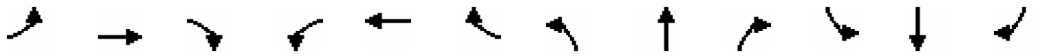
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	583	235	142	662	79	130	717	130	76	1099	391
Future Volume (vph)	174	583	235	142	662	79	130	717	130	76	1099	391
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			0%			-3%	
Storage Length (ft)	400		175	350		0	200		0	275		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		632			654			404			483	
Travel Time (s)		12.3			12.7			7.9			9.4	
Confl. Peds. (#/hr)	1		3	3		1	1					1
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 (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.1	38.1	10.1	10.6	35.6		10.1	32.1		10.1	37.1	
Total Split (s)	23.0	48.8	19.0	21.2	47.0		19.0	98.1		11.9	91.0	
Total Split (%)	12.8%	27.1%	10.6%	11.8%	26.1%		10.6%	54.5%		6.6%	50.6%	
Yellow Time (s)	3.6	3.6	3.6	4.1	4.1		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
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)	5.1	5.1	5.1	5.6	5.6		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag	Lead	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: 180	
Actuated Cycle Length: 162.2	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: 9th St SW & 39th Ave SW



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	583	235	142	662	79	130	717	130	76	1099	391
Future Volume (veh/h)	174	583	235	142	662	79	130	717	130	76	1099	391
Initial Q (Qb), veh	5	18	3	5	39	0	0	4	0	0	51	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2067	2067	2067	1870	1870	1870	1973	1973	1973
Adj Flow Rate, veh/h	178	595	168	145	676	77	133	732	122	78	1121	363
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, %	1	1	1	2	2	2	2	2	2	3	3	3
Cap, veh/h	202	772	424	246	906	34	169	1397	229	226	1502	273
Arrive On Green	0.10	0.24	0.24	0.07	0.22	0.22	0.06	0.46	0.46	0.04	0.44	0.44
Sat Flow, veh/h	1593	3179	1413	1968	3551	404	1781	3048	508	1879	2795	891
Grp Volume(v), veh/h	178	595	168	145	373	380	133	427	427	78	746	738
Grp Sat Flow(s),veh/h/ln	1593	1589	1413	1968	1963	1992	1781	1777	1779	1879	1874	1812
Q Serve(g_s), s	9.7	19.9	10.8	6.4	20.9	21.0	4.6	19.6	19.6	2.6	42.3	43.9
Cycle Q Clear(g_c), s	9.7	19.9	10.8	6.4	20.9	21.0	4.6	19.6	19.6	2.6	42.3	43.9
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.29	1.00		0.49
Lane Grp Cap(c), veh/h	202	772	424	246	456	469	169	812	813	226	878	867
V/C Ratio(X)	0.88	0.77	0.40	0.59	0.82	0.81	0.78	0.53	0.53	0.34	0.85	0.85
Avail Cap(c_a), veh/h	335	1220	624	386	714	724	299	1451	1452	369	1414	1366
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	51.3	33.1	39.9	66.5	63.1	40.6	22.5	22.5	29.2	39.6	38.5
Incr Delay (d2), s/veh	8.0	0.6	0.2	0.8	2.1	2.0	3.0	0.2	0.2	0.3	1.5	1.8
Initial Q Delay(d3), s/veh	37.1	17.1	0.6	7.3	72.7	65.2	0.0	0.1	0.1	0.0	40.5	41.9
%ile BackOfQ(50%),veh/ln	9.2	13.6	4.4	4.9	29.5	28.1	3.9	8.5	8.5	1.4	41.7	40.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	98.6	69.0	33.9	48.1	141.4	130.3	43.6	22.8	22.8	29.5	81.6	82.2
LnGrp LOS	F	E	C	D	F	F	D	C	C	C	F	F
Approach Vol, veh/h		941			898			987			1562	
Approach Delay, s/veh		68.3			121.6			25.6			79.3	
Approach LOS		E			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	57.0	14.0	33.2	11.7	55.1	16.8	30.3
Change Period (Y+Rc), s	5.1	5.1	5.6	* 5.6	5.1	5.1	5.1	5.6
Max Green Setting (Gmax), s	6.8	93.0	15.6	* 44	13.9	85.9	17.9	41.4
Max Q Clear Time (g_c+I1), s	4.6	21.6	8.4	21.9	6.6	45.9	11.7	23.0
Green Ext Time (p_c), s	0.0	1.8	0.0	1.5	0.0	4.0	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	73.5
HCM 7th LOS	E

Notes

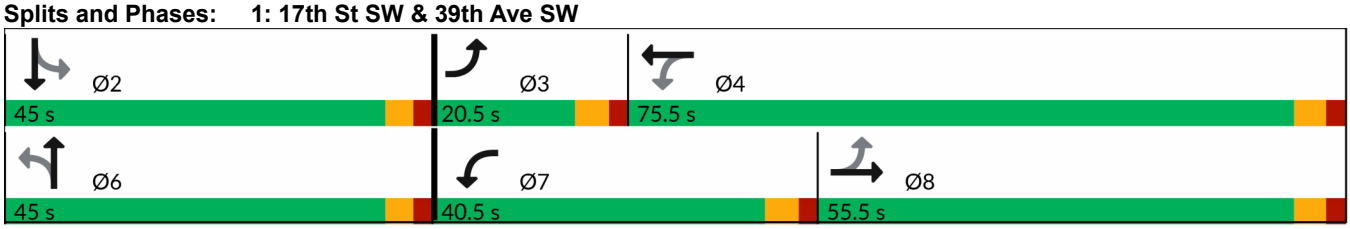
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

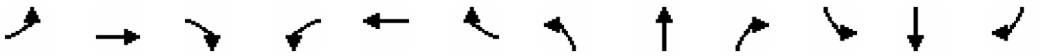
2026 With Project PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	782	295	334	880	50	113	38	133	60	29	37
Future Volume (vph)	36	782	295	334	880	50	113	38	133	60	29	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-4%			0%	
Storage Length (ft)	200		0	200		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		40			35			35			35	
Link Distance (ft)		691			505			443			367	
Travel Time (s)		11.8			9.8			8.6			7.1	
Confl. Peds. (#/hr)	5					5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	10%	10%	10%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases	8			4			6			2		
Detector Phase	3	8		7	4		6	6		2	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	
Total Split (s)	20.5	55.5		40.5	75.5		45.0	45.0		45.0	45.0	
Total Split (%)	14.5%	39.4%		28.7%	53.5%		31.9%	31.9%		31.9%	31.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	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	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary	
Area Type:	Other
Cycle Length: 141	
Actuated Cycle Length: 116.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 1: 17th St SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	782	295	334	880	50	113	38	133	60	29	37
Future Volume (veh/h)	36	782	295	334	880	50	113	38	133	60	29	37
Initial Q (Qb), veh	1	5	0	2	2	0	0	3	0	0	2	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1826	1826	1826	1907	1907	1907	1856	1856	1856
Adj Flow Rate, veh/h	37	806	275	344	907	50	116	39	98	62	30	36
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	5	5	5	10	10	10	3	3	3
Cap, veh/h	378	1118	352	442	1790	98	195	79	118	189	112	78
Arrive On Green	0.04	0.43	0.43	0.14	0.54	0.54	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1767	2576	878	1739	3342	184	676	328	635	588	484	419
Grp Volume(v), veh/h	37	551	530	344	471	486	253	0	0	128	0	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1691	1739	1735	1792	1639	0	0	1492	0	0
Q Serve(g_s), s	0.8	17.8	17.8	6.8	11.9	11.9	4.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	17.8	17.8	6.8	11.9	11.9	9.8	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.52	1.00		0.10	0.46		0.39	0.48		0.28
Lane Grp Cap(c), veh/h	378	741	721	442	929	960	396	0	0	370	0	0
V/C Ratio(X)	0.10	0.74	0.74	0.78	0.51	0.51	0.64	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	701	1282	1230	1077	1766	1824	985	0	0	925	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	20.2	18.8	14.5	10.4	10.4	28.0	0.0	0.0	24.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.8	1.8	3.0	0.5	0.5	1.7	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.1	0.3	0.3	0.7	0.0	0.0	1.1	0.0	0.0	0.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.5	7.7	3.2	4.1	4.2	4.8	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.0	22.3	21.0	18.1	11.0	10.9	30.9	0.0	0.0	25.6	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C			C		
Approach Vol, veh/h		1118			1301			253			128	
Approach Delay, s/veh		21.3			12.8			30.9			25.6	
Approach LOS		C			B			C			C	

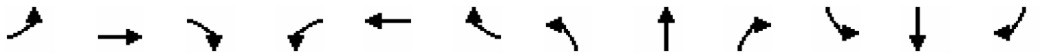
Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	18.4	8.0	42.3	18.4	15.3	35.1
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	40.0	15.0	70.0	40.0	35.0	50.0
Max Q Clear Time (g_c+I1), s	6.9	2.8	13.9	11.8	8.8	19.8
Green Ext Time (p_c), s	0.7	0.0	9.4	1.6	1.0	9.8

Intersection Summary	
HCM 7th Control Delay, s/veh	18.4
HCM 7th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	746	6	8	973	111	8	0	10	302	0	281
Future Volume (vph)	218	746	6	8	973	111	8	0	10	302	0	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-3%			6%			4%	
Storage Length (ft)	225		0	200		0	0		0	175		225
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		679			603			351			365	
Travel Time (s)		13.2			11.7			9.6			10.0	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)										50%		
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	3	8		7	4		6	6		2	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		6	6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	30.0
Total Split (s)	50.5	85.5		20.5	55.5		20.0	20.0		65.0	65.0	65.0
Total Split (%)	26.4%	44.8%		10.7%	29.1%		10.5%	10.5%		34.0%	34.0%	34.0%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	3.0
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
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 191	
Actuated Cycle Length: 102.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: 14th St Pl SW & 39th Ave SW



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	746	6	8	973	111	8	0	10	302	0	281
Future Volume (veh/h)	218	746	6	8	973	111	8	0	10	302	0	281
Initial Q (Qb), veh	1	0	0	0	5	0	0	0	0	2	0	7
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1738	1738	1738	1973	1973	1973	1673	1673	1673	1791	1791	1791
Adj Flow Rate, veh/h	227	777	4	8	1014	101	8	0	7	315	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	3	3	3	1	1	1	1	1	1
Cap, veh/h	357	1738	9	332	1042	29	13	0	12	598	0	286
Arrive On Green	0.11	0.51	0.51	0.01	0.41	0.41	0.02	0.00	0.02	0.17	0.00	0.17
Sat Flow, veh/h	1655	3368	17	1879	3442	343	803	0	703	3411	0	1518
Grp Volume(v), veh/h	227	381	400	8	552	563	15	0	0	315	0	193
Grp Sat Flow(s),veh/h/ln	1655	1651	1735	1879	1874	1910	1506	0	0	1706	0	1518
Q Serve(g_s), s	5.3	10.7	10.7	0.2	17.9	17.9	0.7	0.0	0.0	6.1	0.0	8.8
Cycle Q Clear(g_c), s	5.3	10.7	10.7	0.2	17.9	17.9	0.7	0.0	0.0	6.1	0.0	8.8
Prop In Lane	1.00		0.01	1.00		0.18	0.53		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	357	852	895	332	525	547	25	0	0	598	0	286
V/C Ratio(X)	0.64	0.45	0.45	0.02	1.05	1.03	0.60	0.00	0.00	0.53	0.00	0.68
Avail Cap(c_a), veh/h	1196	1805	1897	749	1281	1306	309	0	0	2798	0	1245
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	17.8	17.8	26.3	64.3	64.3	57.6	0.0	0.0	27.8	0.0	31.3
Incr Delay (d2), s/veh	1.9	0.4	0.4	0.0	35.4	27.6	21.0	0.0	0.0	0.7	0.0	2.8
Initial Q Delay(d3), s/veh	0.2	0.0	0.0	0.0	17.2	16.5	0.0	0.0	0.0	0.2	0.0	13.3
%ile BackOfQ(50%),veh/ln	2.1	6.4	6.7	0.2	31.4	31.5	0.6	0.0	0.0	2.8	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.4	18.2	18.2	26.3	116.9	108.4	78.6	0.0	0.0	28.7	0.0	47.5
LnGrp LOS	B	B	B	C	F	F	E			C		D
Approach Vol, veh/h		1008			1123			15			508	
Approach Delay, s/veh		17.8			112.0			78.6			35.8	
Approach LOS		B			F			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.7	13.3	35.8	6.3	6.3	42.9
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	60.0	45.0	50.0	15.0	15.0	80.0
Max Q Clear Time (g_c+I1), s	10.8	7.3	19.9	2.7	2.2	12.7
Green Ext Time (p_c), s	1.9	0.7	10.4	0.0	0.0	6.9

Intersection Summary	
HCM 7th Control Delay, s/veh	61.4
HCM 7th LOS	E

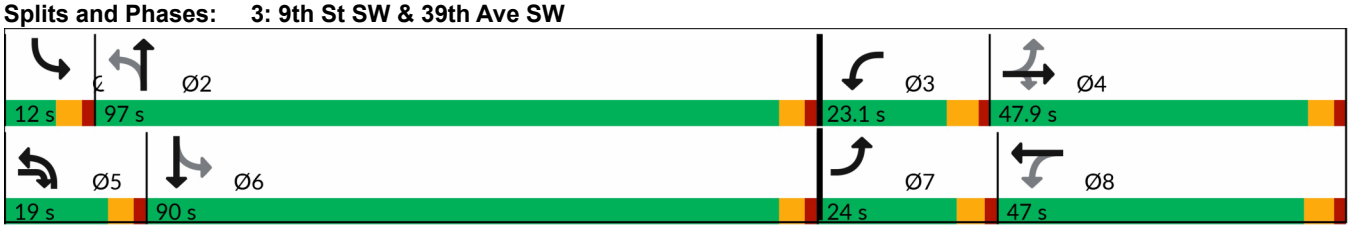
Notes

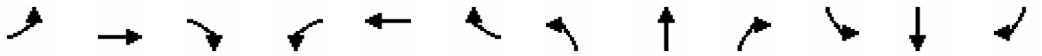
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	597	238	142	672	79	132	717	130	76	1099	400
Future Volume (vph)	189	597	238	142	672	79	132	717	130	76	1099	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-5%			0%			-3%	
Storage Length (ft)	400		175	350		0	200		0	275		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		632			654			404			483	
Travel Time (s)		12.3			12.7			7.9			9.4	
Confl. Peds. (#/hr)	1		3	3		1	1					1
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 (%)	1%	1%	1%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.1	38.1	10.1	10.6	35.6		10.1	32.1		10.1	37.1	
Total Split (s)	24.0	47.9	19.0	23.1	47.0		19.0	97.0		12.0	90.0	
Total Split (%)	13.3%	26.6%	10.6%	12.8%	26.1%		10.6%	53.9%		6.7%	50.0%	
Yellow Time (s)	3.6	3.6	3.6	4.1	4.1		3.6	3.6		3.6	3.6	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5		1.5	1.5		1.5	1.5	
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)	5.1	5.1	5.1	5.6	5.6		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag	Lead	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: 180	
Actuated Cycle Length: 166.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 3: 9th St SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	597	238	142	672	79	132	717	130	76	1099	400
Future Volume (veh/h)	189	597	238	142	672	79	132	717	130	76	1099	400
Initial Q (Qb), veh	5	18	3	5	39	0	0	4	0	0	51	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1673	1673	1673	2052	2052	2052	1856	1856	1856	1973	1973	1973
Adj Flow Rate, veh/h	193	609	171	145	686	77	135	732	122	78	1121	372
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, %	1	1	1	3	3	3	3	3	3	3	3	3
Cap, veh/h	208	779	436	252	912	29	167	1396	229	216	1514	264
Arrive On Green	0.11	0.25	0.25	0.07	0.22	0.22	0.06	0.46	0.46	0.04	0.44	0.44
Sat Flow, veh/h	1593	3179	1413	1954	3531	396	1767	3024	504	1879	2777	907
Grp Volume(v), veh/h	193	609	171	145	378	385	135	427	427	78	751	742
Grp Sat Flow(s),veh/h/ln	1593	1589	1413	1954	1949	1978	1767	1763	1764	1879	1874	1809
Q Serve(g_s), s	11.0	21.3	11.4	6.8	22.6	22.6	5.0	20.7	20.7	2.7	44.9	46.7
Cycle Q Clear(g_c), s	11.0	21.3	11.4	6.8	22.6	22.6	5.0	20.7	20.7	2.7	44.9	46.7
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.29	1.00		0.50
Lane Grp Cap(c), veh/h	208	779	436	252	456	470	167	811	813	216	876	867
V/C Ratio(X)	0.93	0.78	0.39	0.58	0.83	0.82	0.81	0.53	0.53	0.36	0.86	0.86
Avail Cap(c_a), veh/h	330	1134	586	400	672	683	282	1350	1351	363	1326	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	54.4	34.0	39.7	68.7	65.3	42.5	23.5	23.5	30.6	41.8	40.5
Incr Delay (d2), s/veh	17.0	1.2	0.2	0.8	3.6	3.3	3.5	0.2	0.2	0.4	2.4	2.7
Initial Q Delay(d3), s/veh	53.7	17.7	0.6	6.7	77.8	68.5	0.0	0.1	0.1	0.0	42.5	43.4
%ile BackOfQ(50%),veh/ln	11.2	14.7	4.7	4.8	31.1	29.6	4.2	9.0	9.0	1.5	44.0	42.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	126.3	73.3	34.8	47.2	150.1	137.1	46.0	23.8	23.8	30.9	86.7	86.5
LnGrp LOS	F	E	C	D	F	F	D	C	C	C	F	F
Approach Vol, veh/h		973			908			989			1571	
Approach Delay, s/veh		77.1			128.2			26.8			83.8	
Approach LOS		E			F			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	60.2	14.4	35.7	12.0	57.9	18.1	31.9
Change Period (Y+Rc), s	5.1	5.1	5.6	* 5.6	5.1	5.1	5.1	5.6
Max Green Setting (Gmax), s	6.9	91.9	17.5	* 43	13.9	84.9	18.9	41.4
Max Q Clear Time (g_c+I1), s	4.7	22.7	8.8	23.3	7.0	48.7	13.0	24.6
Green Ext Time (p_c), s	0.0	1.8	0.0	1.5	0.0	4.1	0.0	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	78.7
HCM 7th LOS	E

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	0	0	4	6	0	1	1	4	0	40	0	0
Future Volume (vph)	0	0	4	6	0	1	1	4	0	40	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%				-4%			-5%
Link Speed (mph)		25			25				35			35
Link Distance (ft)		206			353				294			156
Travel Time (s)		4.7			8.0				5.7			3.0
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	0%	0%	0%	71%	71%	71%	89%	89%	89%	89%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop				Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	0
Future Volume (vph)	0
Ideal Flow (vphpl)	1900
Grade (%)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.71
Heavy Vehicles (%)	0%
Shared Lane Traffic (%)	
Sign Control	

Intersection Summary

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕				↕			↕	
Traffic Vol, veh/h	0	0	4	6	0	1	1	4	0	40	0	0	0
Future Vol, veh/h	0	0	4	6	0	1	1	4	0	40	0	0	0
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	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	-	-	-	-4	-	-	-5	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	71	71	71	89	89	89	89	0	0	0
Mvmt Flow	0	0	6	8	0	1	1	6	0	56	0	0	0

Major/Minor	Minor2			Minor1			Major1				Major2		
Conflicting Flow All	13	72	2	42	44	28	-	1	0	0	56	0	0
Stage 1	1	1	-	39	42	-	-	-	-	-	-	-	-
Stage 2	11	70	-	2	1	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.81	7.21	6.91	-	4.99	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.81	6.21	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.81	6.21	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.139	4.639	3.939	-	3.001	-	-	2.2	-	-
Pot Cap-1 Maneuver	1009	822	1088	814	731	879	-	1198	-	-	1561	-	-
Stage 1	1027	899	-	826	741	-	-	-	-	-	-	-	-
Stage 2	1015	840	-	867	775	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-		-	-
Mov Cap-1 Maneuver	1002	817	1087	804	727	879	~ -5	~ -5	-	-	1561	-	-
Mov Cap-2 Maneuver	1002	817	-	804	727	-	-	-	-	-	-	-	-
Stage 1	1027	899	-	821	737	-	-	-	-	-	-	-	-
Stage 2	1007	835	-	862	775	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.33	9.48		0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	167	-	-	1087	814	1561	-	-
HCM Lane V/C Ratio	-	-	-	0.005	0.012	-	-	-
HCM Control Delay (s/veh)	-	-	-	8.3	9.5	0	-	-
HCM Lane LOS	-	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	-	-	-	0	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	122	0	1	45	52	0	12
Future Volume (vph)	122	0	1	45	52	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			35			35
Link Distance (ft)	520			268			294
Travel Time (s)	14.2			5.2			5.7
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	83%	83%	83%	42%	42%
Shared Lane Traffic (%)							
Sign Control	Stop			Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

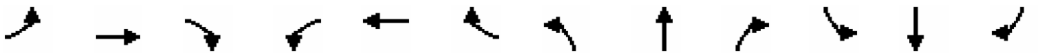
Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	122	0	1	45	52	0	12
Future Vol, veh/h	122	0	1	45	52	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	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	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	83	83	83	42	42
Mvmt Flow	156	0	1	58	67	0	15

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	106	91	-	0	0	124	0
Stage 1	91	-	-	-	-	-	-
Stage 2	15	-	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	-	4.52	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	-	2.578	-
Pot Cap-1 Maneuver	896	972	-	-	-	1249	-
Stage 1	938	-	-	-	-	-	-
Stage 2	1013	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	896	972	-	-	-	1249	-
Mov Cap-2 Maneuver	896	-	-	-	-	-	-
Stage 1	938	-	-	-	-	-	-
Stage 2	1013	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.87		0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	896	1249	-
HCM Lane V/C Ratio	-	-	0.175	-	-
HCM Control Delay (s/veh)	-	-	9.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	986	2	6	1285	6	0	0	3	0	0	11
Future Volume (vph)	0	986	2	6	1285	6	0	0	3	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		505			679			453			334	
Travel Time (s)		9.8			13.2			12.4			9.1	
Confl. Peds. (#/hr)	3					3						
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 (%)	1%	1%	1%	4%	4%	4%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	986	2	6	1285	6	0	0	3	0	0	11
Future Vol, veh/h	0	986	2	6	1285	6	0	0	3	0	0	11
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	0	0	0
Mvmt Flow	0	1038	2	6	1353	6	0	0	3	0	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	1040	0	0	1728	2414	520	-	-	682
Stage 1	-	-	-	-	-	-	1039	1039	-	-	-	-
Stage 2	-	-	-	-	-	-	689	1375	-	-	-	-
Critical Hdwy	-	-	-	4.18	-	-	7.5	6.5	6.9	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	-	-	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.5	4	3.3	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	653	-	-	58	33	506	0	0	397
Stage 1	0	-	-	-	-	-	250	310	-	0	0	-
Stage 2	0	-	-	-	-	-	407	215	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	653	-	-	56	33	506	-	-	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	129	-	-	-	-
Stage 1	-	-	-	-	-	-	250	310	-	-	-	-
Stage 2	-	-	-	-	-	-	391	212	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.05	12.16	14.37
HCM LOS			B	B

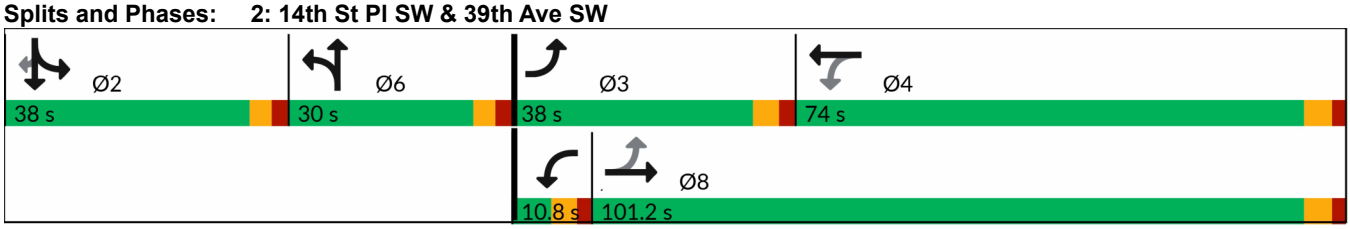
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	506	-	-	653	-	-	396
HCM Lane V/C Ratio	0.006	-	-	0.01	-	-	0.029
HCM Control Delay (s/veh)	12.2	-	-	10.6	-	-	14.4
HCM Lane LOS	B	-	-	B	-	-	B
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.1

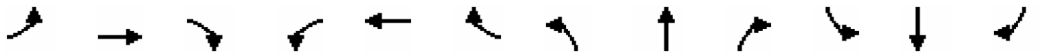
2026 With Project PM Peak Hour
With Mitigation

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	714	6	8	952	111	8	0	10	302	0	281
Future Volume (vph)	218	714	6	8	952	111	8	0	10	302	0	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-3%			6%			4%	
Storage Length (ft)	225		0	200		0	0		0	175		225
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		679			603			351			365	
Travel Time (s)		13.2			11.7			9.6			10.0	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)										50%		
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	3	8		7	4		6	6		2	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		6	6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	30.0
Total Split (s)	38.0	101.2		10.8	74.0		30.0	30.0		38.0	38.0	38.0
Total Split (%)	21.1%	56.2%		6.0%	41.1%		16.7%	16.7%		21.1%	21.1%	21.1%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	3.0
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
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 99.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: 14th St Pl SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	714	6	8	952	111	8	0	10	302	0	281
Future Volume (veh/h)	218	714	6	8	952	111	8	0	10	302	0	281
Initial Q (Qb), veh	1	0	0	0	5	0	0	0	0	2	0	7
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1738	1738	1738	2003	2003	2003	1673	1673	1673	1791	1791	1791
Adj Flow Rate, veh/h	227	744	4	8	992	101	8	0	7	315	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	363	1751	9	403	1456	144	14	0	12	591	0	275
Arrive On Green	0.11	0.51	0.51	0.01	0.42	0.42	0.02	0.00	0.02	0.17	0.00	0.17
Sat Flow, veh/h	1655	3368	18	1908	3486	355	803	0	703	3411	0	1518
Grp Volume(v), veh/h	227	365	383	8	541	552	15	0	0	315	0	193
Grp Sat Flow(s),veh/h/ln	1655	1651	1735	1908	1903	1938	1506	0	0	1706	0	1518
Q Serve(g_s), s	5.2	10.1	10.1	0.2	17.0	17.0	0.7	0.0	0.0	6.2	0.0	8.8
Cycle Q Clear(g_c), s	5.2	10.1	10.1	0.2	17.0	17.0	0.7	0.0	0.0	6.2	0.0	8.8
Prop In Lane	1.00		0.01	1.00		0.18	0.53		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	363	858	902	403	792	807	27	0	0	591	0	275
V/C Ratio(X)	0.63	0.42	0.42	0.02	0.68	0.68	0.56	0.00	0.00	0.53	0.00	0.70
Avail Cap(c_a), veh/h	922	2162	2272	522	1784	1817	515	0	0	1540	0	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	11.3	11.3	13.0	18.4	18.3	38.4	0.0	0.0	28.3	0.0	36.2
Incr Delay (d2), s/veh	1.8	0.4	0.4	0.0	1.3	1.2	17.0	0.0	0.0	0.7	0.0	3.3
Initial Q Delay(d3), s/veh	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	15.8
%ile BackOfQ(50%),veh/ln	2.1	3.5	3.6	0.1	7.8	7.9	0.4	0.0	0.0	2.8	0.0	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.1	11.7	11.7	13.0	19.9	19.8	55.4	0.0	0.0	29.2	0.0	55.2
LnGrp LOS	B	B	B	B	B	B	E			C		E
Approach Vol, veh/h		975			1101			15			508	
Approach Delay, s/veh		12.8			19.8			55.4			39.1	
Approach LOS		B			B			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.6	13.3	35.9	6.3	6.2	42.9
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	33.0	32.5	68.5	25.0	5.3	95.7
Max Q Clear Time (g_c+I1), s	10.8	7.2	19.0	2.7	2.2	12.1
Green Ext Time (p_c), s	1.8	0.6	11.4	0.0	0.0	6.5

Intersection Summary	
HCM 7th Control Delay, s/veh	21.1
HCM 7th LOS	C

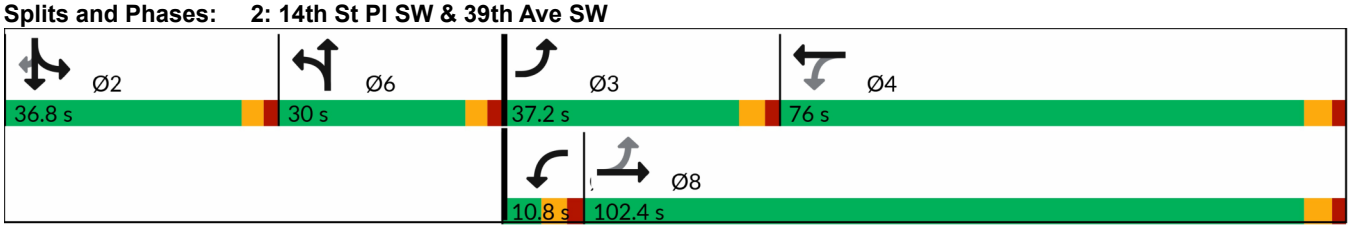
Notes

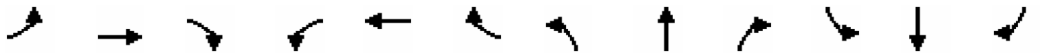
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	746	6	8	973	111	8	0	10	302	0	281
Future Volume (vph)	218	746	6	8	973	111	8	0	10	302	0	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		5%			-3%			6%			4%	
Storage Length (ft)	225		0	200		0	0		0	175		225
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		679			603			351			365	
Travel Time (s)		13.2			11.7			9.6			10.0	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)										50%		
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	Perm
Protected Phases	3	8		7	4		6	6		2	2	
Permitted Phases	8			4								2
Detector Phase	3	8		7	4		6	6		2	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	10.0		5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	10.5	30.5		10.5	30.5		30.0	30.0		30.0	30.0	30.0
Total Split (s)	37.2	102.4		10.8	76.0		30.0	30.0		36.8	36.8	36.8
Total Split (%)	20.7%	56.9%		6.0%	42.2%		16.7%	16.7%		20.4%	20.4%	20.4%
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	3.0
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
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Min		None	Min		None	None		None	None	None

Intersection Summary	
Area Type:	Other
Cycle Length: 180	
Actuated Cycle Length: 101.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	

Splits and Phases: 2: 14th St Pl SW & 39th Ave SW





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	746	6	8	973	111	8	0	10	302	0	281
Future Volume (veh/h)	218	746	6	8	973	111	8	0	10	302	0	281
Initial Q (Qb), veh	1	0	0	0	5	0	0	0	0	2	0	7
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1738	1738	1738	1973	1973	1973	1673	1673	1673	1791	1791	1791
Adj Flow Rate, veh/h	227	777	4	8	1014	101	8	0	7	315	0	193
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	3	3	3	1	1	1	1	1	1
Cap, veh/h	357	1779	9	389	1471	143	14	0	12	587	0	272
Arrive On Green	0.10	0.52	0.52	0.01	0.43	0.43	0.02	0.00	0.02	0.17	0.00	0.17
Sat Flow, veh/h	1655	3368	17	1879	3442	343	803	0	703	3411	0	1518
Grp Volume(v), veh/h	227	381	400	8	552	563	15	0	0	315	0	193
Grp Sat Flow(s),veh/h/ln	1655	1651	1735	1879	1874	1910	1506	0	0	1706	0	1518
Q Serve(g_s), s	5.3	10.8	10.8	0.2	17.9	18.0	0.7	0.0	0.0	6.3	0.0	9.0
Cycle Q Clear(g_c), s	5.3	10.8	10.8	0.2	17.9	18.0	0.7	0.0	0.0	6.3	0.0	9.0
Prop In Lane	1.00		0.01	1.00		0.18	0.53		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	357	872	916	389	798	814	27	0	0	587	0	272
V/C Ratio(X)	0.64	0.44	0.44	0.02	0.69	0.69	0.56	0.00	0.00	0.54	0.00	0.71
Avail Cap(c_a), veh/h	885	2140	2249	503	1768	1802	504	0	0	1451	0	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	11.4	11.4	12.9	18.4	18.3	39.3	0.0	0.0	29.0	0.0	37.6
Incr Delay (d2), s/veh	1.9	0.4	0.4	0.0	1.3	1.3	17.2	0.0	0.0	0.8	0.0	3.4
Initial Q Delay(d3), s/veh	0.2	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	16.5
%ile BackOfQ(50%),veh/ln	2.1	3.7	3.9	0.1	8.1	8.2	0.4	0.0	0.0	2.8	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.6	11.8	11.8	12.9	19.9	19.8	56.6	0.0	0.0	30.0	0.0	57.6
LnGrp LOS	B	B	B	B	B	B	E			C		E
Approach Vol, veh/h		1008			1123			15			508	
Approach Delay, s/veh		12.9			19.8			56.6			40.5	
Approach LOS		B			B			E			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	17.8	13.3	37.3	6.3	6.3	44.3
Change Period (Y+Rc), s	5.0	5.5	5.5	5.0	5.5	5.5
Max Green Setting (Gmax), s	31.8	31.7	70.5	25.0	5.3	96.9
Max Q Clear Time (g_c+I1), s	11.0	7.3	20.0	2.7	2.2	12.8
Green Ext Time (p_c), s	1.8	0.6	11.8	0.0	0.0	6.9

Intersection Summary	
HCM 7th Control Delay, s/veh	21.3
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Appendix E

Trip Generation Calculations

Puyallup School District

South Hill Site

Trip Generation Forecasts - Average Weekday

	Bus Driver Trips (moving from DOC to SHSC) [1]			Transportation Admin staff (moving from DOC to SHSC) [2] South Hill			SPED Bus Trips (moving from DOC to SHSC) [3]			Trip Totals			Hourly Trip Totals				
Time Period	**Entering**	**Exiting**	**Comment**	**Entering**	**Exiting**	**Comment**	**Entering**	**Exiting**	**Comment**	**Entering**	**Exiting**	**Total**	**Hour**	**Entering**	**Exiting**	**Total**	
12:00 - 1:00 AM	0	0		0	0		0	0		0	0	**0**	12:00-1:00 AM	0	0	0	
1:00 - 2:00	0	0		0	0		0	0		0	0	**0**	1:00-2:00 AM	0	0	0	
2:00 - 3:00	0	0		0	0		0	0		0	0	**0**	2:00-3:00 AM	0	0	0	
3:00 - 4:00	0	0		0	0		0	0		0	0	**0**	3:00-4:00 AM	0	0	0	
4:00 - 5:00	0	0		0	0		0	0		0	0	**0**	4:00-5:00 AM	0	0	0	
5:00 - 6:00	14	0		1	0		0	0		15	0	**15**	5:00-6:00 AM	15	0	15	
6:00 - 6:30	26	0		0	0		0	21		26	21	**47**					
6:30 - 7:00	14	0		1	0		0	15		15	15	**30**					
7:00 - 7:15	**2**	**0**		**0**	**0**		**0**	**4**		**2**	**4**	**6**					
7:15 - 7:30	**0**	**0**		**0**	**0**		**0**	**6**		**0**	**6**	**6**	6:00-7:00 AM	41	36	**77**	
7:30 - 7:45	**0**	**0**		**1**	**0**		**0**	**0**		**1**	**0**	**1**	6:30-7:30 AM	17	25	**42**	
7:45 - 8:00	**0**	**0**		**0**	**0**		**0**	**0**		**0**	**0**	**0**	**7:00-8:00 AM**	**3**	**10**	**13**	**AM PEAK HOUR**
8:00 - 8:15	0	0		1	0		1	0		2	0	**2**	7:15-8:15 AM	3	6	**9**	
8:15 - 8:30	0	0		0	0		1	0		1	0	**1**	7:30-8:30 AM	4	0	**4**	
8:30 - 8:45	0	0		0	0		0	0		0	0	**0**	7:45-8:45 AM	3	0	**3**	
8:45 - 9:00	0	0		0	0		5	0		5	0	**5**	8:00-9:00 AM	8	0	**8**	
9:00 - 9:30	0	0		0	0		28	0		28	0	**28**	8:30-9:30 AM	33	0	**33**	
9:30 - 10:00	0	0		0	0		10	1		10	1	**11**	9:00-10:00 AM	38	1	**39**	
10:00 - 10:30	0	0		0	0		1	3		1	3	**4**	9:30-10:30 AM	11	4	**15**	
10:30 - 11:00	0	0		0	0		0	5		0	5	**5**	10:00-11:00 AM	1	8	**9**	
11:00 - 11:30	0	0		0	0		2	6		2	6	**8**	10:30-11:30 AM	2	11	**13**	
11:30 - Noon	0	0		0	0		3	8		3	8	**11**	11:00-12:00 PM	5	14	**19**	
12:00 - 12:30 PM	0	0		0	0		6	4		6	4	**10**	11:30-12:30 PM	9	12	**21**	
12:30 - 1:00	0	0		0	0		6	2		6	2	**8**	12:00-1:00 PM	12	6	**18**	
1:00 - 1:30	0	0		0	0		10	15		10	15	**25**	12:30-1:30 PM	16	17	**33**	
1:30 - 2:00	0	0		0	0		0	21		0	21	**21**	1:00-2:00 PM	10	36	**46**	
2:00 - 2:30	0	0		0	0		0	9		0	9	**9**	1:30-2:30 PM	0	30	**30**	
2:30 - 3:00	0	0		0	1		0	0		0	1	**1**	2:00-3:00 PM	0	10	**10**	
3:00 - 3:30	0	0		0	0		1	0		1	0	**1**	2:30-3:30 PM	1	1	**2**	
3:30 - 4:00	0	0		0	1		2	0		2	1	**3**	3:00-4:00 PM	3	1	**4**	
4:00 - 4:15	0	0		0	0		6	0		6	0	**6**	3:30-4:30 PM	8	1	**9**	
4:15 - 4:30	**0**	**0**		**0**	**0**		**12**	**0**		**12**	**0**	**12**					
4:30 - 4:45	**0**	**14**		**0**	**1**		**20**	**0**		**20**	**15**	**35**					
4:45 - 5:00	**0**	**26**		**0**	**0**		**3**	**2**		**3**	**28**	**31**	4:00-5:00 PM	41	43	**84**	
5:00 - 5:15	**0**	**14**		**0**	**1**		**2**	**0**		**2**	**15**	**17**	**4:15-5:15 PM**	**37**	**58**	**95**	**PM PEAK HOUR**
5:15 - 5:30	0	2		0	0		0	0		0	2	**2**	4:30-5:30 PM	25	60	**85**	
5:30 - 5:45	0	0		0	0		1	0		1	0	**1**	4:45-5:45 PM	6	45	**51**	
5:45 - 6:00	0	0		0	0		0	0		0	0	**0**	5:00-6:00 PM	3	17	**20**	
6:00 - 6:30	0	0		0	0		2	0		2	0	**2**	5:30-6:30 PM	3	0	**3**	
6:30 - 7:00	0	0		0	0		0	0		0	0	**0**	6:00-7:00 PM	2	0	**2**	
7:00 - 8:00	0	0		0	0		0	0		0	0	**0**	7:00 -8:00 PM	0	0	0	
8:00 - 9:00	0	0		0	0		0	0		0	0	**0**	8:00-9:00 PM	0	0	0	
9:00 - 10:00	0	0		0	0		0	0		0	0	**0**	9:00-10:00 PM	0	0	0	
10:00 - 11:00	0	0		0	0		0	0		0	0	**0**	10:00-11:00 PM	0	0	0	
11:00 - 12:00	0	0		0	0		0	0		0	0	**0**	11:00 PM - 12:00 AM	0	0	0	
TOTAL TRIPS	**56**	**56**		**4**	**4**		**122**	**122**		**182**	**182**	**364**					
AM subtotal	56	0		4	0		51	69									
PM subtotal	0	56		0	4		71	53									

NOTES

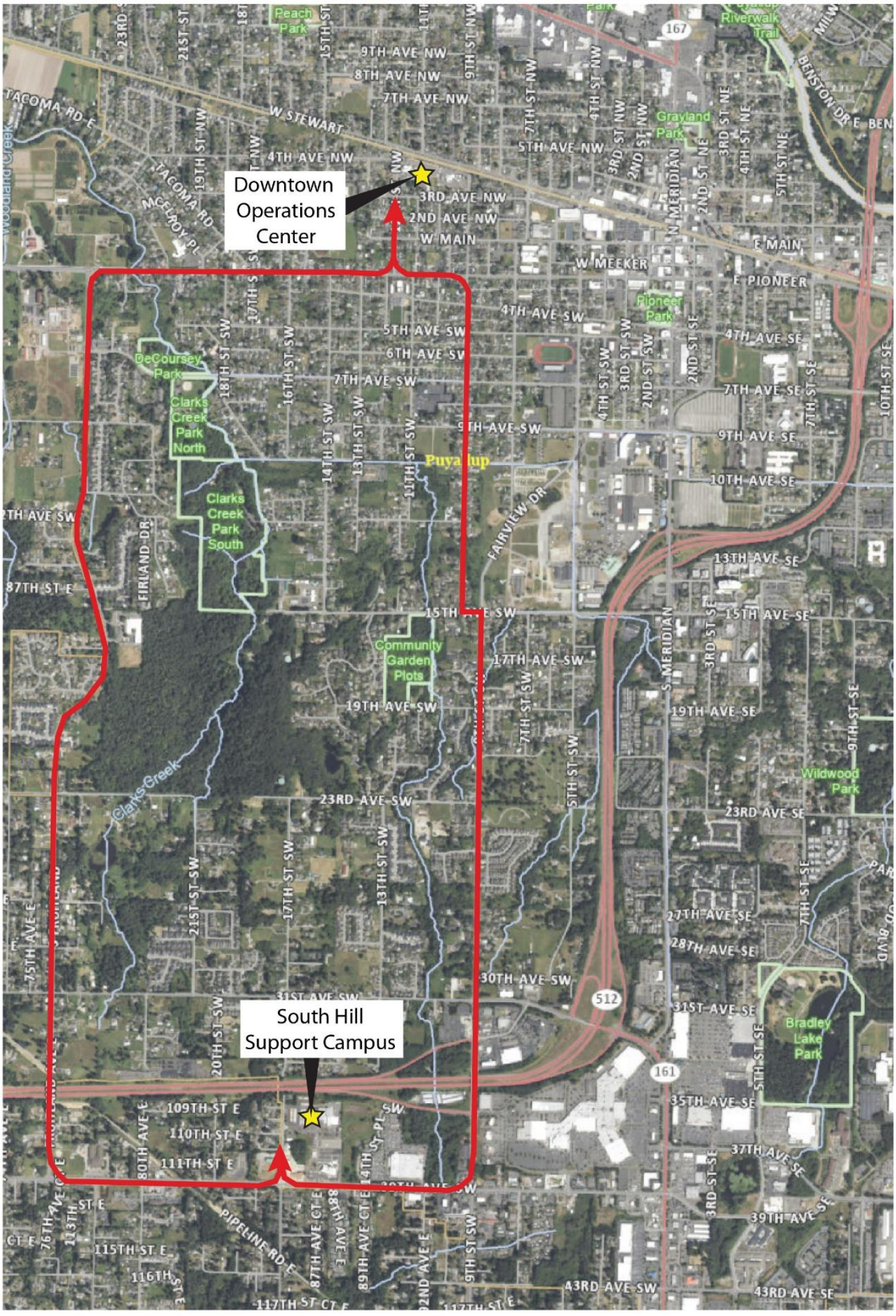
1) 56 SPED Bus drivers will move from DOC to SHSC.

2) 4 Transportation Admin will move from DOC to SHSC.

3) SPED bus trips only.

Appendix F

Estimated Routing of SPED Buses for Refueling



Estimated Routing of SPED Buses for Refueling

N
NOT TO SCALE

Appendix G

Project Trip Distribution Based on Existing Counts

Existing Puyallup School District South Hill Campus
Estimated Weekday PM Peak Hour Trip Distribution
(based on counts conducted at site driveways on May 16, 2023)

N
NOT TO SCALE