

Enumclaw Emblem

Enumclaw, WA

Updated Traffic Impact Analysis

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Prepared for:

Quarterra
1325 4th Ave, Suite 1300
Seattle, WA 98101

Prepared by:



520 Kirkland Way, Suite 100
Kirkland, WA 98033
(425) 889-6747



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FINDINGS/CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the proposed *Enumclaw Emblem* project located south of SR 164 (Griffin Ave) in the City of Enumclaw. This TIA has been updated to address comments received from the City of Enumclaw and their third-party reviewer on September 9, 2025.

Project Proposal. The *Enumclaw Emblem* site is located at 24631 SE 440th Street (south of SR 164 and west of Highpoint Street) in Enumclaw, WA. The site is comprised of four parcels (King County parcels 2320069156, 2320069041, 2320069213, and 2320069188) totaling approximately 14 acres. The site is located within the Mixed-Use Overlay district and the Urban Growth Area (UGA).

The proposed project consists of the development of up to 216 multifamily (low-rise) residential dwelling units (i.e. garden style apartments), 45 single-family attached dwelling units (townhomes), and 15,000 square feet (SF) of commercial retail use. Existing uses on the site that would be removed as part of the proposed project include two single-family detached homes and a day care center (per King County parcel records). Based on information provided by the applicant, the day care center (Trinity Lutheran Preschool) enrolled a maximum of 16 students prior to its closure in June 2024.

Primary vehicular access to/from the site is proposed to be provided via one new access driveway on SR 164 (Griffin Ave), and two access driveways on the assumed future north-south extension of Highpoint Street along the eastern edge of the site.

The project will improve its frontage along SR 164 to include a center two-way left-turn lane, paved shoulder, new curb/gutter, new 6-foot sidewalk, and street lighting. The project will also extend Highpoint Street from its current terminus at the southeast corner of the site to SR 164 to include a 20-foot paved roadway, curb/gutter, 4-foot landscape strip, 5-foot sidewalk, and street lighting. A center two-way left-turn lane on SR 164 would also be provided along the project frontage and through the Highpoint Street intersection to connect with the existing two-way left-turn lane east of Highpoint Street.

Trip Generation. The proposed project is estimated to generate 1,956 net new weekday daily trips with 113 trips occurring during the weekday AM peak hour (31 in, 82 out) and 157 trips during the weekday PM peak hour (95 in, 62 out).

Intersection Level of Service (LOS). Weekday AM and PM peak hour LOS analysis was conducted at 13 off-site study intersections. Each of the 13 study intersections are anticipated to operate at acceptable levels of service (LOS E or better for unsignalized City study intersections and LOS D or better for WSDOT study intersections) during the weekday AM and PM peak hours in 2030 with the proposed *Enumclaw Emblem* project.

Site Access Evaluation. Based on the results of the analysis, the individual movements entering and exiting the site at the proposed stop-controlled site access locations on SR 164 and Highpoint Street are expected to operate at LOS C or better during the weekday AM and PM peak hours in 2030 with minimal queuing.

Alternative Analysis. An alternative analysis was conducted for a scenario where bollards would be installed at the southern end of the Highpoint Street extension near the southern property line of the *Enumclaw Emblem* site. The results of the analysis show that there would be minor changes to delay at a few of the study intersections and at the site access driveways during the weekday AM and PM peak hours with the alternative scenario. Therefore, the installation of bollards on the Highpoint Street extension at the southern *Enumclaw Emblem* property line would have an insignificant effect on weekday AM and PM peak hour operations of the study intersections and site access driveways.



Sight Distance. The new site access driveway on SR 164 and the new site access driveways on Highpoint Street will be designed to meet minimum entering and stopping sight distance in accordance with Washington State Department of Transportation (WSDOT) *Design Manual* and *American Association of State Highway and Transportation Officials (AASHTO)* standards. No sight distance deficiencies are expected at the proposed sight access driveway locations on SR 164 and Highpoint Street.

Mitigation.

Frontage Improvements. The project will improve its frontage along SR 164 to include a center two-way left-turn lane, paved shoulder, new curb/gutter, new 6-foot sidewalk, and street lighting. The project will also extend Highpoint Street from its current terminus at the southeast corner of the site to SR 164 to include a 20-foot paved roadway, curb/gutter, 4-foot landscape strip, 5-foot sidewalk, and street lighting. The center two-way left-turn lane on SR 164 would be provided through the Highpoint Street intersection to connect with the existing two-way left-turn lane east of Highpoint Street.

Off-Site Improvements. Based on the results of the LOS analysis shown in this report, all study intersections are anticipated to operate at acceptable levels of service (LOS E or better for unsignalized City study intersections and LOS D better for WSDOT study intersections) during the weekday AM and PM peak hours in 2030 with the proposed *Enumclaw Emblem* project. Therefore, no off-site mitigation is proposed.

It should be noted that the future year 2030 analysis presented in this TIA assumes that the east leg of the intersection of 244th Ave SE / Warner Ave (#5) would be restriped to provide separate left and right turn lanes. The City has indicated this improvement is developer funded mitigation being completed by the Gambrel Meadows project. If the intersection improvement has not been completed by the Gambrel Meadows project at the time of occupancy of the Enumclaw Emblem project, then the Enumclaw Emblem project will be responsible for completing the intersection improvement prior to occupancy.

City of Enumclaw Traffic Impact Fees. The City of Enumclaw requires payment of traffic impact fees to help fund planned roadway improvements throughout the City. The City's currently adopted standard traffic impact fee rate is \$2,123 per townhouse, \$1,986 per low-rise apartment unit, and \$3.79 per square foot of retail shopping center use. Traffic impact fees are due at the time of building permit issuance and should account for impact fee credit for the existing single-family homes and day care that would be removed with the *Enumclaw Emblem* project.

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the proposed *Enumclaw Emblem* project located south of SR 164 (Griffin Ave), east of 244th Ave SE, and west of Highpoint Street in the City of Enumclaw as shown in **Figure 1**. This TIA has been updated to address comments received from the City of Enumclaw and their third-party reviewer on September 9, 2025.

Project Description

The *Enumclaw Emblem* site is located at approximately 24631 SE 440th Street in Enumclaw, WA. The site is comprised of four parcels (King County parcels 2320069156, 2320069041, 2320069213, and 2320069188) totaling approximately 14 acres and is located within the Mixed-Use Overlay district and the Urban Growth Area (UGA).

The proposed project consists of the development of up to 216 multifamily (low-rise) residential dwelling units (i.e. garden style apartments), 45 single-family attached dwelling units (townhomes), and 15,000 square feet (SF) of commercial retail use. The project will be developed in phases with full buildout expected by 2028. Existing uses on the site that would be removed as part of the proposed project include two single-family detached homes and a day care center (per King County parcel records). Based on information provided by the applicant, the day care center (Trinity Lutheran Preschool) enrolled a maximum of 16 students prior to its closure in June 2024.

Primary vehicular access to/from the site is proposed to be provided via one new access driveway on SR 164 (Griffin Ave), and two access driveways on the assumed future north-south extension of Highpoint Street along the eastern edge of the site. A preliminary site plan is included in **Appendix A**.

The project will improve its frontage along SR 164 to include a center two-way left-turn lane, paved shoulder, new curb/gutter, new 6-foot sidewalk, and street lighting. The project will also extend Highpoint Street from its current terminus at the southeast corner of the site to SR 164 to include a 20-foot paved roadway, curb/gutter, 4-foot landscape strip, 5-foot sidewalk, and street lighting. Additionally, a center two-way left-turn lane would be provided on SR 164 along the project frontage and through the Highpoint Street intersection to connect with the existing two-way left-turn lane east of Highpoint Street.

It should be noted that the analysis presented in this TIA report assumes that the Highpoint Street extension being constructed by the applicant (south of SR 164) is aligned with the existing Highpoint Street on the north side of SR 164 and forms a new 4-leg intersection. However, if the extension of Highpoint Street south of SR 164 does not align with the existing Highpoint Street on the north side of SR 164 as a result of existing property line and right-of-way constraints, the analysis presented in this TIA report would not change since the intersection would be offset by less than ~30 feet (measured centerline to centerline) and would be assumed to operate as a 4-leg intersection.

Project Approach

To analyze the traffic impacts from the proposed *Enumclaw Emblem* project, the following tasks were undertaken:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents.
- Described and assessed existing transportation conditions in the area.
- Documented existing (2024) traffic volumes and intersection levels of service (LOS) at 13 off-site study intersections during the weekday AM and PM peak hours.

- Documented future planned transportation improvements in the project vicinity.
- Developed trip generation estimates for weekday daily, AM, and PM peak hour conditions based on the land use proposal.
- Documented trip distribution and assignment of weekday AM and PM peak hour project-generated traffic.
- Documented traffic forecasts and assumptions for year 2030 conditions at 13 off-site study intersections without and with the proposed project.
- Analyzed weekday AM and PM peak hour LOS for future year 2030 conditions without and with the proposed project at the 13 off-site study intersections.
- Evaluated weekday AM and PM peak hour LOS and queuing for future year 2030 conditions at the proposed site access locations.
- Evaluated weekday AM and PM peak hour queuing at the 244th Ave SE/SE 436th Way (SR 164) intersection.
- Documented proposed traffic mitigation.

Primary Data and Information Sources

- Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.
- Institute of Transportation Engineers (ITE), *Trip Generation Handbook*, 3rd Edition, 2017.
- 2024 weekday AM and PM peak hour traffic counts, All Traffic Data.
- 2022 weekday AM and PM peak hour traffic counts, IDAX.
- Enumclaw 2025-2030 *Transportation Improvement Program (TIP)*.
- WSDOT 2024-2027 *Statewide Transportation Improvement Program (STIP)*.
- Transportation Research Board (TRB), *Highway Capacity Manual (HCM)*, 7th Edition, 2022.
- City of Enumclaw *Comprehensive Plan*, Transportation Element, 2017.
- Signal Timing Data, WSDOT.
- King County 2020 *Transportation Needs Report (TNR)*.
- King County *Capital Improvement Program (CIP)*.
- WSDOT *Design Manual* Chapter 1260 and 1310.

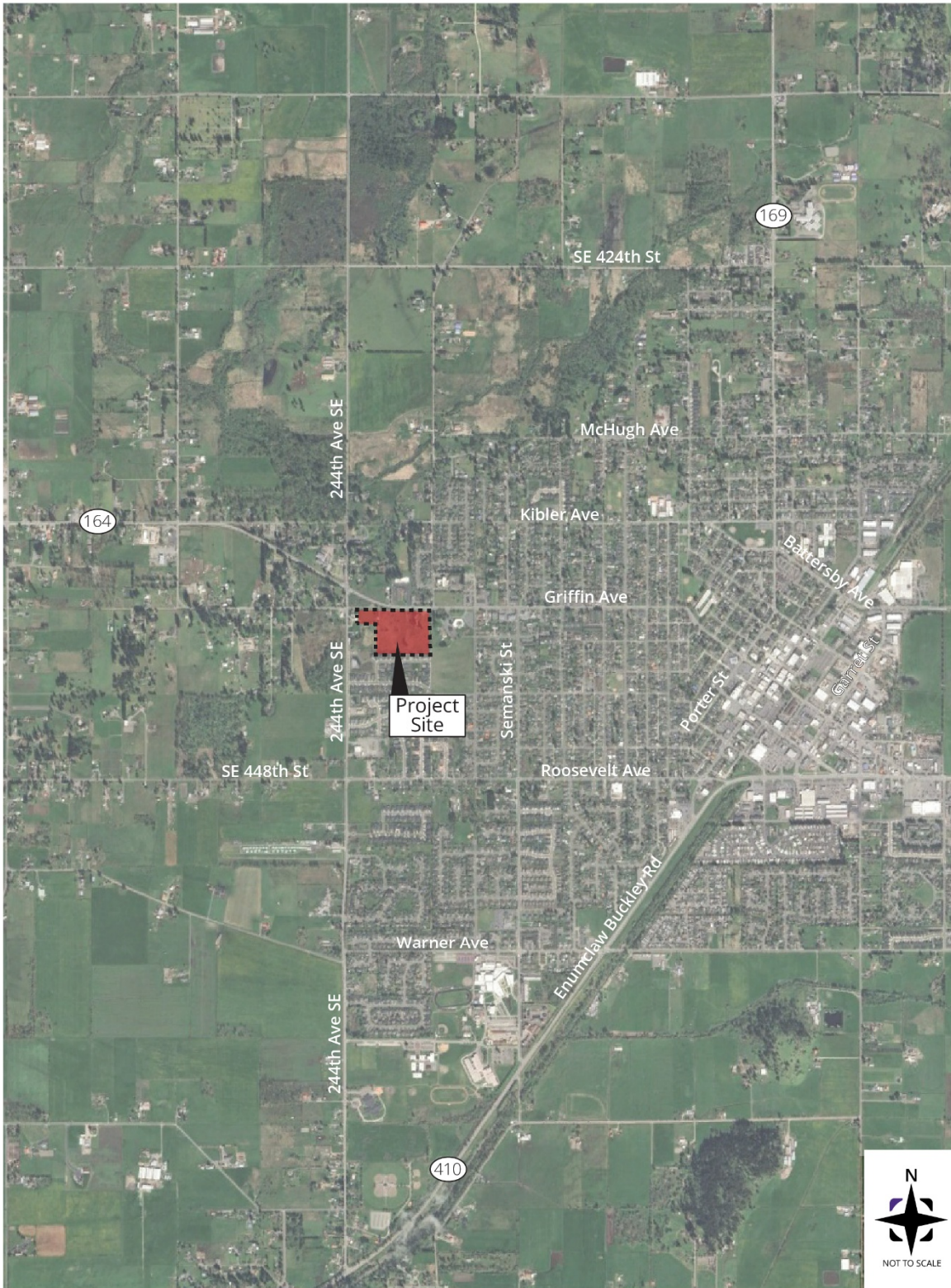


Figure 1: Project Site Vicinity

EXISTING CONDITIONS

Study Area

The following 13 off-site study intersections are included in this traffic impact analysis for the proposed *Enumclaw Emblem* project (see also **Figure 2**):

1. 244th Ave SE / SE 436th St – two-way stop-control
2. 244th Ave SE / SE 436th Way (SR 164) – signal
3. 244th Ave SE / SE 440th St – two-way stop-control
4. 244th Ave SE / SE 448th St – two-way stop-control
5. 244th Ave SE / Warner Ave – two-way stop-control
6. Highpoint St / Griffin Ave (SR164) – two-way stop-control
7. Semanski St / Clovercrest St / Griffin Ave (SR 164) – two-way stop-control
8. Semanski St / Roosevelt Ave – all-way stop-control
9. Semanski St / Warner Ave – roundabout
10. Porter St (SR 169) / McHugh Ave – two-way stop-control
11. Porter St (SR 169) / Kibler Ave – two-way stop-control
12. Porter St (SR 169) / Griffin Ave (SR 164) – signal
13. Garrett St / Griffin Ave (SR 164) – signal

The study intersections are intersections that are impacted by 5 net new project trips and were coordinated and agreed upon by the City of Enumclaw during the scoping process.

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, parking, sidewalks, and bicycle facilities. The relationship of these roadways to the project site is shown in **Figure 1**.

Table 1
Existing Roadway Network Summary

Roadway	Direction	Classification ¹	# of Lanes / (Lane Widths)	Speed Limit	Parking	Sidewalks	Bicycle Facilities
SR 164 (Griffin Ave)	E/W	State Highway/ Major Arterial	2 to 3 (10-11')	25-45	Intermittent both sides	Intermittent both sides	None
SR 169 (Porter St)	N/S	State Highway/ Major Arterial	2 to 3 (10-11')	25-35	None	Both sides	None
244 th Ave SE	N/S	Minor Arterial	2 to 3 (10-11')	35-45	None	Intermittent both sides	None
Semanski St	N/S	Minor Arterial	2 to 3 (11-17')	25	None	Intermittent both sides	None

1. Source: City of Enumclaw Comprehensive Plan, Transportation Element, 2017.

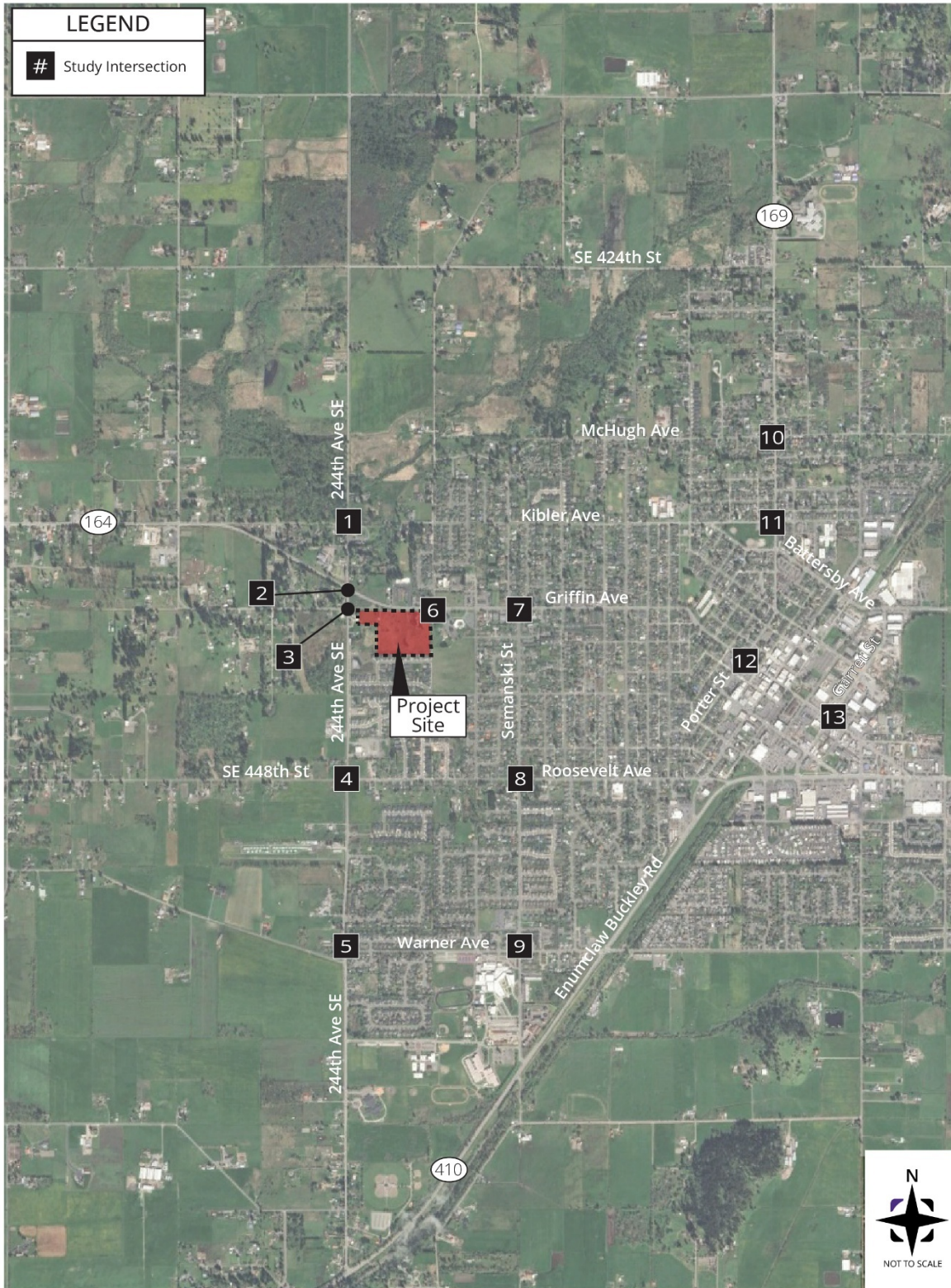


Figure 2: Study Intersections

Transit Service

Transit service in the City of Enumclaw is provided by King County Metro Transit. The closest existing transit stop is located approximately 600 feet (0.11 miles) east of the project site on Griffin Ave (SR 164) and provides access to DART Route 915. DART Route 915 currently provides weekday and Saturday service along SR 164 (Griffin Ave) between Auburn and Enumclaw.

Non-Motorized Transportation Facilities

Non-motorized transportation facilities in the project site vicinity include sidewalks on both sides of most roadways and curb ramps at signalized intersections. Paved shoulders currently exist on both sides of Griffin Ave (SR 164) along the project frontage. There are no bicycle facilities in the project site vicinity. Based on the counts at the study intersections, pedestrian activity in the study area is minimal.

Traffic Volumes

Existing weekday AM and PM peak hour traffic volumes at the study intersections were based on counts collected by All Traffic Data in December 2024 and IDAX in March 2022. Year 2022 volumes were used at the 244th Ave SE/SE 448th Street intersection since the intersection was under construction at the time counts were conducted at the other study intersections in 2024. A 1.5% annual compound background growth rate was applied to the year 2022 traffic volumes in order to estimate year 2024 existing traffic volumes. The growth rate was calculated based on historical annual growth on SR 164 and is consistent with the growth rate used for other pipeline projects in the vicinity.

The AM peak hour traffic volumes represent the highest hour of traffic between 7:00 and 9:00 a.m. and the PM peak hour traffic volumes represent the highest hour of traffic between 4:00 and 6:00 p.m. **Figure 3 and Figure 4** illustrate the existing 2024 weekday AM and PM peak hour traffic volumes at the study intersections. The existing traffic count sheets are included in **Appendix B**.

Intersection Levels of Service

An existing weekday AM and PM peak hour level of service (LOS) analysis was conducted at the 13 off-site study intersections. Intersection LOS was calculated using the methodology and procedures outlined in the *Highway Capacity Manual* (HCM 7th Edition), WSDOT Synchro and SimTraffic Protocols, and WSDOT Sidra Policy and Settings using the *Synchro 12* and *Sidra 9* software programs. Existing signal timing used in the analysis was provided by WSDOT. The 2024 existing weekday AM and PM peak hour LOS analysis results are summarized in **Table 2**. The LOS methodology and calculations are included in **Appendix C**.

Based on information provided in the City of Enumclaw's *Comprehensive Plan (Transportation Element)*, the City has adopted a level of service (LOS) standard of LOS D for signalized intersections and LOS E for unsignalized intersections. Additionally, WSDOT's adopted level of service standard for the Porter Street (SR 169) study intersections and the Griffin Ave (SR 164) study intersections is LOS D.

Table 2
Existing 2024 Weekday Peak Hour LOS Summary

Study Intersection	LOS Standard ¹	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
<u>Signalized Intersections:</u>					
2. 244 th Ave SE / SE 436 th Way (SR 164)	D	C	22.5	C	29.4
12. Porter St (SR 169) / Griffin Ave (SR 164)	D	B	15.2	C	21.2
13. Garrett St / Griffin Ave (SR 164)	D	A	7.0	A	8.7
<u>Roundabout Intersections:</u>					
9. Semanski St / Warner Ave	E	B	10.5	A	5.2
<u>All-Way Stop Intersections:</u>					
8. Semanski St / Roosevelt Ave	E	B	11.2	A	9.9
<u>Two-Way Stop Intersections:</u>					
1. 244 th Ave SE / SE 436 th St	E	B	11.8	C	15.5
3. 244 th Ave SE / SE 440 th St	E	B	13.7	C	15.0
4. 244 th Ave SE / SE 448 th St	E	C	24.6	F	50.2
5. 244 th Ave SE / Warner Ave	E	C	16.7	D	32.0
6. Highpoint St / Griffin Ave (SR 164)	D	C	16.1	C	20.3
7. Semanski St / Clovercrest St / Griffin Ave (SR 164)	D	C	20.0	C	18.8
10. Porter St (SR 169) / McHugh Ave	D	C	22.7	C	23.4
11. Porter St (SR 169) / Kibler Ave	D	C	22.2	C	20.8

1. The LOS standard is LOS D for WSDOT intersections on SR 164 and SR 169, and LOS E for unsignalized study intersections in the City of Enumclaw.

As shown in **Table 2**, all study intersections currently operate at LOS D or better during the weekday AM and PM peak hours with exception to the following:

- 244th Ave SE/SE 448th St (#4) – the two-way stop controlled intersection currently operates at LOS F during the weekday PM peak hour. It should be noted that this LOS is based on year 2022 traffic volumes (grown to estimated 2024 traffic volumes) since the intersection was under construction at the time of this study and left-turn movements were restricted. As of the date of this updated TIA, a single-lane roundabout has been constructed at this intersection.

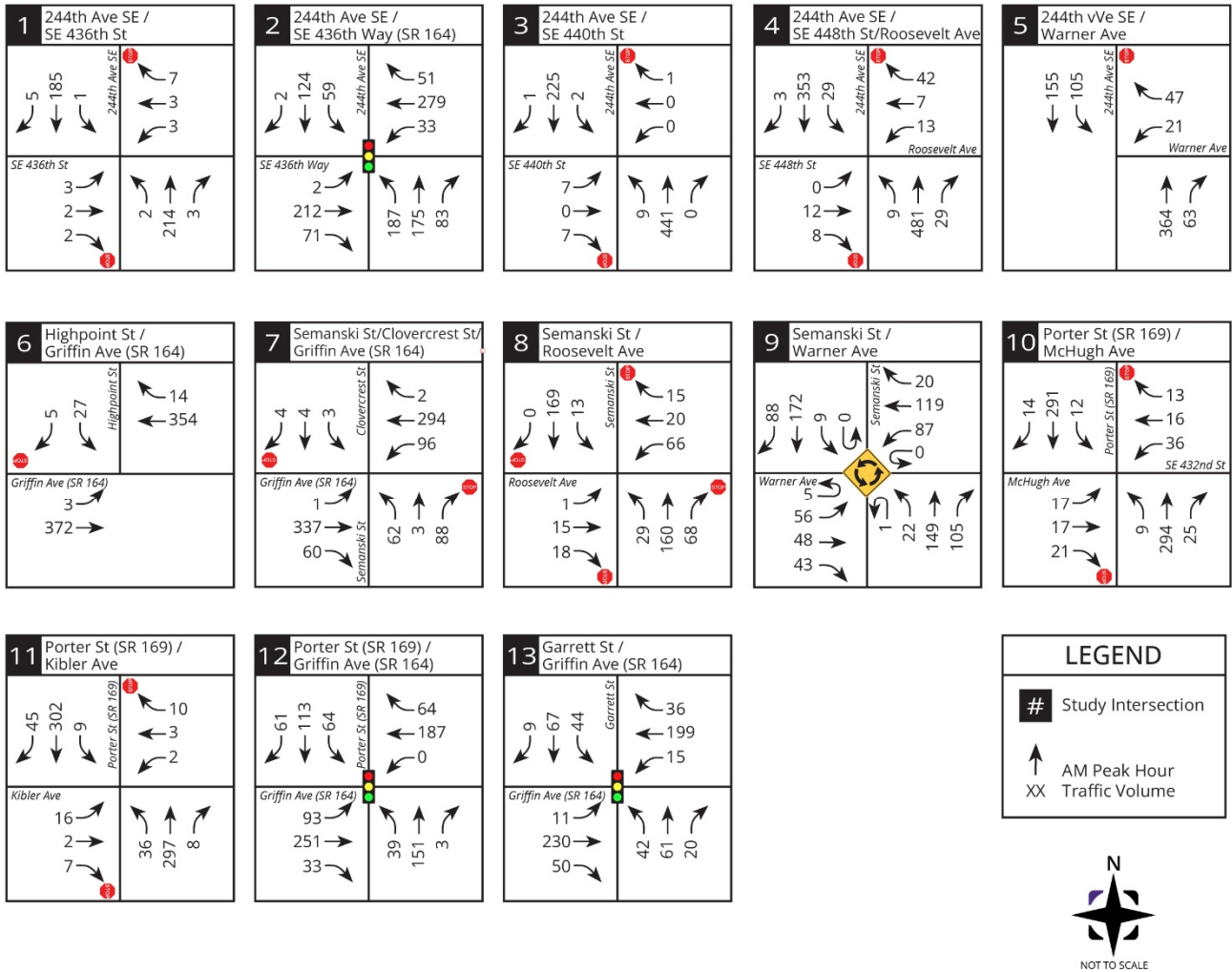


Figure 3: 2024 Existing Weekday AM Peak Hour Traffic Volumes

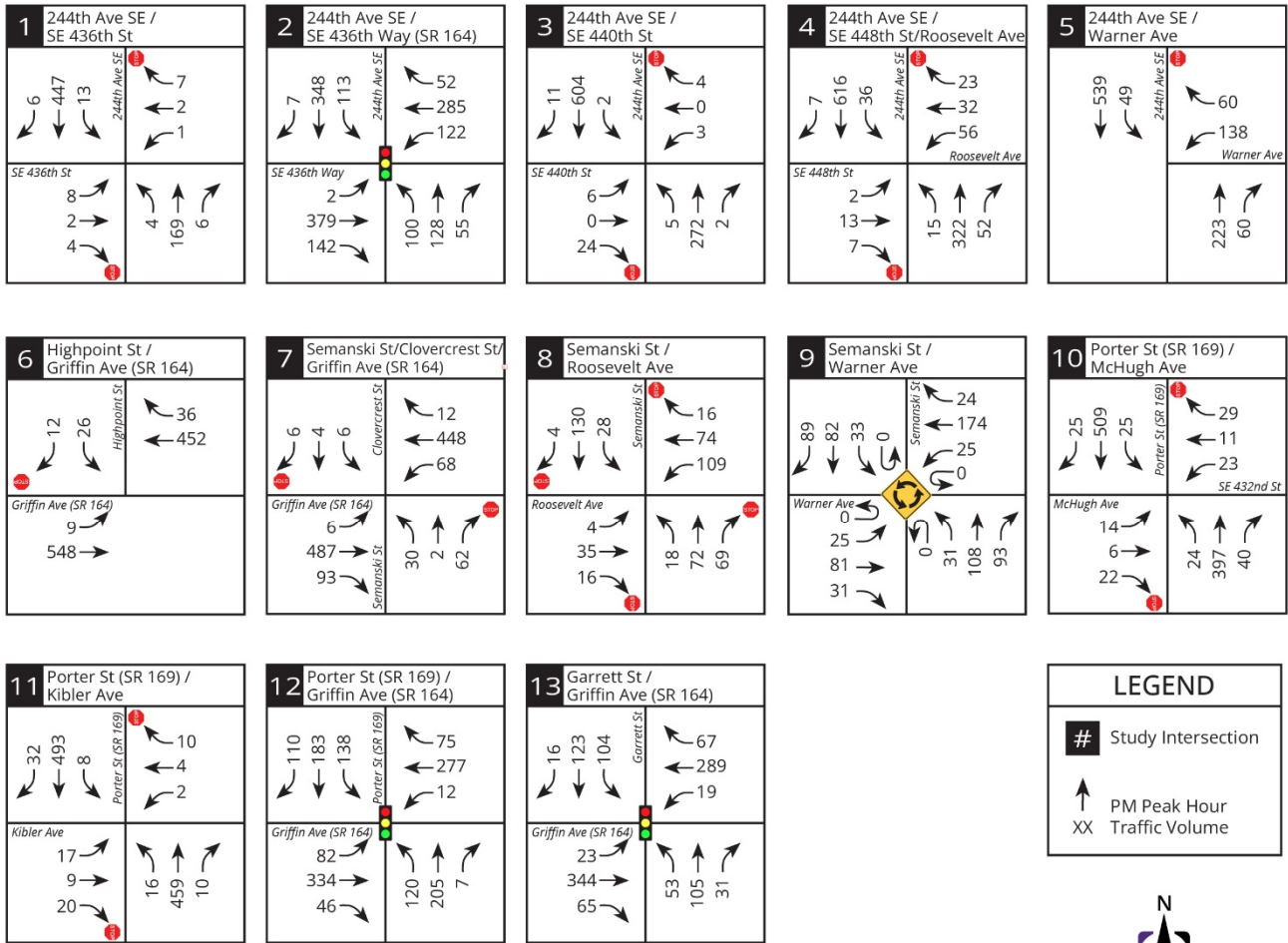


Figure 4: 2024 Existing Weekday PM Peak Hour Traffic Volumes

Crash History

Crash history at the 13 off-site study intersections was summarized for the five-year period from 2019 to 2023 (the most recent 5-year period as provided by WSDOT). Summaries of the total and yearly average during this period are provided in **Table 3**. Summaries of crashes by type over the five-year period are provided in **Table 4** and summaries of crashes by severity are provided in **Table 5**. The detailed crash data is included in **Appendix D**.

Table 3
Crash Data Summary by Year, January 1, 2019 to December 31, 2023

	2019	2020	2021	2022	2023	5-Year Total Crashes	Average Annual Crashes	Average Crashes per MEV ¹
<i>Intersections:</i>								
1. 244 th Ave SE / SE 436 th St	0	1	1	2	0	4	0.80	0.33
2. 244 th Ave SE / SE 436 th Way (SR 164)	3	4	2	6	7	22	4.40	0.70
3. 244 th Ave SE / SE 440 th St	0	0	0	0	0	0	0.00	0.00
4. 244 th Ave SE / SE 448 th St	5	1	0	1	1	8	1.60	0.37
5. 244 th Ave SE / Warner Ave	2	0	0	1	0	3	0.60	0.15
6. Highpoint St / Griffin Ave (SR 164)	0	1	0	1	0	2	0.40	0.10
7. Semanski St /Clovercrest St /Griffin Ave (SR 164)	1	2	1	0	0	4	0.80	0.18
8. Semanski St / Roosevelt Ave	0	0	0	2	0	2	0.40	0.19
9. Semanski St / Warner Ave	5	1	0	1	2	9	1.80	0.62
10. Porter St (SR 169) / McHugh Ave	0	1	2	0	1	4	0.80	0.19
11. Porter St (SR 169) / Kibler Ave	0	0	1	0	1	2	0.40	0.10
12. Porter St (SR 169) / Griffin Ave (SR 164)	1	0	1	2	2	6	1.20	0.21
13. Garrett St / Griffin Ave (SR 164)	0	1	2	2	3	8	1.60	0.35
<i>Roadway Segments:</i>								
SR 164 between 244 th Ave SE and Highpoint St	1	1	0	3	1	6	1.20	--

Source: WSDOT Crash Data.

1. Million Entering Vehicles

Table 4
Crash Data Summary by Type, January 1, 2019 to December 31, 2023

	5-Year Total Crashes	Crash Type						
		Angle (Left/Right)	Angle (T)	Side Swipe	Rear End	Parked Veh/ Fixed Object	Ped/Cyclist	Other
<i>Intersections:</i>								
1. 244 th Ave SE / SE 436 th St	4	0	2	1	0	1	0	0
2. 244 th Ave SE / SE 436 th Way (SR 164)	22	6	3	0	13	0	0	0
3. 244 th Ave SE / SE 440 th St	0	0	0	0	0	0	0	0
4. 244 th Ave SE / SE 448 th St	8	0	5	0	2	0	0	1
5. 244 th Ave SE / Warner Ave	3	0	1	0	1	0	1	0
6. Highpoint St / Griffin Ave (SR 164)	2	0	1	0	1	0	0	0
7. Semanski St /Clovercrest St /Griffin Ave (SR 164)	4	0	4	0	0	0	0	0
8. Semanski St / Roosevelt Ave	2	0	2	0	0	0	0	0
9. Semanski St / Warner Ave	9	0	6	0	1	0	2	0
10. Porter St (SR 169) / McHugh Ave	4	0	3	0	1	0	0	0
11. Porter St (SR 169) / Kibler Ave	2	0	0	0	0	0	2	0
12. Porter St (SR 169) / Griffin Ave (SR 164)	6	2	3	0	0	0	0	1
13. Garrett St / Griffin Ave (SR 164)	8	3	4	0	1	0	0	0
<i>Roadway Segments:</i>								
SR 164 between 244 th Ave SE and Highpoint St	6	0	0	0	5	0	0	1

Source: WSDOT Crash Data.

Table 5
Crash Data Summary by Severity, January 1, 2019 to December 31, 2023

	5-Year Total Crashes	Crash Severity		
		Fatal	Possible/ Suspected Injury	No Injury / Property Damage Only
<i>Intersections:</i>				
1. 244 th Ave SE / SE 436 th St	4	0	0	4
2. 244 th Ave SE / SE 436 th Way (SR 164)	22	0	10	12
3. 244 th Ave SE / SE 440 th St	0	0	0	0
4. 244 th Ave SE / SE 448 th St	8	0	1	7
5. 244 th Ave SE / Warner Ave	3	0	1	2
6. Highpoint St / Griffin Ave (SR 164)	2	0	1	1
7. Semanski St /Clovercrest St /Griffin Ave (SR 164)	4	0	0	4
8. Semanski St / Roosevelt Ave	2	0	1	1
9. Semanski St / Warner Ave	9	0	3	6
10. Porter St (SR 169) / McHugh Ave	4	0	1	3
11. Porter St (SR 169) / Kibler Ave	2	0	1	1
12. Porter St (SR 169) / Griffin Ave (SR 164)	6	0	3	3
13. Garrett St / Griffin Ave (SR 164)	8	0	2	6
<i>Roadway Segments:</i>				
SR 164 between 244 th Ave SE and Highpoint St	6	0	3	3

Source: WSDOT Crash Data.

Intersection crash rates over 1.0 crash per MEV generally warrant further review to determine if any patterns exist. Based on the 5 years of crash history (2019-2023) provided by WSDOT , there are no study intersections with a crash rate greater than 1.0.

Table 5 also shows there were none of the crashes over the five-year period at the study intersections or along the SR 164 frontage resulted in a fatality, and the majority of the crashes were no injury or property damage only.

FUTURE CONDITIONS

Planned Transportation Improvements

The following summary of planned improvements in the vicinity of the proposed *Enumclaw Emblem* project is based on a review of the following sources/documents:

- City of Enumclaw *2025-2030 Six-Year Transportation Improvement Program (TIP)*
- City of Enumclaw *2015 Comprehensive Plan* (Chapter 5.4, Transportation Programs)
- Washington State Department of Transportation (WSDOT) *2024-2027 Statewide Transportation Improvement Program (STIP)*
- King County *2020 Transportation Needs Report (TNR)*
- King County *Capital Improvement Program (CIP)*

City of Enumclaw Six-Year TIP

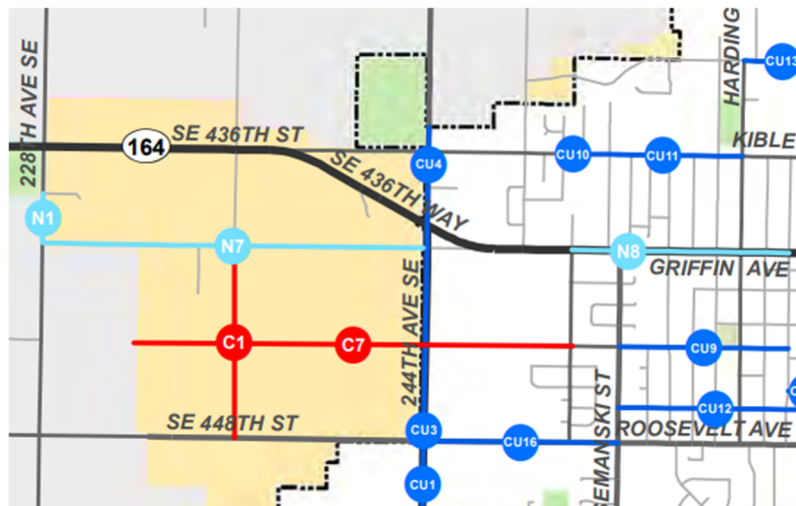
- TIP #3: 244th Ave SE Overlay (440th St to Griffin Ave) – This project includes pavement overlay of 244th Ave SE from NE 440th Street to Griffin Ave.

City of Enumclaw 2015 Comprehensive Plan

- Project CU1: 244th Ave SE (Hamilton Place to Roosevelt Ave) – This City project would reconstruct 244th Ave SE to major arterial standards and construct a trail per the Parks and Open Space Plan. This project is categorized as high priority.
- Project CU3: 244th Ave SE (Roosevelt to SR 164) – This City project would reconstruct 244th Ave SE to major arterial standards on both sides and construct a trail on the east side of the roadway. This project is categorized as high priority.
- Project CU4: 244th Ave SE (SR 164 to 1400' North of City Limits) – This City project would reconstruct 244th Ave SE to minor arterial standards and construct a trail on the east side of the roadway. This project is categorized as low priority.
- Project CU20: SR 164 (244th Ave SE to Highpoint St) – This WSDOT project would upgrade SR 164 to major arterial standards. This project is categorized as medium priority.
- Project N7: SR 164 (Farrelly Street to Laframboise Street) – This City project would construct pedestrian improvements on SR 164 when warranted. This project is categorized as high priority.
- Project N8: Battersby Ave/SE 440th St (228th Ave SE to 244th Ave SE) – This City project would construct a trail along SE 440th Street per the Parks and Open Space Plan. This project is categorized as low priority.
- Project C7: Elmont Ave (Highpoint Street to UGA Boundary) – This City project would construct a new two-lane connector street between Highpoint Street and the UGA Boundary. This project is categorized as low priority.
- Project C12: SR 164 (228th Ave SE to west City limits) – This WSDOT project would widen the SR 164 corridor and upgrade to major arterial standards. This project is categorized as high priority.
- Project S1 (SR 164/Semanski St) – This WSDOT safety project would signalize the SR 164/Semanski St intersection when a traffic signal warrant is met. This project is categorized as medium priority.



WSDOT Transportation System Improvements (City of Enumclaw 2015 Comprehensive Plan)



City Transportation System Improvements (City of Enumclaw 2015 Comprehensive Plan)

WSDOT 2024-2027 STIP

There are no planned projects within the immediate project vicinity identified in the WSDOT 2024-2027 STIP.

King County 2020 TNR

There are no planned projects within the immediate project vicinity identified in the King County 2020 TNR.

King County CIP

There are no planned projects within the immediate project vicinity identified in the King County CIP.

Project Trip Generation

The trip generation estimates for the *Enumclaw Emblem* project (proposed uses and existing uses to be removed) were based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition for Land Use Code (LUC) 220 (Multifamily Housing (Low-Rise)), LUC 210 (Single-Family Detached Housing), LUC 215 (Single-Family Attached Housing), LUC 822 (Strip Retail Plaza <40k), and LUC 565 (Day Care Center). Adjustments to the trip generation estimates were made to account for internal trips and pass-by trips.

Internal trips are made by people making multiple stops within a development without generating new trips onto the adjacent street system. The internal trip adjustments were based on methodology established in the ITE *Trip Generation Handbook*, 3rd Edition, 2017.

Pass-by trips are trips that are made by vehicles that are already on the adjacent streets and make intermediate stops at the commercial uses on route to a primary destination (i.e. on the way from work to home). The pass-by trips were based on studies included in the appendices of the ITE *Trip Generation Manual*, 11th Edition, 2021.

The resulting net new weekday daily, AM peak hour, and PM peak hour trip generation estimates for the proposed *Enumclaw Emblem* project (after applying trip credit for the existing uses to be removed) are summarized in **Table 6**. The detailed trip generation calculations are included in **Appendix E**.

Table 6
Trip Generation Summary

Weekday Time Period	Net New Trips Generated		
	In	Out	Total
Daily	978	978	1,956
AM Peak Hour	31	82	113
PM Peak Hour	95	62	157

Project Trip Distribution and Assignment

The anticipated distribution of peak hour vehicle trips generated by the proposed *Enumclaw Emblem* project was based on existing and anticipated travel patterns in the area. The project trip distribution also assumes that Highpoint Street will be extended along the project frontage from SR 164 to the roadway's current terminus at the SE corner of the site. The estimated peak hour project trip distribution is illustrated in **Figure 5**. The assignment of new and pass-by weekday AM and PM peak hour project trips through the study intersections and site access driveways is illustrated in **Figure 6** and **Figure 7**.

It should be noted that for the operational analysis documented in this TIA, new project trips (gross trips less internal trips) were assigned through the study intersections as a conservative measure since the existing day care use was not operational at the time of the counts in December 2024.

Traffic Volumes

To estimate the future 2030 No Action (Without Project) weekday AM and PM peak hour traffic volumes, a 1.5 percent annual compound growth rate was applied to the 2024 existing traffic volumes. The growth factor was calculated based on historical annual growth on SR 164 and is consistent with the growth rate used for other pipeline projects in the vicinity. In addition to the 1.5 percent annual background growth

rate, trips from the following pipeline projects (as directed by the City) were accounted for in the future without project traffic volumes:

- Crystal Mountain MHC
- Holdener Phase 1
- Stevenson Meadows
- Gateway Enumclaw
- Battersby Plat
- Mountainview Multifamily
- The Grainery
- The Grainery II
- Pickle Farm
- Rare Homes
- Watson Street Apartments
- Mazatlan

The resulting future 2030 No Action weekday AM and PM peak hour traffic volumes at the study intersections are shown in **Figure 8 and Figure 9**.

The future 2030 With Project traffic volumes at the study intersections and site access were determined by adding the project-generated trips (shown in **Figure 6 and Figure 7**) to the 2030 No Action traffic volumes (**Figure 8 and Figure 9**). The 2030 With Project AM and PM peak hour traffic volumes are shown in **Figure 10 and Figure 11**.

It should be noted that the future year 2030 With Project peak hour traffic volumes shown in **Figure 10 and Figure 11** also include a minor adjustment to traffic volumes at some of the study intersections (#2, #3, and #6) to account for an anticipated shift in circulation to/from the Pinnacle Peak residential development located south of the proposed project as a result of the Highpoint Street extension along the *Enumclaw Emblem* project frontage.

*It should be noted that for the operational analysis documented in this TIA, new project trips (gross trips less internal trips) were assigned through the study intersections as a conservative measure since the existing day care use was not operational at the time of the counts in December 2024. Therefore, the With Project traffic volumes shown in **Figure 10 and Figure 11** conservatively reflect gross project trips.*

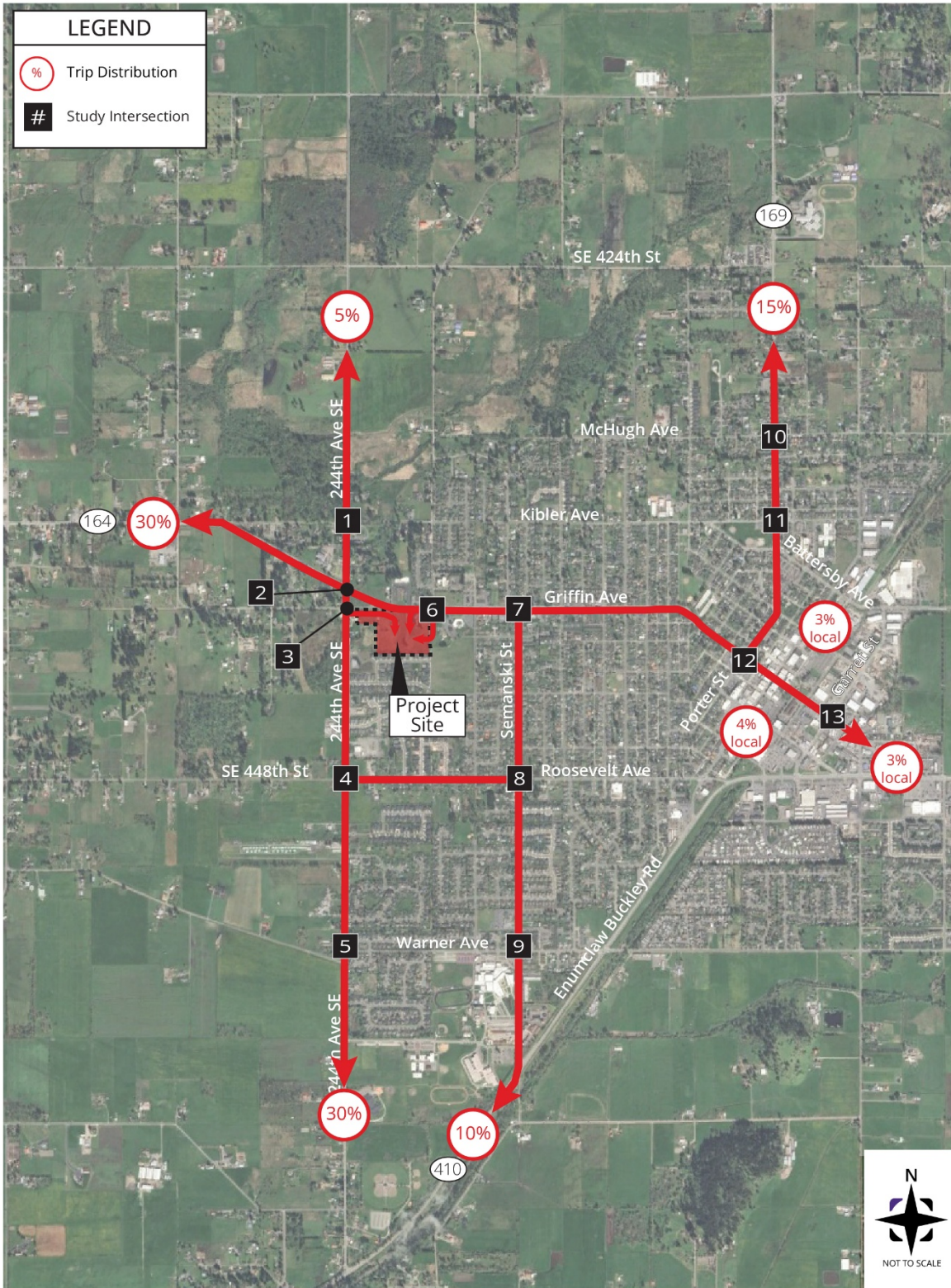


Figure 5: Weekday Peak Hour Project Trip Distribution

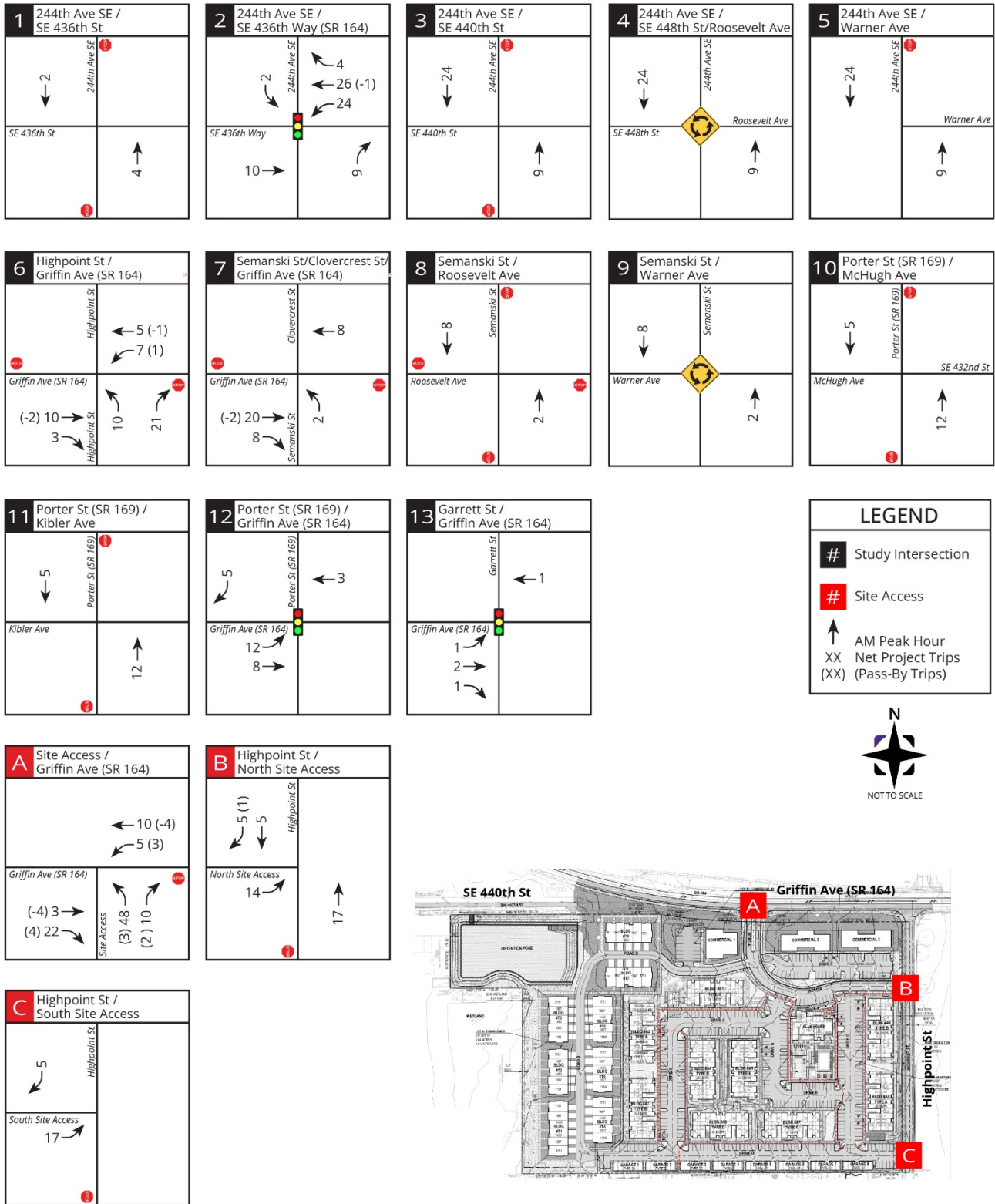


Figure 6: Weekday AM Peak Hour Project Trip Assignment

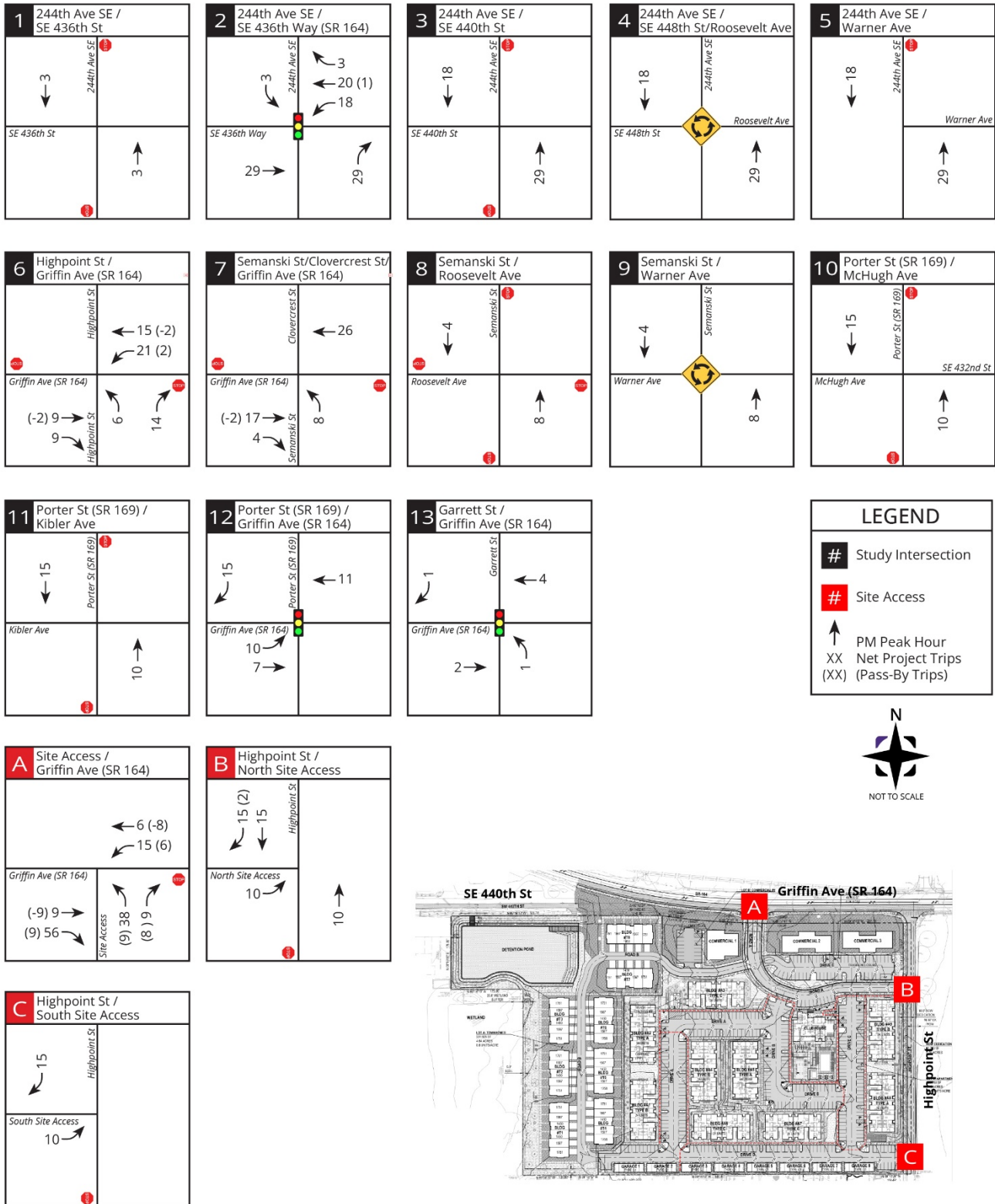


Figure 7: Weekday PM Peak Hour Project Trip Assignment

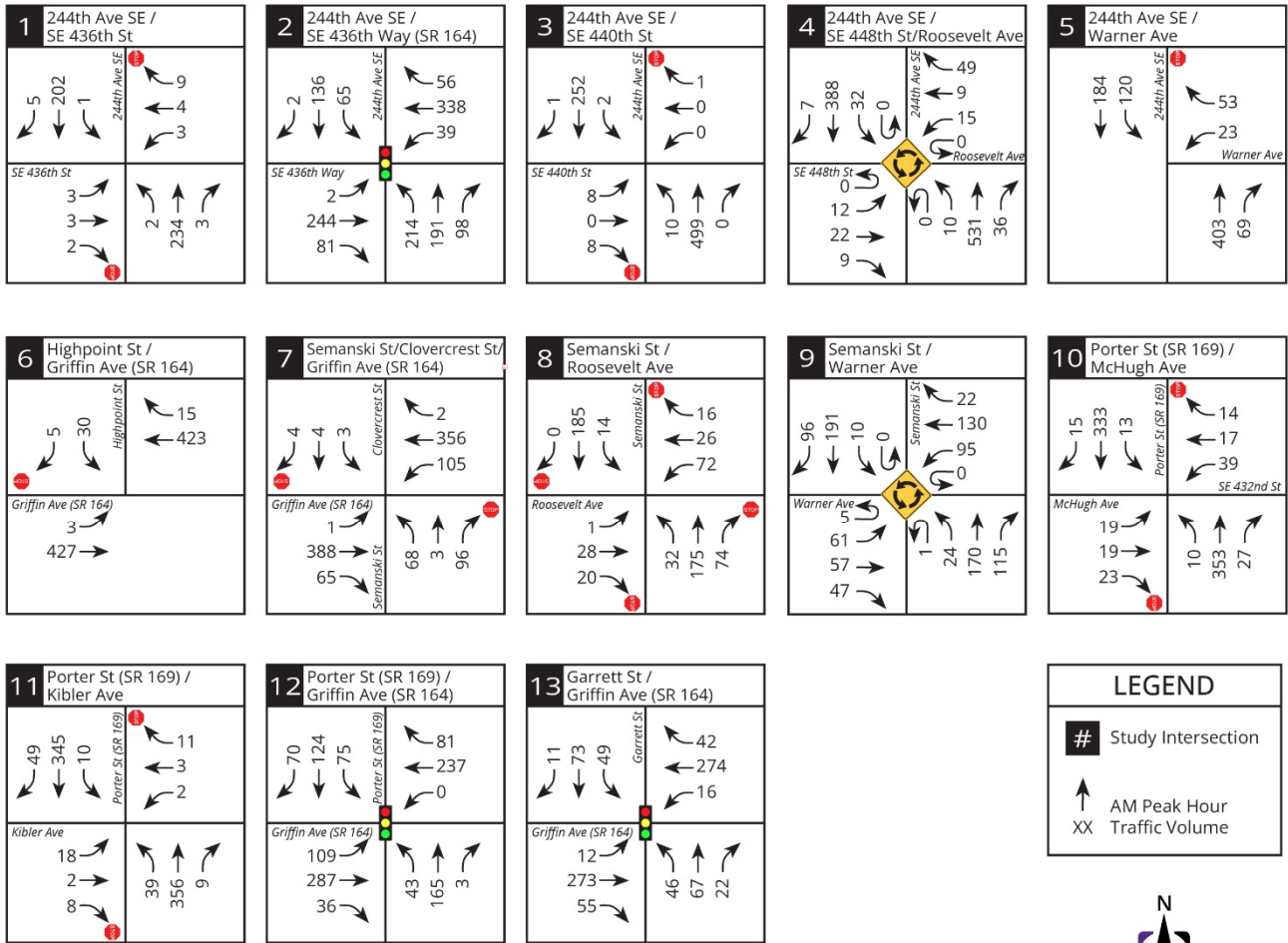


Figure 8: 2030 No Action Weekday AM Peak Hour Traffic Volumes

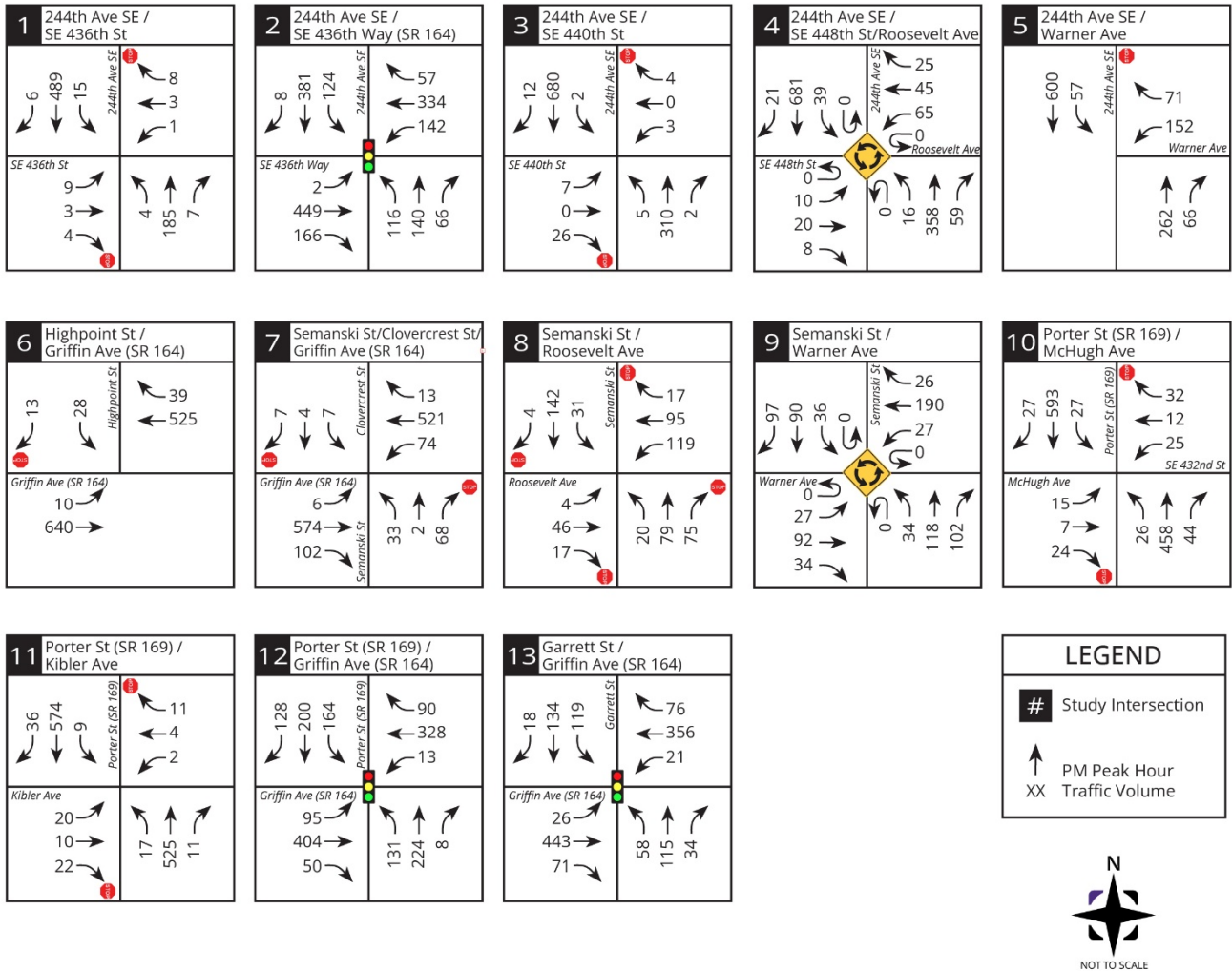


Figure 9: 2030 No Action Weekday PM Peak Hour Traffic Volumes

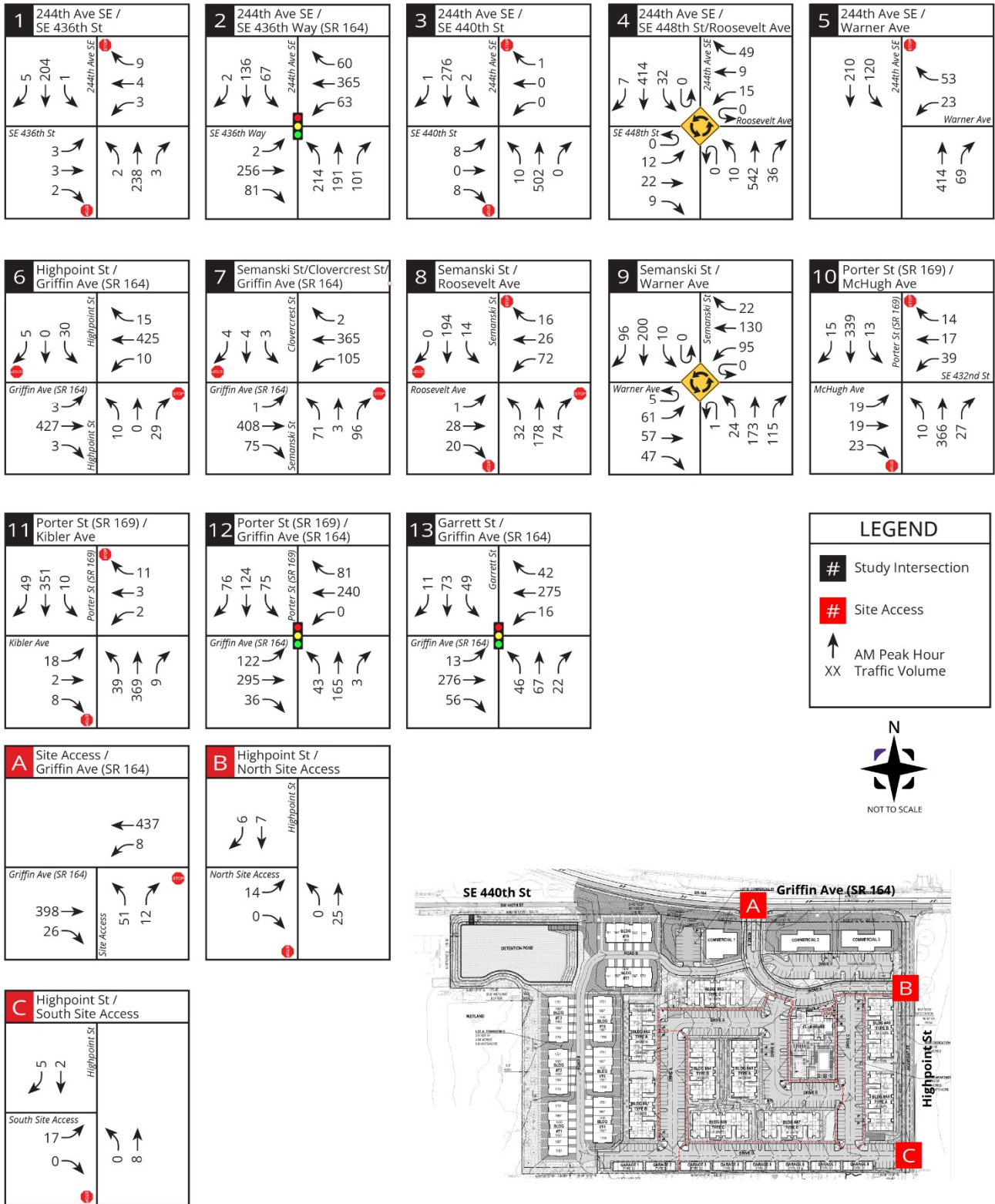


Figure 10: 2030 With Project Weekday AM Peak Hour Traffic Volumes

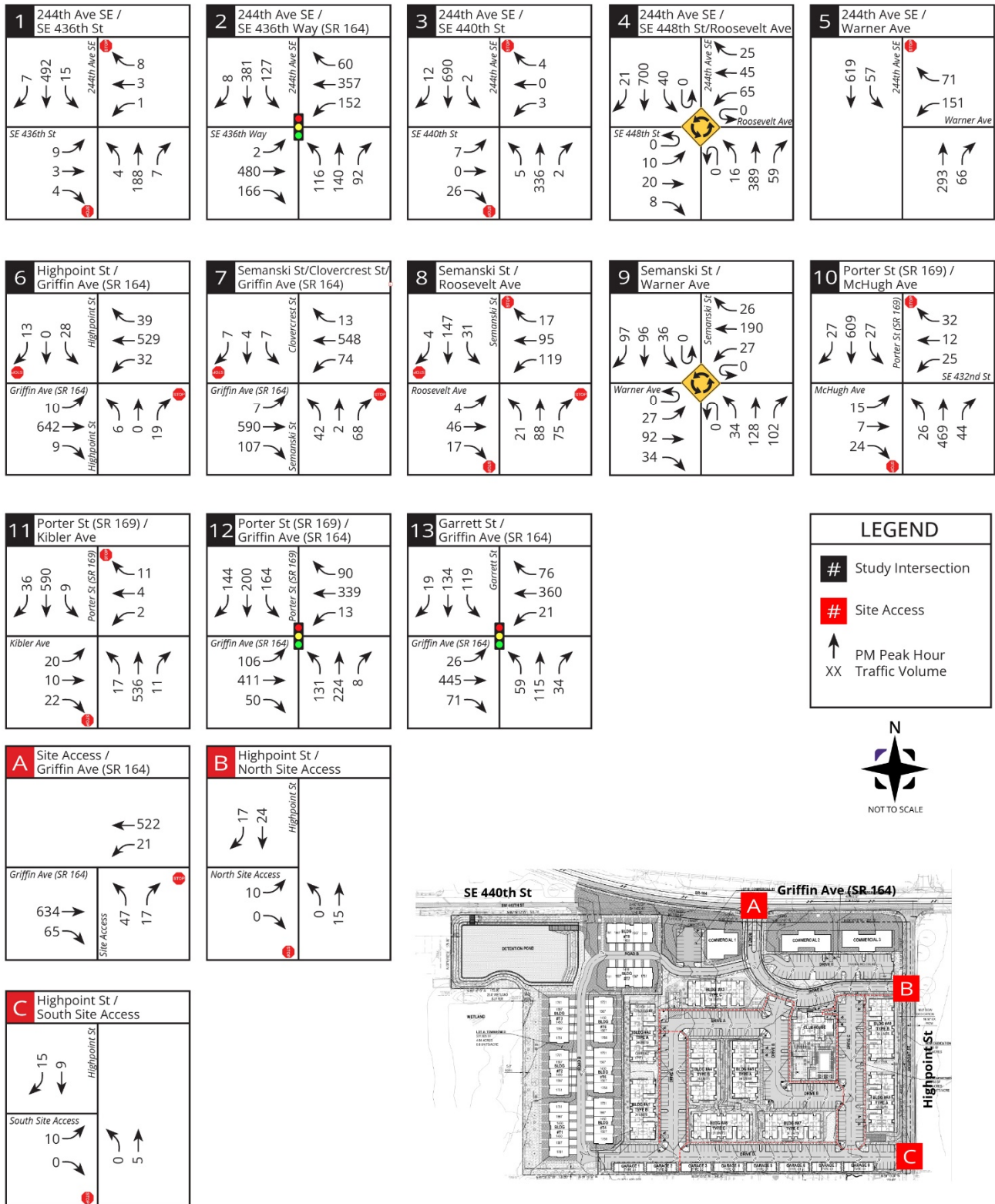


Figure 11: 2030 With Project Weekday PM Peak Hour Traffic Volumes

Intersection Levels of Service

Weekday AM and PM peak hour level of service (LOS) analyses were conducted for the future 6-year horizon year (2030) conditions at the 13 off-site study intersections. The signal timing and channelization assumptions for the year 2030 analysis were assumed to be the same as existing conditions except for the following:

- 244th Ave SE / SE 448th St (#4) was assumed to be a roundabout (recently completed)
- 244th Ave SE / Warner Ave (#5) was assumed to be restriped on the east leg to provide separate left and right turn lanes. The City confirmed that this is a developer funded improvement that is required to be completed by the Gambrel Meadows project.
- Highpoint Street / Griffin Ave (SR 164) was assumed to be a 4-leg intersection with Highpoint Street extended south of SR 164 along the *Enumclaw Emblem* frontage. SR 164 was also assumed to be improved to provide a center two-way left-turn lane along the project frontage and through the Highpoint Street intersection.

The LOS results at the study intersections without and with the proposed project are summarized in **Table 7** (AM Peak Hour) and **Table 8** (PM Peak Hour). The detailed LOS worksheets are included in **Appendix C**.

Table 7
Future 2030 Weekday AM Peak Hour LOS Summary

Study Intersection	LOS Standard ¹	2030 No Action		2030 With Project	
		LOS	Delay (sec)	LOS	Delay (sec)
<u>Signalized Intersections:</u>					
2. 244 th Ave SE / SE 436 th Way (SR 164)	D	C	24.7	C	25.6
12. Porter St (SR 169) / Griffin Ave (SR 164)	D	B	17.0	B	17.3
13. Garrett St / Griffin Ave (SR 164)	D	A	7.5	A	7.5
<u>Roundabout Intersections:</u>					
4. 244 th Ave SE / SE 448 th St	E	A	9.3	A	9.6
9. Semanski St / Warner Ave	E	B	12.7	B	13.1
<u>All-Way Stop Intersections:</u>					
8. Semanski St / Roosevelt Ave	E	B	12.6	B	14.4
<u>Two-Way Stop Intersections:</u>					
1. 244 th Ave SE / SE 436 th St	E	B	12.2	B	12.3
3. 244 th Ave SE / SE 440 th St	E	C	15.1	C	15.6
5. 244 th Ave SE / Warner Ave	E	C	17.3	C	17.9
6. Highpoint St / Griffin Ave (SR 164) ²	D	C	18.9	C	16.5
7. Semanski St / Clovercrest St / Griffin Ave (SR 164)	D	D	25.9	D	28.4
10. Porter St (SR 169) / McHugh Ave	D	D	31.0	D	32.8
11. Porter St (SR 169) / Kibler Ave	D	D	28.7	D	30.0

1. The LOS standard is LOS D for WSDOT intersections on SR 164 and SR 169, and LOS E for unsignalized study intersections in the City of Enumclaw.
2. The 2030 With Project analysis assumes that this intersection is a 4-leg intersection with Highpoint Street extended south of SR 164 and a center two-way left-turn lane provided on SR 164.

Table 8
Future 2030 Weekday PM Peak Hour LOS Summary

Study Intersection	LOS Standard ¹	2030 No Action		2030 With Project	
		LOS	Delay (sec)	LOS	Delay (sec)
<u>Signalized Intersections:</u>					
2. 244 th Ave SE / SE 436 th Way (SR 164)	D	D	36.9	D	39.4
12. Porter St (SR 169) / Griffin Ave (SR 164)	D	C	24.6	C	25.9
13. Garrett St / Griffin Ave (SR 164)	D	A	9.8	A	9.9
<u>Roundabout Intersections:</u>					
4. 244 th Ave SE / SE 448 th St	E	A	9.3	A	9.7
9. Semanski St / Warner Ave	E	A	5.5	A	5.6
<u>All-Way Stop Intersections:</u>					
8. Semanski St / Roosevelt Ave	E	B	10.8	B	11.9
<u>Two-Way Stop Intersections:</u>					
1. 244 th Ave SE / SE 436 th St	E	C	17.0	C	17.2
3. 244 th Ave SE / SE 440 th St	E	C	16.9	C	17.4
5. 244 th Ave SE / Warner Ave	E	E	42.1	E	46.8
6. Highpoint St / Griffin Ave (SR 164) ²	D	D	25.5	C	20.5
7. Semanski St / Clovercrest St / Griffin Ave (SR 164)	D	C	22.2	C	23.2
10. Porter St (SR 169) / McHugh Ave / SE 432 nd St	D	D	31.9	D	33.6
11. Porter St (SR 169) / Kibler Ave	D	D	27.0	D	28.2

- 1) The LOS standard is LOS D for WSDOT intersections on SR 164 and SR 169, and LOS E for unsignalized study intersections in the City of Enumclaw.
- 2) The 2030 With Project analysis assumes that this intersection is a 4-leg intersection with Highpoint Street extended south of SR 164 and a center two-way left-turn lane provided on SR 164.

As shown in **Table 7** and **Table 8**, all study intersections are anticipated to operate at acceptable levels of service (LOS E or better for unsignalized City study intersections and LOS D better for WSDOT study intersections) during the weekday AM and PM peak hours in 2030 with the proposed *Enumclaw Emblem* project.

As noted above, the analysis presented in this TIA report assumes that the Highpoint Street extension being constructed by the applicant (south of SR 164) is aligned with the existing Highpoint Street on the north side of SR 164 and forms a new 4-leg intersection. However, if the extension of Highpoint Street south of SR 164 does not align with the existing Highpoint Street on the north side of SR 164 as a result of existing property line and right-of-way constraints, the analysis presented in this TIA report would not change since the intersection would be offset by less than ~30 feet (measured centerline to centerline) and would be assumed to operate as a 4-leg intersection with new street illumination, a center two-way left-turn lane on SR 164 for left-turning vehicles, and pedestrian amenities including new curb ramps and sidewalks.

Site Access Evaluation

Vehicular access to the *Enumclaw Emblem* site is proposed as follows:

- A) Full access driveway on Griffin Ave (SR 164)

- B) North full access driveway on Highpoint Street
- C) South full access driveway on Highpoint Street

This section includes evaluation of the proposed site access locations including LOS and queuing and sight distance.

LOS and Queuing

To assess operations at the proposed site access locations, LOS and queuing analyses were conducted during the weekday AM and PM peak hour for future year 2030 conditions. The reported queues for the individual movements at each of the proposed site access locations are 95th-percentile queues, which are exceeded only five (5) percent of the time. The 2030 weekday AM and PM peak hour traffic volumes at the proposed site access location were shown previously in **Figure 9** and **Figure 10**.

The weekday AM and PM peak hour site access analysis for future year 2030 is summarized below in **Table 9**. The LOS worksheets are included in **Appendix C**.

Table 9
Future 2030 Weekday Peak Hour Site Access LOS and Queue Summary

Site Access / Movement	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	95 th % Queue (ft)	LOS	Delay (sec)	95 th % Queue (ft)
A. Site Access / Griffin Ave (SR 164)						
Northbound Approach (exiting)	B	14.5	25'	C	18.7	25'
Westbound Left-Turn (entering)	A	8.3	0'	A	9.3	<25'
B. Highpoint St / North Site Access						
Northbound Left-Turn (entering)	A	0.0	0'	A	0.0	0'
Eastbound Approach (exiting)	A	8.7	0'	A	8.8	0'
C. Highpoint St / South Site Access						
Northbound Left-Turn (entering)	A	0.0	0'	A	0.0	0'
Eastbound Approach (exiting)	A	8.6	0'	A	8.6	0'

As shown in **Table 9**, the individual movements entering and exiting the site at the proposed stop-controlled site access locations are expected to operate at LOS C or better during the weekday AM and PM peak hours in 2030 with minimal queuing. *It should be noted that the LOS analysis at the proposed full access driveway on SR 164 assumes that a center two-way left-turn lane will be provided along the SR 164 project frontage.*

Alternative Analysis without Highpoint Street Connection

The analysis in this TIA assumes that Highpoint Street is extended north-south along the eastern edge of the *Enumclaw Emblem* site between SR 164 and its current terminus at the southern property line. Therefore, the analysis includes a minor adjustment to traffic volumes at some of the study intersections (#2, #3, and #6) to account for trips from the Pinnacle Peak residential development located south of the proposed project that would be assumed to utilize the Highpoint Street extension along the *Enumclaw Emblem* project frontage to access SR 164.

An alternative analysis was conducted to analyze a scenario where bollards are placed at the southern end of the extension of Highpoint Street along the *Enumclaw Emblem* frontage such that a through

connection to the existing Highpoint Street east of the Pinnacle Peak development is not provided. The future year 2030 With Project weekday AM and PM peak hour traffic volumes at the study intersections without the connection of Highpoint Street south of the *Enumclaw Emblem* project are shown in **Figure 12** and **Figure 13**.

The LOS results at the study intersections where the LOS would change as a result of the scenario without the connection of Highpoint Street (when compared to the LOS results with the Highpoint Street extension connection provided in **Tables 7 and 8**) are summarized in **Table 10**. The detailed LOS worksheets are included in **Appendix C**.

Table 10
Future 2030 Weekday PM Peak Hour LOS Summary – Without Highpoint St Connection

Study Intersection	LOS Standard ¹	2030 With Project Without Highpoint Street Connection			
		AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
<u>Signalized Intersections:</u>					
2. 244 th Ave SE / SE 436 th Way (SR 164)	D	C	25.8	D	39.9
<u>All-Way Stop Intersections:</u>					
8. Semanski St / Roosevelt Ave	E	B	12.9	B	10.9
<u>Two-Way Stop Intersections:</u>					
3. 244 th Ave SE / SE 440 th St	E	C	15.7	C	17.6
6. Highpoint St / Griffin Ave (SR 164)	D	C	16.4	C	20.1

1) The LOS standard is LOS D for WSDOT intersections on SR 164 and SR 169, and LOS E for unsignalized study intersections in the City of Enumclaw.

As shown in **Table 10**, if bollards were installed at the southern end of the Highpoint Street extension near the southern property line of the *Enumclaw Emblem* site, there would be minor changes to delay at study intersections #2, #3, #6, and #8, however, all study intersections would operate at acceptable levels of service (LOS E or better for unsignalized City study intersections and LOS D better for WSDOT study intersections) during the weekday AM and PM peak hours in 2030 with the proposed *Enumclaw Emblem* project. Therefore, the installation of bollards on the Highpoint Street extension at the southern *Enumclaw Emblem* property line would have an insignificant effect on weekday AM and PM peak hour intersection operations in the vicinity of the project.

The site access LOS and queue analyses for conditions without the connection of Highpoint Street at the southern Enumclaw Emblem property line are summarized in **Table 11**. The detailed LOS worksheets are included in **Appendix C**.

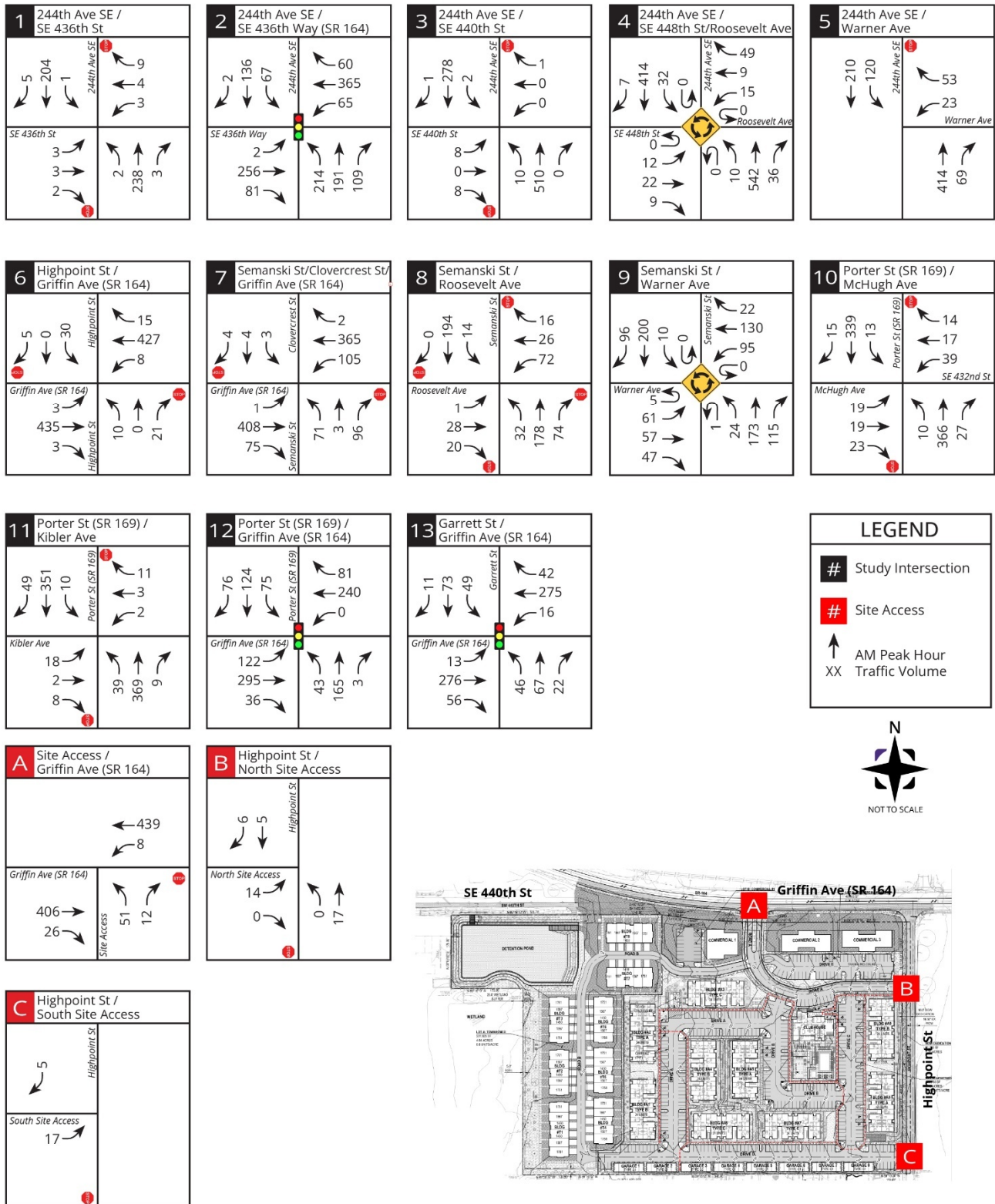


Figure 12: 2030 With Project Weekday AM Peak Hour Traffic Volumes (With Bollards on Highpoint)

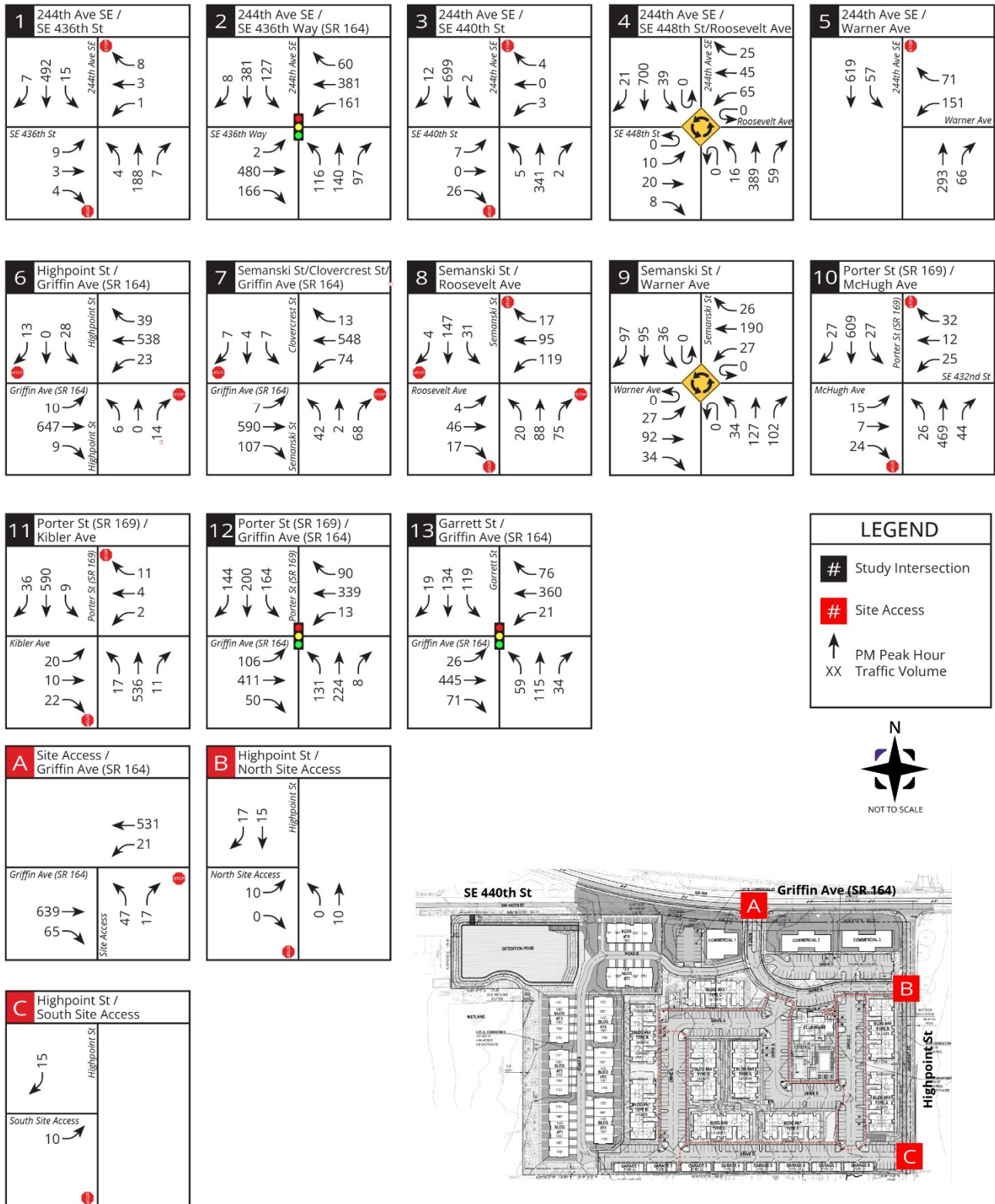


Figure 13: 2030 With Project Weekday PM Peak Hour Traffic Volumes (With Bollards on Highpoint)

Table 11
Future 2030 Weekday Peak Hour Site Access LOS and Queue Summary – Without Highpoint St Connection

Site Access / Movement	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec)	95 th % Queue (ft)	LOS	Delay (sec)	95 th % Queue (ft)
A. Site Access / Griffin Ave (SR 164)						
Northbound Approach (exiting)	B	14.6	25'	C	18.9	25'
Westbound Left-Turn (entering)	A	8.4	0'	A	9.4	<25'
B. Highpoint St / North Site Access						
Northbound Left-Turn (entering)	A	0.0	0'	A	0.0	0'
Eastbound Approach (exiting)	A	8.7	0'	A	8.7	0'
C. Highpoint St / South Site Access						
Northbound Left-Turn (entering)	A	0.0	0'	A	0.0	0'
Eastbound Approach (exiting)	A	0.0	0'	A	0.0	0'

As shown in **Table 11**, if bollards were installed at the southern end of the Highpoint Street extension near the southern property line of the *Enumclaw Emblem* site, there would be minor changes to delay for the individual movements entering and exiting the site at the proposed stop-controlled site access locations. However, the site access driveways are expected to operate at LOS C or better during the weekday AM and PM peak hours in 2030 with minimal queuing. Therefore, the installation of bollards on the Highpoint Street extension at the southern *Enumclaw Emblem* property line would have an insignificant effect on weekday AM and PM peak hour operations of the Enumclaw Emblem site access driveways.

Sight Distance

SR 164 Driveway

The new site access driveway on SR 164 will be designed to meet minimum entering and stopping sight distance in accordance with Washington State Department of Transportation (WSDOT) *Design Manual* standards.

The speed limit on SR 164 in the vicinity of the proposed site access driveway is 45 mph. Along the project frontage, SR 164 is currently two lanes (one lane in each direction) but the project proposes to improve the roadway by providing a center two-way left-turn lane along the frontage.

The intersection sight distance (ISD) standards were based on the Washington State Department of Transportation (WSDOT) *Design Manual* Chapter 1310.02 Intersection Sight Distance (updated September 2024). The setback distance from the intersection sight distance sight triangle is 18 feet from the edge of traveled way.

Stopping sight distance (SSD) standards were based on the WSDOT Design Manual Chapter 1260.03(1) Stopping Sight Distance (updated September 2024). WSDOT standards use a driver's eye height of 3.5 feet, and an object height of 2.0 feet.

ISD and SSD were evaluated for a design speed of 50 mph based on a posted speed limit of 45 mph on SR 164 in the vicinity of the proposed site access driveway as sight distance values are typically represented by a design speed of 5 mph over posted speed.

Intersection (Entering) Sight Distance (ISD)

Based on a 50 mph design speed on SR 164, the desirable intersection sight distance for a left-turning passenger vehicle is 588 feet (*Design Manual* Exhibit 1310-3). This assumes a vehicle making a left-turn from the site driveway and crossing 2 lanes (1 eastbound lane and a center two-way left-turn lane). This is a conservative assumption since exiting left-turn vehicles can use the center two-way left-turn lane as a refuge and only cross 1 lane. Additionally, the desirable intersection sight distance for a right-turning passenger vehicle is 478 feet (*Design Manual* Exhibit 1310-3)

The available intersection sight distance looking to the west from the proposed site access driveway location is over 600 feet and the available intersection sight distance looking to the east of the proposed driveway location is over 1,000 feet. Therefore, the WSDOT minimum intersection sight distance requirements are anticipated to be met assuming that any building structural elements, landscaping, and signage are placed to avoid a sight line obstruction within these areas. Sight distance triangles were prepared by KPFF and are provided in **Appendix F**.

Stopping Sight Distance (SSD)

For a 50 mph design speed on SR 164, the recommended design value for stopping sight distance based on WSDOT *Design Manual* standards is 425 feet (*Design Manual* Exhibit 1260-1). Approaching the proposed new site access on SR 164 from the east and west, the available stopping sight distance is estimated to be more than 425 feet, therefore meeting applicable WSDOT standards.

Highpoint Street Driveways

The new site access driveways on Highpoint Street will be designed to meet minimum entering and stopping sight distance in accordance with the *American Association of State Highway and Transportation Officials* (AASHTO) standards. The speed limit on the Highpoint Street extension is expected to be 25 mph. Based on a 25-mph speed limit (30 mph design speed), the minimum intersection sight distance (ISD) requirement for a left-turn is 335 feet and the minimum ISD for a right-turn is 290 feet. Additionally, the minimum stopping sight distance requirement is 200 feet. Therefore, the minimum intersection sight distance requirements are anticipated to be met assuming that any building structural elements, landscaping, and signage are placed to avoid a sight line obstruction within these areas. Sight distance triangles were prepared by KPFF and are provided in **Appendix F**.

MITIGATION

The following measures are identified to mitigate the transportation impacts of the proposed *Enumclaw Emblem* project.

Frontage Improvements

The project will improve its frontage along SR 164 to include a center two-way left-turn lane, paved shoulder, new curb/gutter, new 6-foot sidewalk, and street lighting. The project will also extend Highpoint Street from its current terminus at the southeast corner of the site to SR 164 to include a 20-foot paved roadway, curb/gutter, 4-foot landscape strip, 5-foot sidewalk, and street lighting. The center two-way left-turn lane on SR 164 would be provided through the Highpoint Street intersection to connect with the existing two-way left-turn lane east of Highpoint Street.

Off-Site Improvements

Based on the results of the LOS analysis shown in this report, all study intersections are anticipated to operate at acceptable levels of service (LOS E or better for unsignalized City study intersections and LOS D better for WSDOT study intersections) during the weekday AM and PM peak hours in 2030 with the proposed *Enumclaw Emblem* project. Therefore, no off-site improvements are proposed.

It should be noted that the future year 2030 analysis presented in this TIA assumes that the east leg of the intersection of 244th Ave SE / Warner Ave (#5) would be restriped to provide separate left and right turn lanes. The City has indicated this improvement is developer funded mitigation being completed by the Gambrel Meadows project. If the intersection improvement has not been completed by the Gambrel Meadows project at the time of occupancy of the *Enumclaw Emblem* project, then the *Enumclaw Emblem* project will be responsible for completing the intersection improvement prior to occupancy.

Impact Fees

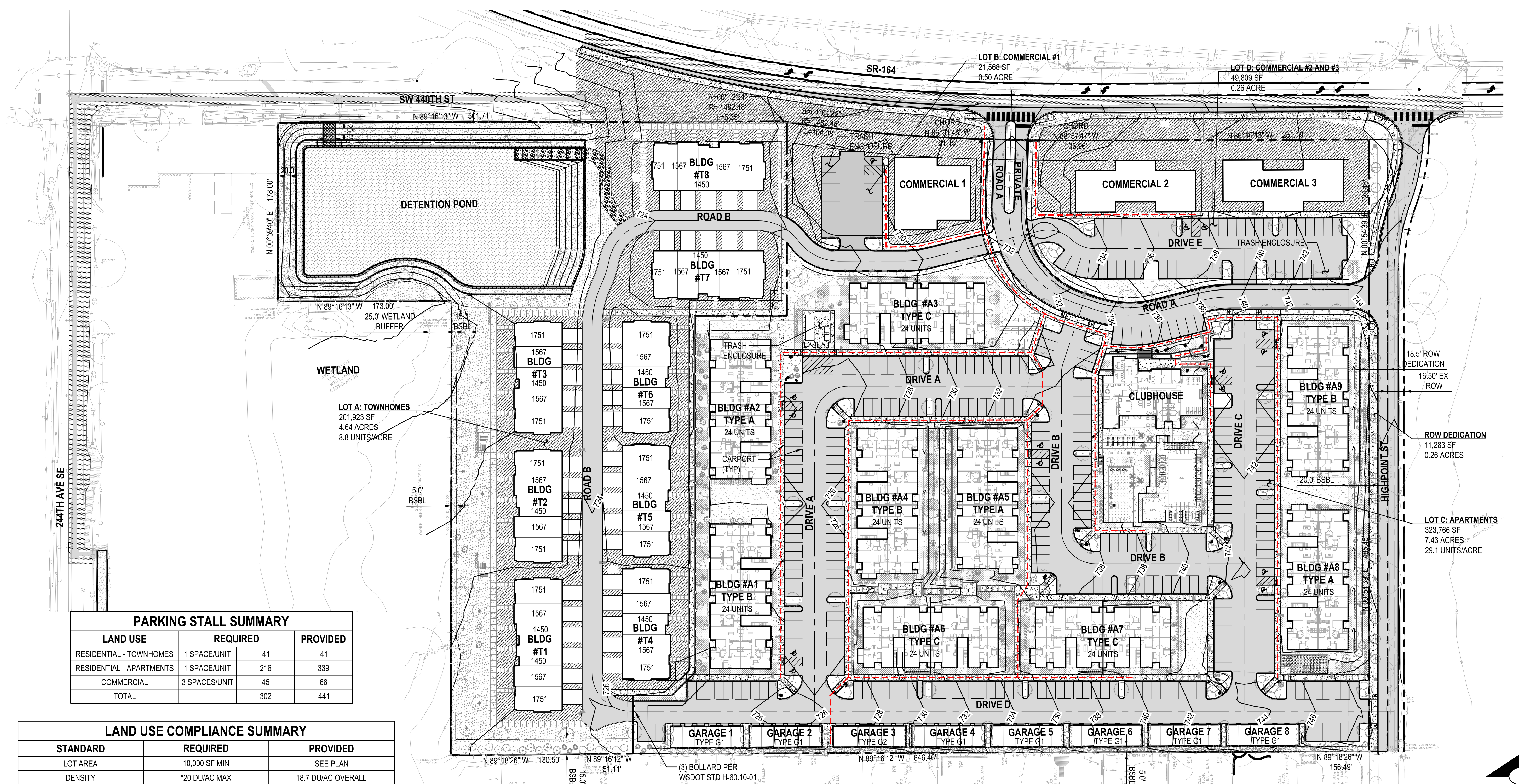
The City of Enumclaw requires payment of traffic impact fees to help fund planned roadway improvements throughout the City. The City's currently adopted standard traffic impact fee rate is \$2,123 per townhouse, \$1,986 per low-rise apartment unit, and \$3.79 per square foot of retail shopping center use. Traffic impact fees are due at the time of building permit issuance and should account for impact fee credit for the existing single-family homes and day care that would be removed with the *Enumclaw Emblem* project.



Appendix A

Site Plan

NW 1/4 OF SW 1/4, SEC 23, TWP 20N, RGE 06E, W.M.



LAND USE	REQUIRED	PROVIDED
RESIDENTIAL - TOWNHOMES	1 SPACE/UNIT	41
RESIDENTIAL - APARTMENTS	1 SPACE/UNIT	339
COMMERCIAL	3 SPACES/UNIT	66
TOTAL		441

STANDARD	REQUIRED	PROVIDED
LOT AREA	10,000 SF MIN	SEE PLAN
DENSITY	*20 DU/AC MAX	18.7 DU/AC OVERALL
LOT WIDTH	30 FT MIN	SEE PLAN
LOT WIDTH (AT BUILDING)	70 FT MIN	SEE PLAN
FRONT YARD SETBACK	20 FT MIN	20 FT
SIDE YARD SETBACK	5 FT MIN	5 FT
REAR YARD SETBACK	15 FT MIN	15 FT
LOT COVERAGE	45% MAX	26.00%
BUILDING HEIGHT	35 FT MAX (W/ GABLE)	35 FT
ACCESSORY BUILDING HEIGHT	18 FT MAX	18 FT
OPEN SPACE	43,200 SF	51,200 SF

*RESIDENTIAL DENSITY COMPLIES WITH EMC 19.38.340(B)

BUILDING TYPE	SQUARE FOOTAGE
TYPE A	23,684 SF
TYPE B	24,584 SF
TYPE C	22,856 SF
CLUBHOUSE	5,110 SF
GARAGES	1,595 SF
COMMERCIAL	5,000 SF

LEGEND

- PROPERTY LINE / ROW LINE
- ROADWAY CENTERLINE
- BUILDING OUTLINE
- CURB
- WETLAND BUFFER
- BSBL
- ADA COMPLIANT ROUTE
- SIGN POST
- ASPHALT PAVING
- CONCRETE PAVEMENT
- ASPHALT GRIND & OVERLAY

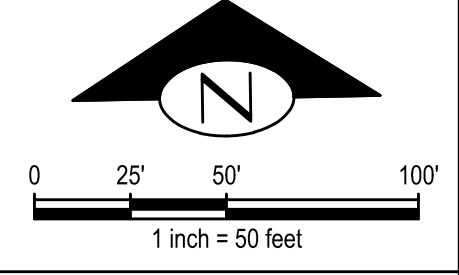
This approval is for design concept only. The plans appear to be in conformity with the City of Enumclaw design standards for construction. This approval should not be construed as authorizing construction not in accordance with applicable City Standards. The owner and/or owners representatives shall be responsible for compliance with all applicable standards. The City reserves the right to require revisions to approved plans and/or construction and modifications to assure compliance with the City of Enumclaw design standards for construction at any time that it is discovered that the proposed construction does not otherwise meet with applicable construction standards. The owner is required to provide designs and plans in accordance with applicable City standards and assure that construction is accomplished in accordance with those standards. The owner and/or developer, as the case may be, may be required to make necessary approved field revision to correct any errors or omissions found to exist on the approved plans.

APPROVED FOR CONSTRUCTION

Dwayne Walker, PE
City Engineer
City of Enumclaw

Date: _____

Plans reviewed by: _____



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 R:\C\Wall
 Sep 12, 2025 - 8:04am

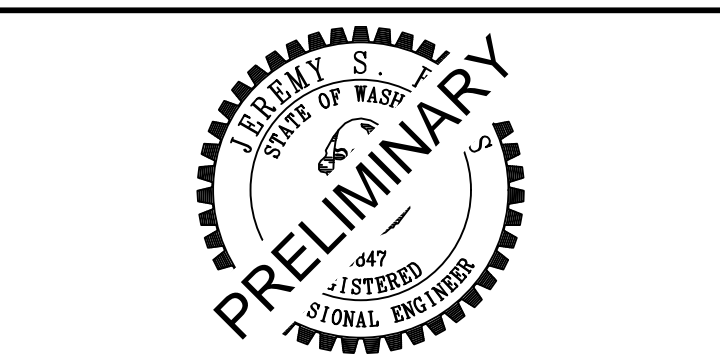
NO.	DATE	BY	CHD.	APPR.	REVISION
0	1/15/2025	CP	JSF	JSF	LDA SUBMITTAL
1	07/02/2025	CP	JSF	JSF	LDA RESUBMITTAL #1

DRAWN BY	DESIGNED BY
CHECKED BY	APPROVED BY
DATE	
JOB No.:	

CALL TWO BUSINESS DAYS BEFORE YOU DIG
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SCALE:



QUARTERRA MULTIFAMILY MIXED-USE
ENUMCLAW, WA

SITE PLAN

SHEET **C1.00**

Appendix B

Existing Traffic Counts



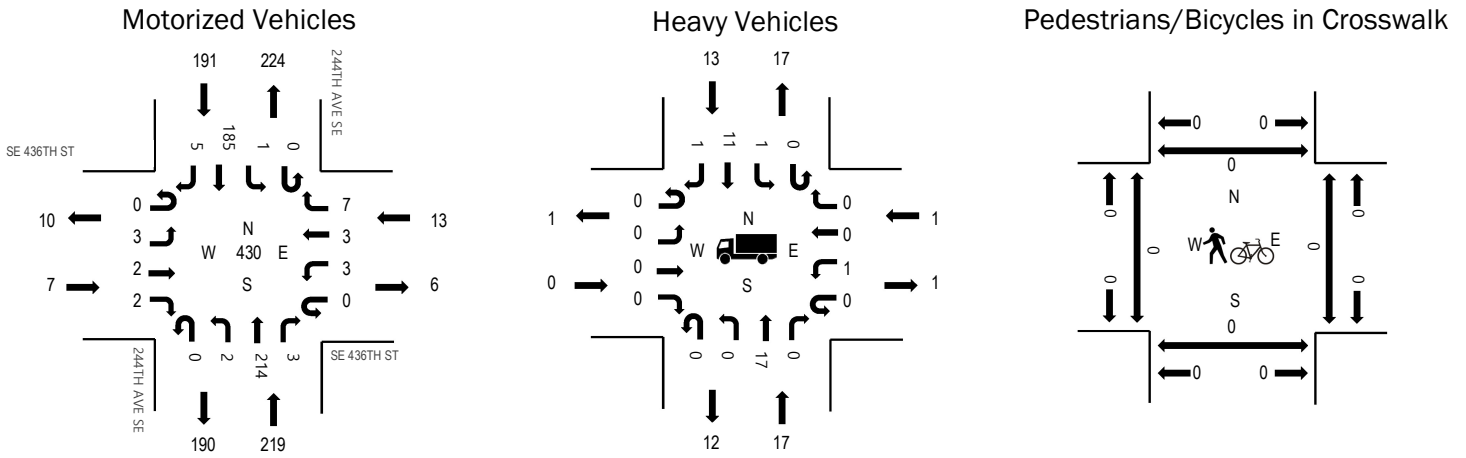
(303) 216-2439
www.alltrafficdata.net

Location: 1 244TH AVE SE & SE 436TH ST AM

Date: Wednesday, December 4, 2024

Peak Hour: 07:30 AM - 08:30 AM

Peak Hour



	HV%	PHF
EB	0.0%	0.44
WB	7.7%	0.65
NB	7.8%	0.90
SB	6.8%	0.81
All	7.2%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	SE 436TH ST Eastbound				SE 436TH ST Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	2	0	0	0	0	1	2	0	2	43	2	0	1	18	2	73	391
7:15 AM	0	0	0	1	0	0	1	0	0	0	48	1	0	1	25	0	77	426
7:30 AM	0	0	0	1	0	2	2	1	0	1	60	0	0	0	59	0	126	430
7:45 AM	0	1	0	0	0	1	1	2	0	0	56	1	0	0	52	1	115	391
8:00 AM	0	2	1	1	0	0	0	1	0	0	52	2	0	1	44	4	108	372
8:15 AM	0	0	1	0	0	0	0	3	0	1	46	0	0	0	30	0	81	
8:30 AM	0	0	0	0	0	0	1	2	0	0	31	0	0	1	52	0	87	
8:45 AM	0	3	0	0	0	0	0	2	0	1	32	1	0	2	54	1	96	
Count Total	0	8	2	3	0	3	6	13	0	5	368	7	0	6	334	8	763	
Peak Hour	0	3	2	2	0	3	3	7	0	2	214	3	0	1	185	5	430	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	5	0	0	5	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	1	2	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	1	1	10	12	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	0	10	0	0	10	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	0	4	0	3	7	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	0	2	0	0	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	0	2	0	2	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	0	25	1	16	42	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	17	1	13	31	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



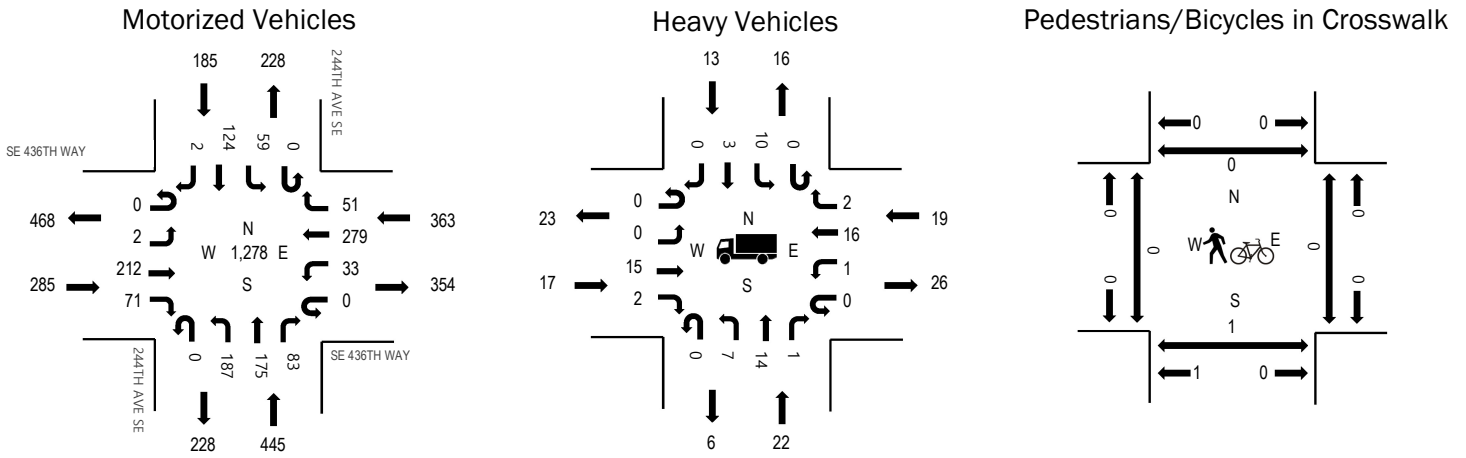
(303) 216-2439
www.alltrafficdata.net

Location: 2 244TH AVE SE & SE 436TH WAY AM

Date: Wednesday, December 4, 2024

Peak Hour: 07:15 AM - 08:15 AM

Peak Hour



	HV%	PHF
EB	6.0%	0.81
WB	5.2%	0.89
NB	4.9%	0.81
SB	7.0%	0.78
All	5.6%	0.88

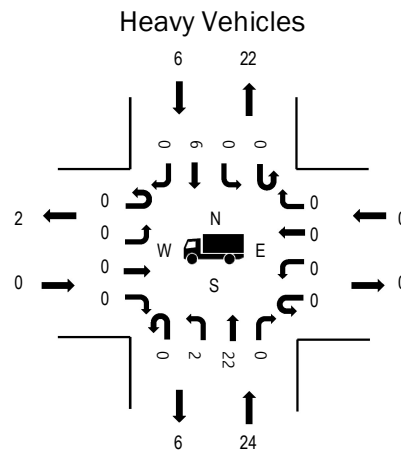
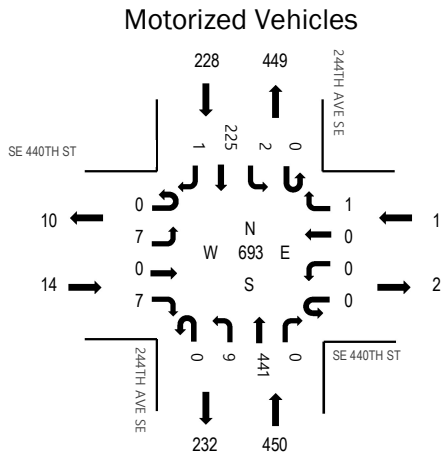
Traffic Counts - Motorized Vehicles

Interval Start Time	SE 436TH WAY Eastbound				SE 436TH WAY Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	31	8	0	4	70	7	0	52	39	14	0	6	15	0	247	1,229
7:15 AM	0	1	41	14	0	7	69	7	0	50	41	17	0	9	15	0	271	1,278
7:30 AM	0	0	56	24	0	9	80	13	0	40	48	17	0	19	40	0	346	1,274
7:45 AM	0	0	65	23	0	5	62	15	0	57	47	33	0	20	37	1	365	1,209
8:00 AM	0	1	50	10	0	12	68	16	0	40	39	16	0	11	32	1	296	1,163
8:15 AM	0	1	57	12	0	7	58	9	0	33	36	22	0	12	20	0	267	
8:30 AM	0	0	54	10	0	14	62	6	0	34	27	21	0	18	34	1	281	
8:45 AM	0	0	85	19	0	19	63	6	0	26	30	23	0	18	28	2	319	
Count Total	0	4	439	120	0	77	532	79	0	332	307	163	0	113	221	5	2,392	
Peak Hour	0	2	212	71	0	33	279	51	0	187	175	83	0	59	124	2	1,278	

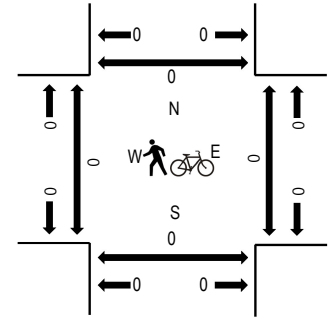
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	3	6	0	10	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	2	3	3	1	9	7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1
7:30 AM	6	2	2	11	21	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	6	12	6	0	24	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	3	5	8	1	17	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	2	2	4	0	8	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	1	5	0	6	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	11	4	4	1	20	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	31	32	38	14	115	Count Total	0	0	0	0	0	Count Total	0	1	0	0	1
Peak Hour	17	22	19	13	71	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	0.0%	0.50
WB	0.0%	0.25
NB	5.3%	0.87
SB	2.6%	0.79
All	4.3%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	SE 440TH ST Eastbound				SE 440TH ST Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	1	0	0	0	0	0	2	105	0	0	0	27	0	135	671
7:15 AM	0	1	0	0	0	0	0	0	0	2	111	0	0	0	36	0	150	693
7:30 AM	0	2	0	3	0	0	0	0	0	2	104	0	0	0	72	0	183	678
7:45 AM	0	3	0	4	0	0	0	0	0	3	127	0	0	0	65	1	203	637
8:00 AM	0	1	0	0	0	0	0	1	0	2	99	0	0	2	52	0	157	581
8:15 AM	0	2	0	4	0	0	0	1	0	1	87	1	0	0	39	0	135	
8:30 AM	0	2	0	4	0	0	0	1	0	1	76	0	0	1	56	1	142	
8:45 AM	0	2	0	2	0	0	0	0	0	0	78	0	0	2	62	1	147	
Count Total	0	13	0	18	0	0	0	3	0	13	787	1	0	5	409	3	1,252	
Peak Hour	0	7	0	7	0	0	0	1	0	9	441	0	0	2	225	1	693	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

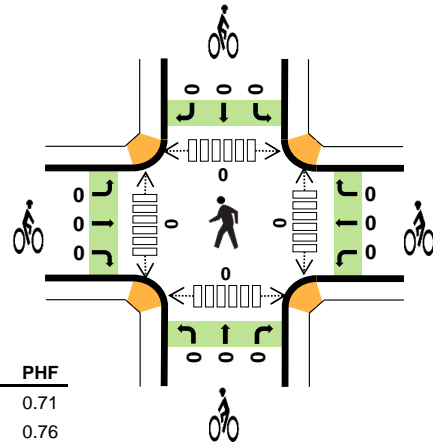
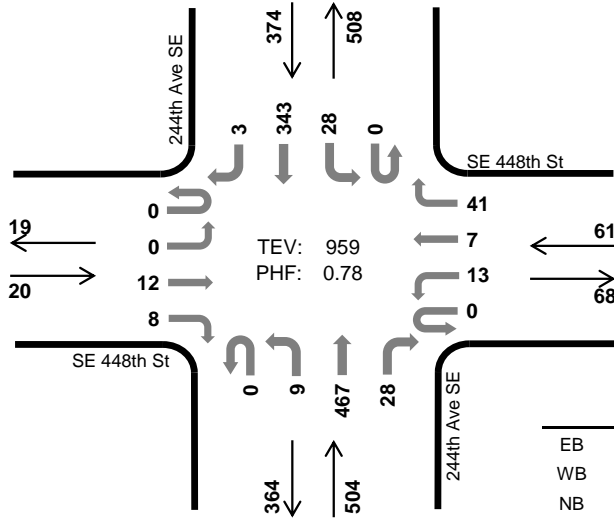
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	3	0	0	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	4	0	2	6	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	3	0	2	5	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	0	11	0	0	11	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	0	6	0	2	8	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	0	2	0	1	3	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	1	2	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	0	4	0	2	6	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	0	34	0	10	44	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	0	24	0	6	30	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

244th Ave SE SE 448th St



Peak Hour

Date: 03/30/2022
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	5.0%	0.71
WB	8.2%	0.76
NB	9.5%	0.85
SB	8.3%	0.70
TOTAL	8.9%	0.78

Two-Hour Count Summaries

Interval Start	SE 448th St Eastbound				SE 448th St Westbound				244th Ave SE Northbound				244th Ave SE Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	2	1	0	2	0	12	0	0	107	4	0	3	59	0	190	0	
7:15 AM	0	0	5	2	0	3	1	8	0	2	113	5	0	6	60	2	207	0	
7:30 AM	0	0	1	3	0	4	2	9	0	2	112	10	0	15	96	0	254	0	
7:45 AM	0	0	4	2	0	4	4	12	0	5	135	9	0	4	128	1	308	959	
8:00 AM	0	0	2	3	0	8	1	6	0	2	105	5	0	7	46	1	186	955	
8:15 AM	0	1	2	2	0	7	2	1	0	2	75	4	0	5	42	1	144	892	
8:30 AM	0	0	3	2	0	11	0	7	0	0	78	11	0	7	73	1	193	831	
8:45 AM	0	0	3	0	0	9	3	12	0	4	98	29	0	6	76	1	241	764	
Count Total	0	1	22	15	0	48	13	67	0	17	823	77	0	53	580	7	1,723	0	
Peak Hour	All	0	0	12	8	0	13	7	41	0	9	467	28	0	28	343	3	959	0
	HV	0	0	1	0	0	1	0	4	0	0	44	4	0	14	16	1	85	0
	HV%	-	-	8%	0%	-	8%	0%	10%	-	0%	9%	14%	-	50%	5%	33%	9%	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	3	9	7	19	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	13	3	17	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	13	17	31	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	13	4	18	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	5	8	14	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	2	2	7	11	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	7	7	16	0	0	0	0	0	0	0	0	0	0
Count Total	2	9	66	53	130	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	5	48	31	85	0	0	0	0	0	0	0	0	0	0



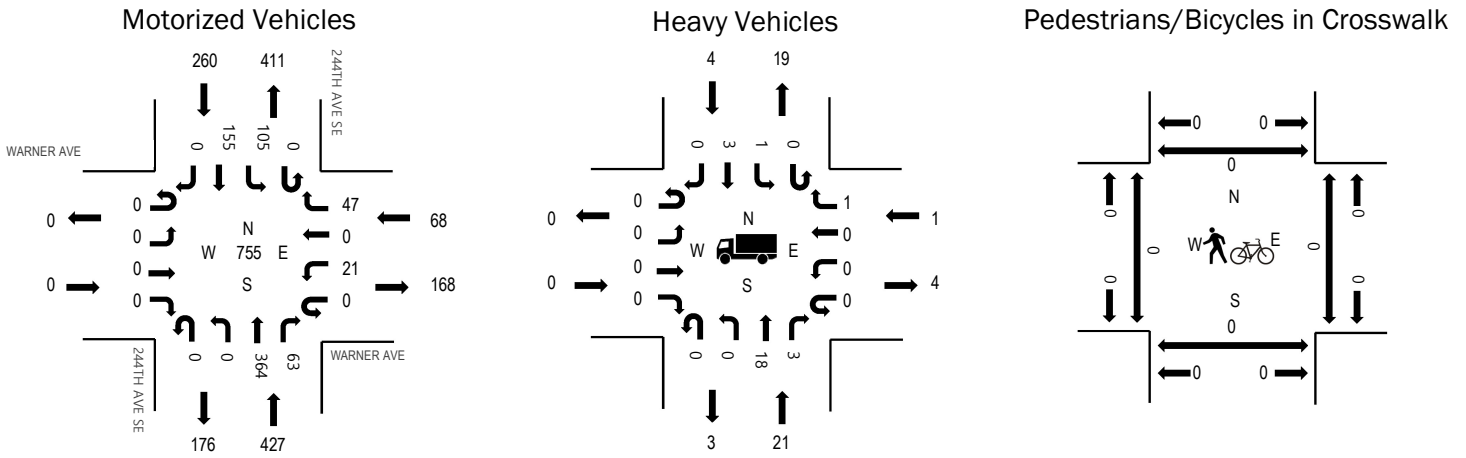
(303) 216-2439
www.alltrafficdata.net

Location: 5 244TH AVE SE & WARNER AVE AM

Date: Wednesday, December 4, 2024

Peak Hour: 07:15 AM - 08:15 AM

Peak Hour



	HV%	PHF
EB	0.0%	0.00
WB	1.5%	0.68
NB	4.9%	0.82
SB	1.5%	0.72
All	3.4%	0.77

Traffic Counts - Motorized Vehicles

Interval Start Time	WARNER AVE Eastbound				WARNER AVE Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	0	0	0	5	0	17	0	0	93	3	0	4	27	0	149	744
7:15 AM	0	0	0	0	0	3	0	8	0	0	99	5	0	7	32	0	154	755
7:30 AM	0	0	0	0	0	4	0	15	0	0	85	15	0	34	43	0	196	729
7:45 AM	0	0	0	0	0	6	0	19	0	0	94	36	0	52	38	0	245	683
8:00 AM	0	0	0	0	0	8	0	5	0	0	86	7	0	12	42	0	160	698
8:15 AM	0	0	0	0	0	10	0	10	0	0	58	3	0	6	41	0	128	
8:30 AM	0	0	0	0	0	20	0	2	0	0	68	8	0	10	42	0	150	
8:45 AM	0	0	0	0	0	30	0	10	0	0	86	48	0	16	70	0	260	
Count Total	0	0	0	0	0	86	0	86	0	0	669	125	0	141	335	0	1,442	
Peak Hour	0	0	0	0	0	21	0	47	0	0	364	63	0	105	155	0	755	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	4	0	0	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	3	0	0	3	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	0	8	0	2	10	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	0	5	1	0	6	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	0	5	0	2	7	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	0	2	0	3	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	2	0	1	3	8:30 AM	0	0	0	0	0	8:30 AM	0	0	1	0	1
8:45 AM	0	5	1	2	8	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	0	34	2	10	46	Count Total	0	0	0	0	0	Count Total	0	0	1	0	1
Peak Hour	0	21	1	4	26	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



ALL TRAFFIC DATA SERVICES

(303) 216-2439

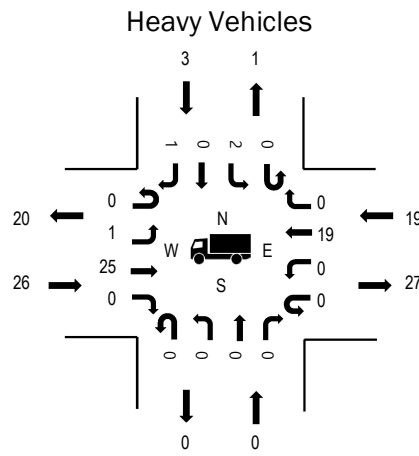
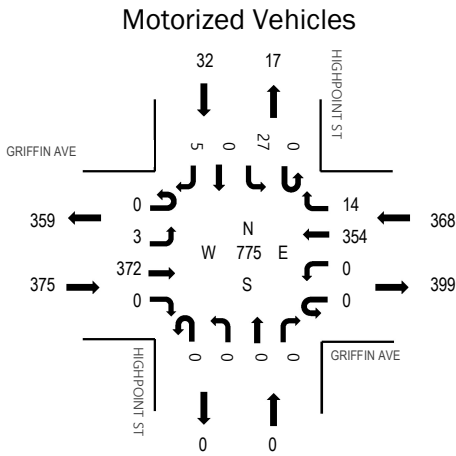
www.alltrafficdata.net

Location: 6 HIGHPOINT ST & GRIFFIN AVE AM

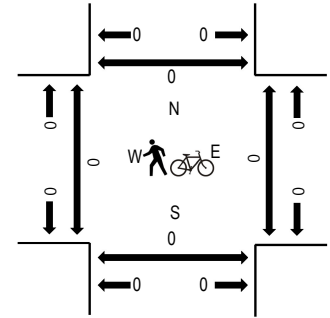
Date: Wednesday, December 4, 2024

Peak Hour: 07:30 AM - 08:30 AM

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	6.9%	0.80
WB	5.2%	0.88
NB	0.0%	0.00
SB	9.4%	0.89
All	6.2%	0.90

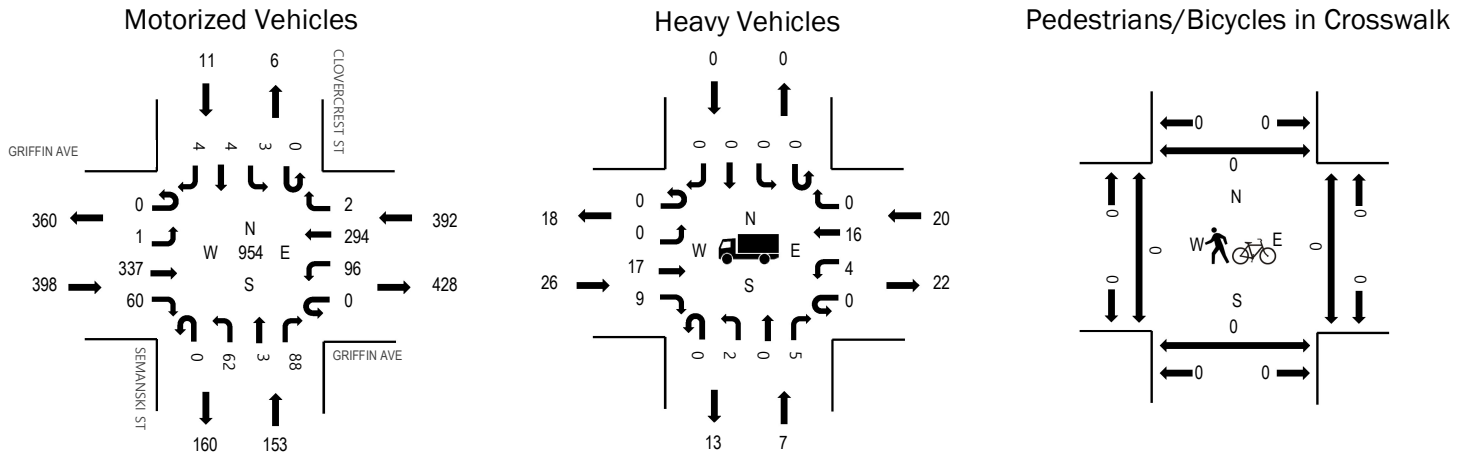
Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				HIGHPOINT ST Northbound				HIGHPOINT ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	55	0	0	0	83	2	0	0	0	0	0	3	0	1	144	718
7:15 AM	0	0	63	0	0	0	78	3	0	0	0	0	0	5	0	1	150	751
7:30 AM	0	1	95	0	0	0	104	1	0	0	0	0	0	6	0	2	209	775
7:45 AM	0	0	117	0	0	0	85	6	0	0	0	0	0	7	0	0	215	755
8:00 AM	0	2	70	0	0	0	92	5	0	0	0	0	0	7	0	1	177	754
8:15 AM	0	0	90	0	0	0	73	2	0	0	0	0	0	7	0	2	174	
8:30 AM	0	1	96	0	0	0	85	3	0	0	0	0	0	2	0	2	189	
8:45 AM	0	0	116	0	0	0	77	6	0	0	0	0	0	11	0	4	214	
Count Total	0	4	702	0	0	0	677	28	0	0	0	0	0	48	0	13	1,472	
Peak Hour	0	3	372	0	0	0	354	14	0	0	0	0	0	27	0	5	775	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	6	0	6	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	1	0	4	0	5	7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0
7:30 AM	16	0	1	1	18	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	6	0	6	0	12	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	3	0	8	1	12	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	1	0	4	1	6	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	1	0	5	0	6	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	10	0	4	0	14	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	38	0	38	3	79	Count Total	0	0	1	0	1	Count Total	0	0	0	0	0
Peak Hour	26	0	19	3	48	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Peak Hour



	HV%	PHF
EB	6.5%	0.85
WB	5.1%	0.85
NB	4.6%	0.67
SB	0.0%	0.69
All	5.6%	0.82

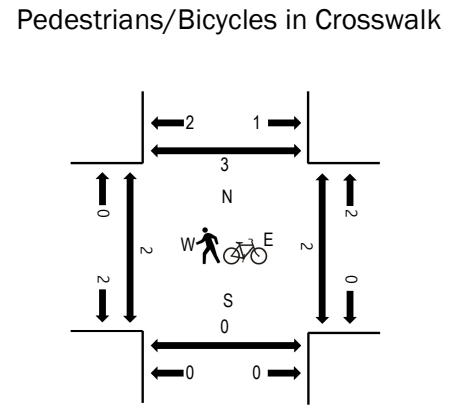
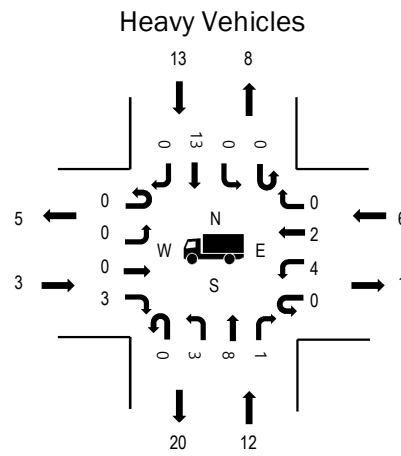
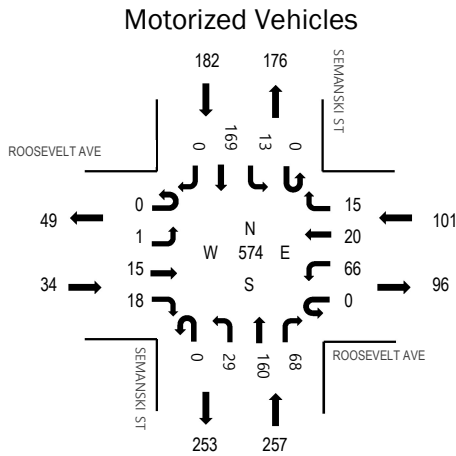
Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				SEMANSKI ST Northbound				CLOVERCREST ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	41	3	0	8	65	0	0	18	1	12	0	0	1	2	152	872
7:15 AM	0	1	60	6	0	12	61	0	0	14	0	13	0	1	3	0	171	928
7:30 AM	0	0	68	32	0	40	74	1	0	23	0	17	0	1	0	2	258	954
7:45 AM	0	0	100	17	0	39	76	0	0	16	1	40	0	0	1	1	291	914
8:00 AM	0	1	74	5	0	10	75	1	0	17	1	22	0	1	1	0	208	896
8:15 AM	0	0	95	6	0	7	69	0	0	6	1	9	0	1	2	1	197	
8:30 AM	0	0	88	10	0	17	79	1	0	8	0	15	0	0	0	0	218	
8:45 AM	0	0	106	13	0	20	89	0	0	12	0	30	0	1	2	0	273	
Count Total	0	3	632	92	0	153	588	3	0	114	4	158	0	5	10	6	1,768	
Peak Hour	0	1	337	60	0	96	294	2	0	62	3	88	0	3	4	4	954	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	2	4	0	6	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	1	2	2	0	5	7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1
7:30 AM	14	1	5	0	20	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	7	4	5	0	16	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	4	1	6	0	11	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	1	1	4	0	6	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	2	1	6	0	9	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	1	1
8:45 AM	8	3	3	0	14	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	37	15	35	0	87	Count Total	0	0	0	0	0	Count Total	0	1	0	1	2
Peak Hour	26	7	20	0	53	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Peak Hour



	HV%	PHF
EB	8.8%	0.85
WB	5.9%	0.72
NB	4.7%	0.68
SB	7.1%	0.63
All	5.9%	0.70

Traffic Counts - Motorized Vehicles

Interval Start Time	ROOSEVELT AVE Eastbound				ROOSEVELT AVE Westbound				SEMANSKI ST Northbound				SEMANSKI ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	2	4	0	6	4	9	0	5	19	8	0	2	12	1	73	529
7:15 AM	0	0	5	1	0	6	3	4	0	4	20	13	0	2	19	0	77	574
7:30 AM	0	0	2	8	0	28	3	4	0	7	41	10	0	5	67	0	175	569
7:45 AM	0	0	3	6	0	23	6	5	0	9	56	30	0	1	65	0	204	499
8:00 AM	0	1	5	3	0	9	8	2	0	9	43	15	0	5	18	0	118	446
8:15 AM	0	0	2	3	0	18	5	1	0	3	13	16	0	1	10	0	72	
8:30 AM	0	3	11	5	0	9	5	2	0	5	19	16	0	2	28	0	105	
8:45 AM	0	1	3	5	0	17	6	3	0	7	42	23	0	5	39	0	151	
Count Total	0	6	33	35	0	116	40	30	0	49	253	131	0	23	258	1	975	
Peak Hour	0	1	15	18	0	66	20	15	0	29	160	68	0	13	169	0	574	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	3	1	1	5	7:00 AM	0	0	0	0	0	7:00 AM	0	1	1	0	2
7:15 AM	0	4	1	1	6	7:15 AM	1	0	0	0	1	7:15 AM	1	0	0	2	3
7:30 AM	3	3	3	12	21	7:30 AM	0	0	0	0	0	7:30 AM	1	0	0	1	2
7:45 AM	0	3	2	0	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	2	0	2
8:00 AM	0	2	0	0	2	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	0	3	0	0	3	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	1	2	3	1	7	8:30 AM	0	0	0	0	0	8:30 AM	1	0	0	1	2
8:45 AM	1	2	1	3	7	8:45 AM	0	0	0	0	0	8:45 AM	2	0	0	2	4
Count Total	5	22	11	18	56	Count Total	1	0	0	0	1	Count Total	5	1	3	6	15
Peak Hour	3	12	6	13	34	Peak Hour	1	0	0	0	1	Peak Hour	2	0	2	3	7



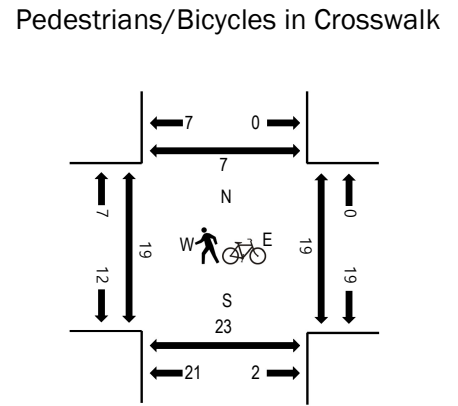
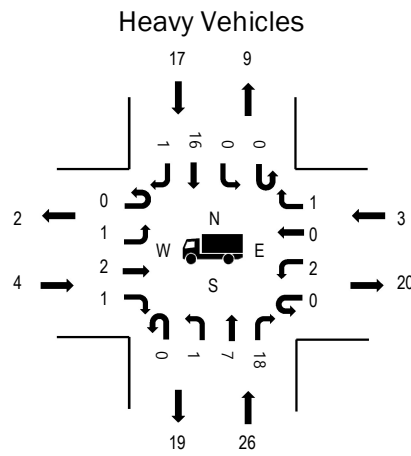
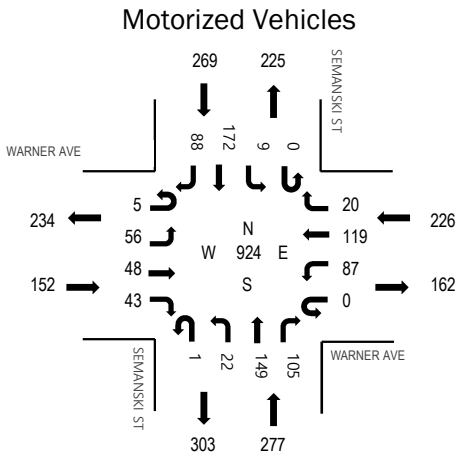
(303) 216-2439
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Location: 9 SEMANSKI ST & WARNER AVE AM

Date: Wednesday, December 4, 2024

Peak Hour: 07:15 AM - 08:15 AM

Peak Hour



	HV%	PHF
EB	2.6%	0.48
WB	1.3%	0.53
NB	9.4%	0.58
SB	6.3%	0.64
All	5.4%	0.56

Traffic Counts - Motorized Vehicles

Interval Start Time	WARNER AVE Eastbound				WARNER AVE Westbound				SEMANSKI ST Northbound				SEMANSKI ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	2	8	6	0	8	11	6	0	4	12	13	0	1	15	10	96	876
7:15 AM	0	1	6	6	0	9	10	6	0	3	14	9	0	2	17	5	88	924
7:30 AM	1	18	8	16	0	29	34	6	0	6	31	28	0	3	78	24	282	906
7:45 AM	4	30	27	18	0	44	58	5	1	10	65	43	0	1	57	47	410	743
8:00 AM	0	7	7	3	0	5	17	3	0	3	39	25	0	3	20	12	144	555
8:15 AM	0	1	13	2	0	3	7	5	0	1	10	3	0	6	8	11	70	
8:30 AM	0	6	6	5	0	7	17	1	0	1	21	6	0	9	22	18	119	
8:45 AM	0	21	34	4	0	9	16	8	0	2	32	31	0	4	35	26	222	
Count Total	5	86	109	60	0	114	170	40	1	30	224	158	0	29	252	153	1,431	
Peak Hour	5	56	48	43	0	87	119	20	1	22	149	105	0	9	172	88	924	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	6	0	1	9	7:00 AM	0	0	0	0	0	7:00 AM	3	1	0	3	7
7:15 AM	0	5	1	1	7	7:15 AM	0	0	0	0	0	7:15 AM	2	8	5	1	16
7:30 AM	2	10	0	15	27	7:30 AM	0	0	0	0	0	7:30 AM	5	9	9	3	26
7:45 AM	1	5	2	1	9	7:45 AM	0	0	0	0	0	7:45 AM	12	5	4	3	24
8:00 AM	1	6	0	0	7	8:00 AM	0	0	0	0	0	8:00 AM	0	1	1	0	2
8:15 AM	1	3	1	0	5	8:15 AM	0	0	0	0	0	8:15 AM	0	3	2	0	5
8:30 AM	1	1	1	0	3	8:30 AM	0	0	0	0	0	8:30 AM	0	4	1	0	5
8:45 AM	1	0	1	3	5	8:45 AM	0	0	0	0	0	8:45 AM	11	1	0	3	15
Count Total	9	36	6	21	72	Count Total	0	0	0	0	0	Count Total	33	32	22	13	100
Peak Hour	4	26	3	17	50	Peak Hour	0	0	0	0	0	Peak Hour	19	23	19	7	68



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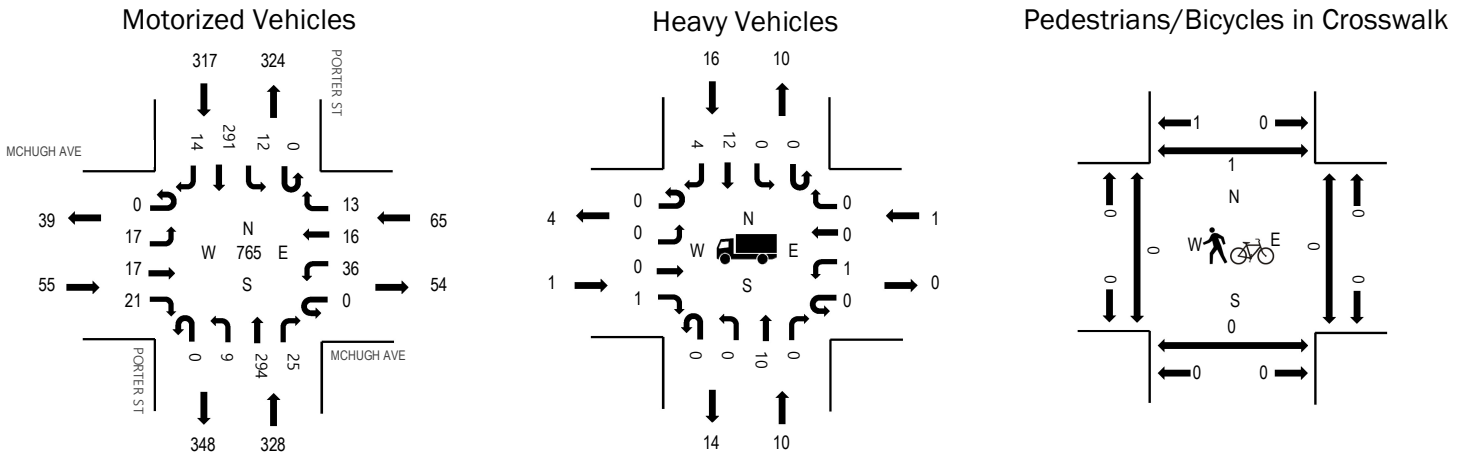
www.alltrafficdata.net

Location: 10 PORTER ST & MCHUGH AVE AM

Date: Wednesday, December 4, 2024

Peak Hour: 08:00 AM - 09:00 AM

Peak Hour



	HV%	PHF
EB	1.8%	0.42
WB	1.5%	0.71
NB	3.0%	0.84
SB	5.0%	0.65
All	3.7%	0.76

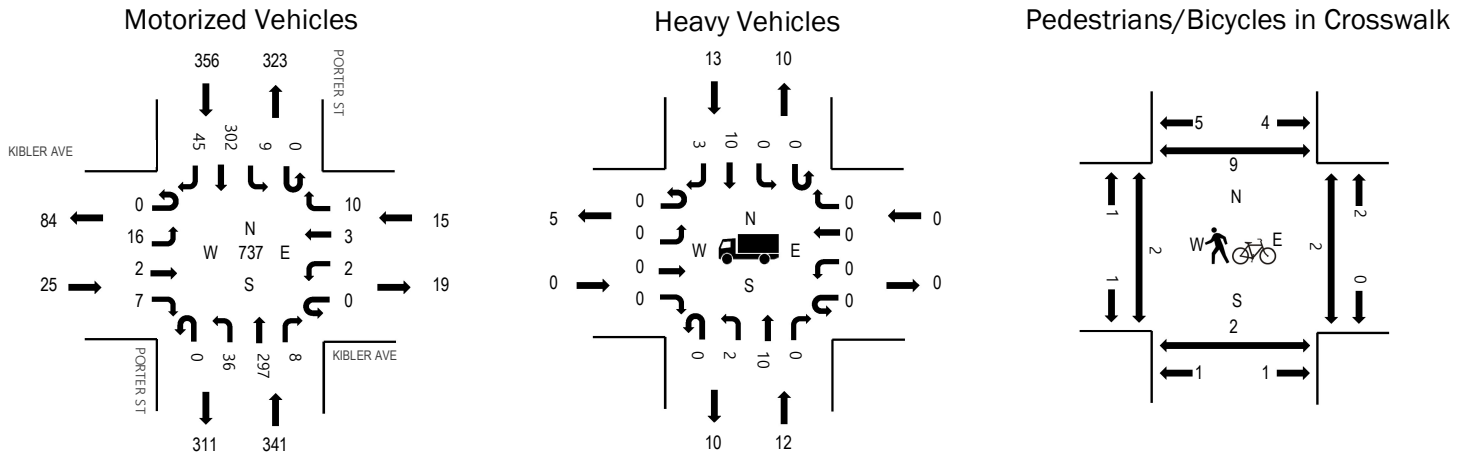
Traffic Counts - Motorized Vehicles

Interval Start Time	MCHUGH AVE Eastbound				MCHUGH AVE Westbound				PORTER ST Northbound				PORTER ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	1	4	0	1	0	3	0	1	69	2	0	2	41	0	125	668
7:15 AM	0	3	2	7	0	7	3	6	0	2	65	0	0	0	46	2	143	728
7:30 AM	0	4	0	1	0	6	4	4	0	2	80	5	0	3	60	4	173	717
7:45 AM	0	6	3	4	0	9	3	7	0	0	89	2	0	2	100	2	227	739
8:00 AM	0	4	6	0	0	5	2	6	0	2	90	6	0	3	56	5	185	765
8:15 AM	0	1	3	4	0	5	2	1	0	1	57	7	0	3	47	1	132	
8:30 AM	0	2	0	2	0	14	7	2	0	1	81	5	0	2	74	5	195	
8:45 AM	0	10	8	15	0	12	5	4	0	5	66	7	0	4	114	3	253	
Count Total	0	31	23	37	0	59	26	33	0	14	597	34	0	19	538	22	1,433	
Peak Hour	0	17	17	21	0	36	16	13	0	9	294	25	0	12	291	14	765	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	4	0	1	5	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	1	4	1	5	11	7:15 AM	0	0	0	1	1	7:15 AM	1	0	0	0	1
7:30 AM	1	3	1	4	9	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	0	13	0	3	16	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	3	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	0	2	1	3	6	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	0	7	0	6	13	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	1	0	0	4	5	8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	1	1
Count Total	3	34	3	29	69	Count Total	0	0	1	1	2	Count Total	1	0	0	1	2
Peak Hour	1	10	1	16	28	Peak Hour	0	0	1	0	1	Peak Hour	0	0	0	1	1

Peak Hour



	HV%	PHF
EB	0.0%	0.57
WB	0.0%	0.63
NB	3.5%	0.91
SB	3.7%	0.58
All	3.4%	0.72

Traffic Counts - Motorized Vehicles

Interval Start Time	KIBLER AVE Eastbound				KIBLER AVE Westbound				PORTER ST Northbound			PORTER ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	4	0	4	0	1	2	4	0	4	59	1	0	2	44	5	130	651
7:15 AM	0	6	1	1	0	0	0	2	0	1	58	1	0	3	59	3	135	696
7:30 AM	0	7	2	0	0	1	2	3	0	0	74	2	0	1	66	5	163	689
7:45 AM	0	5	1	3	0	1	3	2	0	5	83	0	0	0	110	10	223	703
8:00 AM	0	9	1	1	0	0	0	4	0	4	87	3	0	3	60	3	175	737
8:15 AM	0	2	1	1	0	1	0	3	0	3	60	1	0	2	53	1	128	
8:30 AM	0	2	0	1	0	0	1	0	0	14	78	0	0	1	68	12	177	
8:45 AM	0	3	0	4	0	1	2	3	0	15	72	4	0	3	121	29	257	
Count Total	0	38	6	15	0	5	10	21	0	46	571	12	0	15	581	68	1,388	
Peak Hour	0	16	2	7	0	2	3	10	0	36	297	8	0	9	302	45	737	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	4	0	1	5	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	4	0	6	10	7:15 AM	0	0	0	0	0	7:15 AM	0	0	1	0	1
7:30 AM	1	2	0	5	8	7:30 AM	0	0	0	0	0	7:30 AM	2	0	0	0	2
7:45 AM	0	13	0	3	16	7:45 AM	0	0	0	0	0	7:45 AM	0	0	2	1	3
8:00 AM	0	2	0	2	4	8:00 AM	0	0	0	0	0	8:00 AM	1	1	0	1	3
8:15 AM	0	3	0	2	5	8:15 AM	0	0	0	0	0	8:15 AM	0	1	0	4	5
8:30 AM	0	6	0	4	10	8:30 AM	0	0	0	0	0	8:30 AM	1	0	2	4	7
8:45 AM	0	1	0	5	6	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	1	35	0	28	64	Count Total	0	0	0	0	0	Count Total	4	2	5	10	21
Peak Hour	0	12	0	13	25	Peak Hour	0	0	0	0	0	Peak Hour	2	2	2	9	15



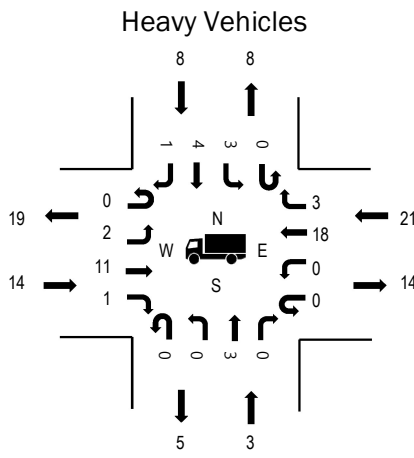
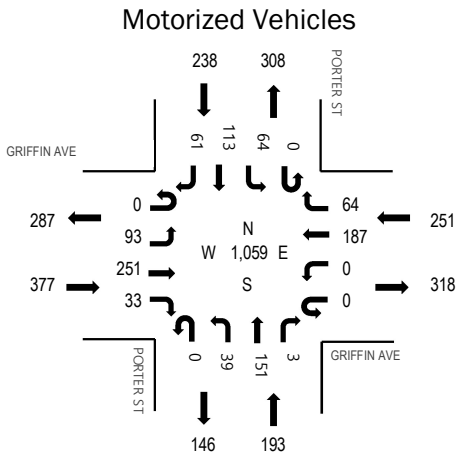
(303) 216-2439
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Location: 12 PORTER ST & GRIFFIN AVE AM

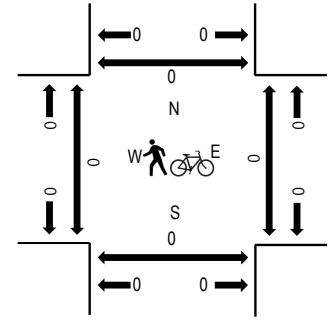
Date: Wednesday, December 4, 2024

Peak Hour: 07:45 AM - 08:45 AM

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	3.7%	0.81
WB	8.4%	0.86
NB	1.6%	0.89
SB	3.4%	0.68
All	4.3%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				PORTER ST Northbound			PORTER ST Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right
7:00 AM	0	19	25	4	0	0	30	10	0	4	24	0	0	10	12	12	150	866
7:15 AM	0	19	35	8	0	0	35	16	0	5	24	0	0	9	22	12	185	960
7:30 AM	0	20	48	8	0	1	42	10	0	5	29	0	0	9	26	20	218	1,022
7:45 AM	0	33	70	13	0	0	55	18	0	5	31	1	0	21	41	25	313	1,059
8:00 AM	0	29	45	3	0	0	43	17	0	11	40	1	0	13	33	9	244	1,055
8:15 AM	0	19	68	9	0	0	47	14	0	14	35	1	0	10	18	12	247	
8:30 AM	0	12	68	8	0	0	42	15	0	9	45	0	0	20	21	15	255	
8:45 AM	0	31	90	10	0	0	39	13	0	12	37	0	0	21	39	17	309	
Count Total	0	182	449	63	0	1	333	113	0	65	265	3	0	113	212	122	1,921	
Peak Hour	0	93	251	33	0	0	187	64	0	39	151	3	0	64	113	61	1,059	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	6	1	7	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	0	2	0	2	7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1
7:30 AM	4	0	1	3	8	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	9	0	6	1	16	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	2	1	4	2	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:15 AM	2	2	4	2	10	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	1	0	7	3	11	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:45 AM	5	1	2	0	8	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
Count Total	23	4	32	12	71	Count Total	0	0	0	0	0	Count Total	0	1	0	0	1
Peak Hour	14	3	21	8	46	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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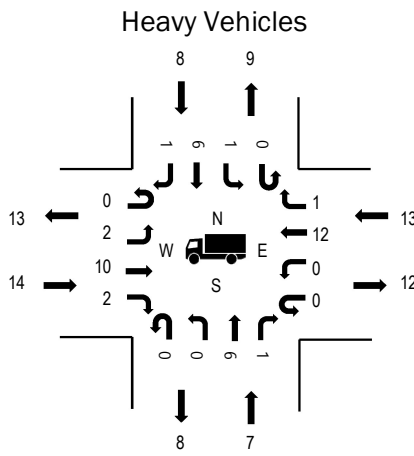
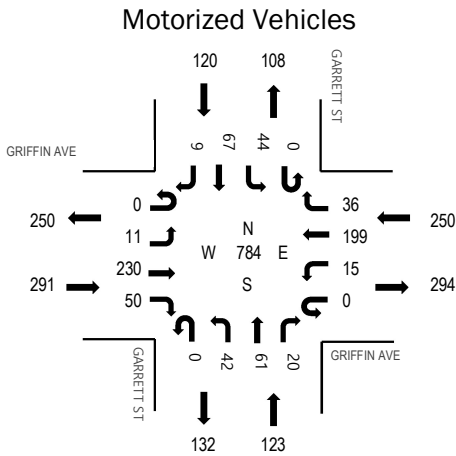
www.alltrafficdata.net

Location: 13 GARRETT ST & GRIFFIN AVE AM

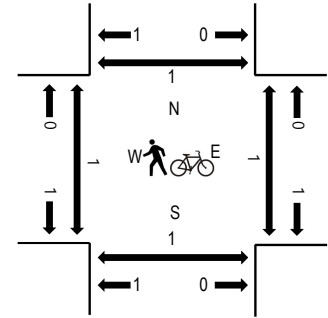
Date: Wednesday, December 4, 2024

Peak Hour: 08:00 AM - 09:00 AM

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	4.8%	0.77
WB	5.2%	0.84
NB	5.7%	0.88
SB	6.7%	0.83
All	5.4%	0.83

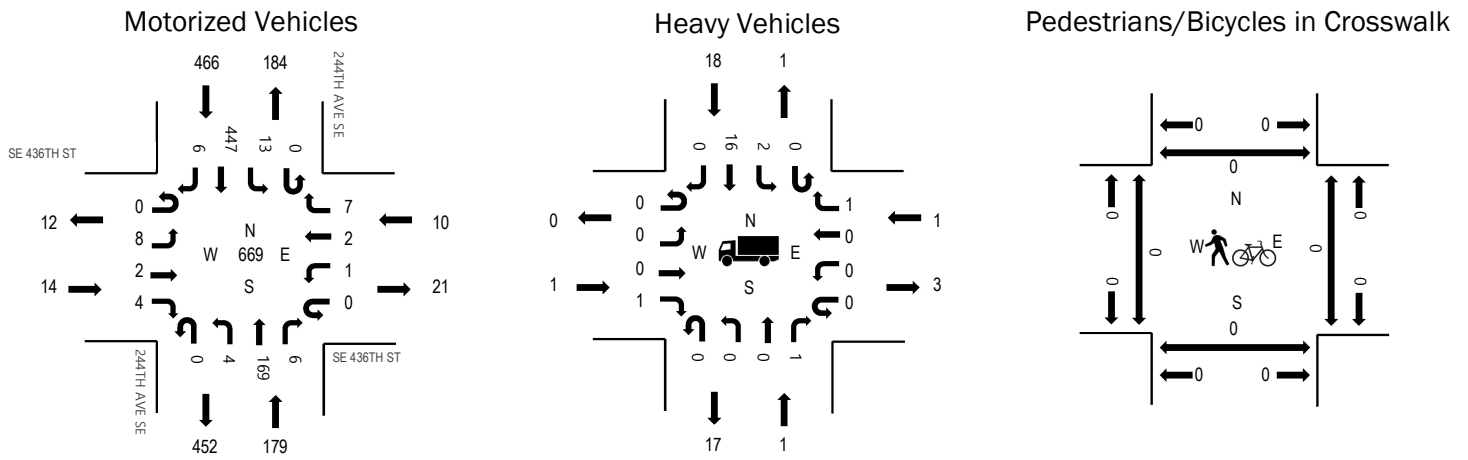
Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				GARRETT ST Northbound				GARRETT ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	1	30	4	0	0	33	8	0	7	26	3	0	5	8	1	126	620
7:15 AM	0	3	30	3	0	0	44	6	0	5	11	3	0	13	9	0	127	670
7:30 AM	0	2	42	9	0	2	50	8	0	5	22	6	0	6	12	0	164	723
7:45 AM	0	2	65	12	0	0	59	8	0	10	13	9	0	12	9	4	203	752
8:00 AM	0	3	40	9	0	1	54	8	0	10	19	6	0	9	13	4	176	784
8:15 AM	0	0	53	13	0	6	46	7	0	16	15	1	0	4	17	2	180	
8:30 AM	0	3	64	11	0	0	46	8	0	9	9	8	0	15	19	1	193	
8:45 AM	0	5	73	17	0	8	53	13	0	7	18	5	0	16	18	2	235	
Count Total	0	19	397	78	0	17	385	66	0	69	133	41	0	80	105	14	1,404	
Peak Hour	0	11	230	50	0	15	199	36	0	42	61	20	0	44	67	9	784	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	1	6	2	10	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:15 AM	0	1	2	2	5	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:30 AM	4	7	3	3	17	7:30 AM	0	0	0	0	0	7:30 AM	0	1	0	0	1
7:45 AM	4	3	6	2	15	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
8:00 AM	4	3	3	0	10	8:00 AM	0	0	0	0	0	8:00 AM	0	1	0	0	1
8:15 AM	4	2	3	0	9	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:30 AM	1	1	5	4	11	8:30 AM	0	0	0	0	0	8:30 AM	0	0	1	0	1
8:45 AM	5	1	2	4	12	8:45 AM	0	0	0	0	0	8:45 AM	1	0	0	1	2
Count Total	23	19	30	17	89	Count Total	0	0	0	0	0	Count Total	1	2	1	1	5
Peak Hour	14	7	13	8	42	Peak Hour	0	0	0	0	0	Peak Hour	1	1	1	1	4

Peak Hour



	HV%	PHF
EB	7.1%	0.58
WB	10.0%	0.50
NB	0.6%	0.77
SB	3.9%	0.90
All	3.1%	0.88

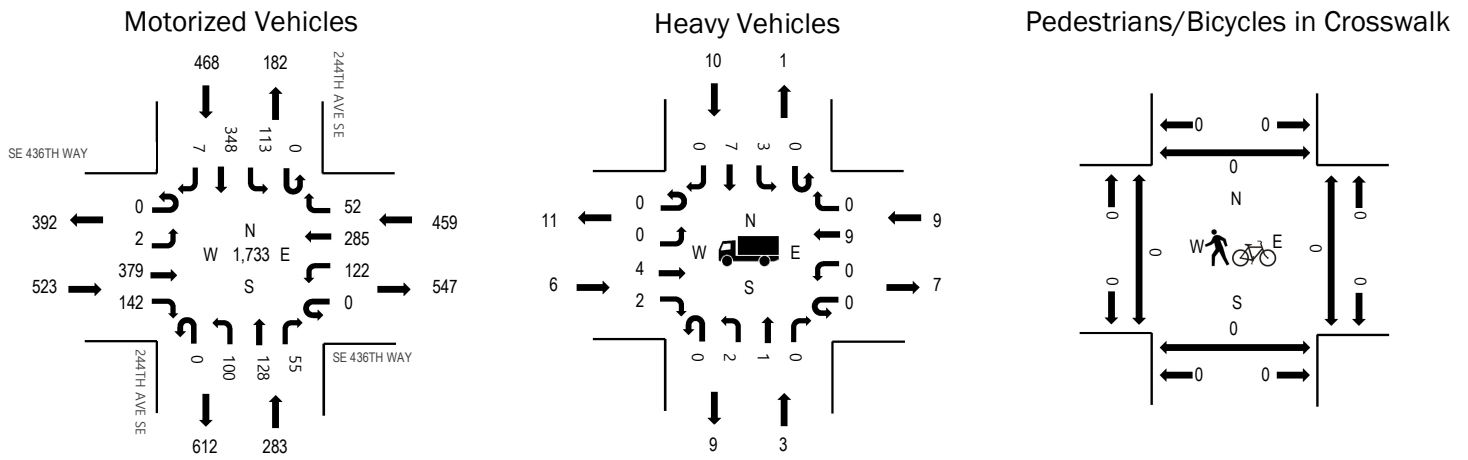
Traffic Counts - Motorized Vehicles

Interval Start Time	SE 436TH ST Eastbound				SE 436TH ST Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	5	0	1	0	0	0	1	0	2	43	3	0	4	92	2	153	669
4:15 PM	0	1	0	2	0	0	1	4	0	0	34	1	0	2	109	0	154	658
4:30 PM	0	0	0	0	0	0	1	2	0	1	37	0	0	3	126	1	171	627
4:45 PM	0	2	2	1	0	1	0	0	0	1	55	2	0	4	120	3	191	595
5:00 PM	0	2	2	2	0	0	0	1	0	0	43	2	0	2	86	2	142	506
5:15 PM	0	0	2	0	0	0	0	3	0	2	33	0	0	1	80	2	123	
5:30 PM	0	2	1	0	0	0	1	1	0	1	41	1	0	2	88	1	139	
5:45 PM	0	1	1	0	0	2	0	1	0	2	32	0	0	3	60	0	102	
Count Total	0	13	8	6	0	3	3	13	0	9	318	9	0	21	761	11	1,175	
Peak Hour	0	8	2	4	0	1	2	7	0	4	169	6	0	13	447	6	669	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	10	11	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	0	1	1	4	6	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	3	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	1	1	1	22	25	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	1	1	18	21	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Peak Hour



	HV%	PHF
EB	1.1%	0.91
WB	2.0%	0.89
NB	1.1%	0.88
SB	2.1%	0.91
All	1.6%	0.96

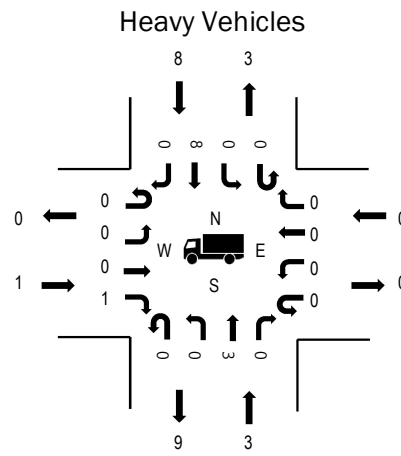
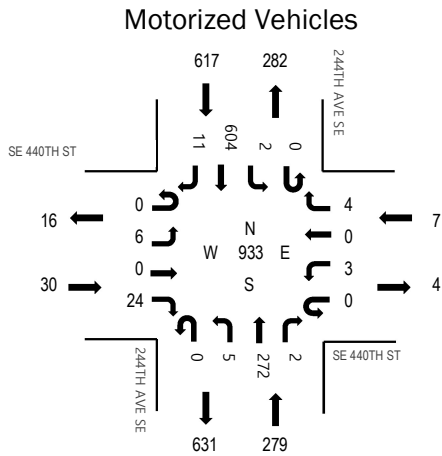
Traffic Counts - Motorized Vehicles

Interval Start Time	SE 436TH WAY Eastbound				SE 436TH WAY Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	70	29	0	35	72	14	0	30	36	13	0	15	67	0	382	1,673
4:15 PM	0	1	86	32	0	27	69	9	0	22	26	13	0	35	91	2	413	1,733
4:30 PM	0	0	97	36	0	30	72	13	0	29	26	13	0	23	85	1	425	1,687
4:45 PM	0	1	103	40	0	30	65	15	0	26	44	10	0	26	92	1	453	1,652
5:00 PM	0	0	93	34	0	35	79	15	0	23	32	19	0	29	80	3	442	1,530
5:15 PM	0	0	84	30	0	24	72	11	0	30	22	10	0	20	62	2	367	
5:30 PM	0	0	84	33	0	29	60	8	0	41	37	14	0	20	63	1	390	
5:45 PM	0	1	73	32	0	19	69	15	0	20	19	19	0	20	42	2	331	
Count Total	0	4	690	266	0	229	558	100	0	221	242	111	0	188	582	12	3,203	
Peak Hour	0	2	379	142	0	122	285	52	0	100	128	55	0	113	348	7	1,733	

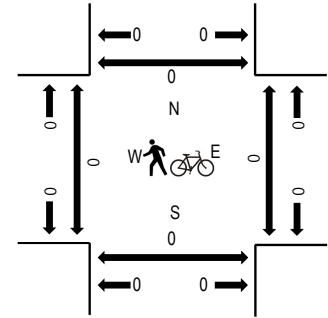
Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	1	8	10	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	1	2	2	5	10	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	3	1	4	1	9	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	2	0	1	1	4	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	2	3	5	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	2	0	2	1	5	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	2	1	0	1	4	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	1	0	1	1	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	12	4	13	21	50	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	6	3	9	10	28	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	3.3%	0.63
WB	0.0%	0.58
NB	1.1%	0.86
SB	1.3%	0.95
All	1.3%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SE 440TH ST Eastbound				SE 440TH ST Westbound				244TH AVE SE Northbound				244TH AVE SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	0	8	0	0	0	1	0	3	78	0	0	1	128	0	220	919
4:15 PM	0	3	0	9	0	0	0	2	0	0	55	0	0	0	150	2	221	933
4:30 PM	0	2	0	7	0	0	0	0	0	0	71	0	0	1	144	6	231	899
4:45 PM	0	0	0	2	0	2	0	0	0	3	77	1	0	0	161	1	247	886
5:00 PM	0	1	0	6	0	1	0	2	0	2	69	1	0	1	149	2	234	805
5:15 PM	0	2	0	7	0	0	0	1	0	3	61	0	0	0	109	4	187	
5:30 PM	0	2	0	7	0	0	0	1	0	1	85	0	0	2	118	2	218	
5:45 PM	0	2	0	4	0	0	0	0	0	5	61	0	0	1	91	2	166	
Count Total	0	13	0	50	0	3	0	7	0	17	557	2	0	6	1,050	19	1,724	
Peak Hour	0	6	0	24	0	3	0	4	0	5	272	2	0	2	604	11	933	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

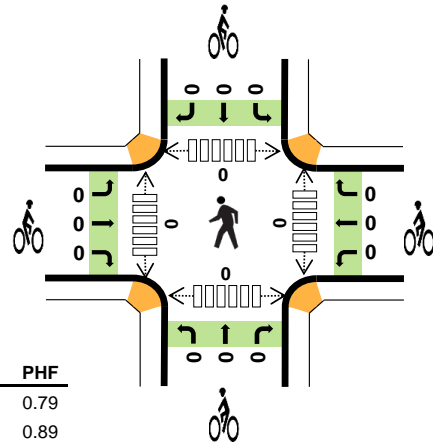
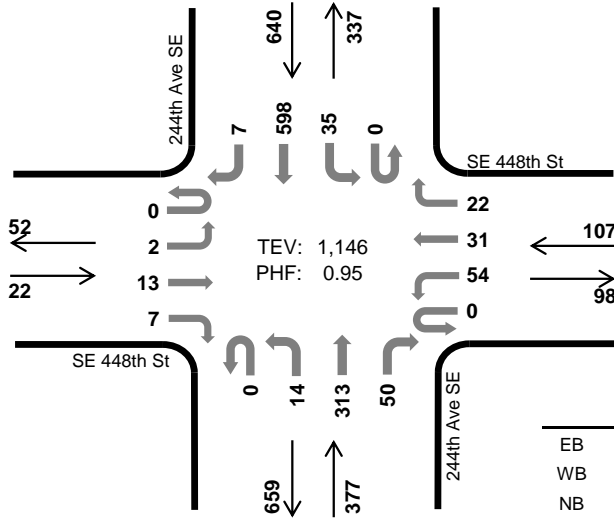
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	4	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	1	2	0	4	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	3	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	1	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	2	4	0	15	21	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	1	3	0	8	12	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

244th Ave SE SE 448th St



Peak Hour

Date: 03/30/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	0.0%	0.79
WB	3.7%	0.89
NB	0.3%	0.93
SB	2.5%	0.94
TOTAL	1.8%	0.95

Two-Hour Count Summaries

Interval Start	SE 448th St Eastbound				SE 448th St Westbound				244th Ave SE Northbound				244th Ave SE Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	2	2	1	0	15	8	7	0	0	79	7	0	10	140	2	273	0	
4:15 PM	0	0	5	3	0	20	2	13	0	2	61	11	0	8	158	0	283	0	
4:30 PM	0	0	4	0	0	13	8	6	0	3	75	10	0	9	131	1	260	0	
4:45 PM	0	0	6	1	0	14	5	6	0	1	86	14	0	7	163	0	303	1,119	
5:00 PM	0	1	1	3	0	14	10	6	0	6	72	9	0	9	148	2	281	1,127	
5:15 PM	0	1	4	0	0	14	9	7	0	5	74	19	0	9	138	2	282	1,126	
5:30 PM	0	0	2	3	0	12	7	3	0	2	81	8	0	10	149	3	280	1,146	
5:45 PM	0	2	3	3	0	15	5	6	0	4	74	24	0	14	121	2	273	1,116	
Count Total	0	6	27	14	0	117	54	54	0	23	602	102	0	76	1,148	12	2,235	0	
Peak Hour	All	0	2	13	7	0	54	31	22	0	14	313	50	0	35	598	7	1,146	0
	HV	0	0	0	0	0	2	2	0	0	0	1	0	0	1	15	0	21	0
	HV%	-	0%	0%	0%	-	4%	6%	0%	-	0%	0%	0%	-	3%	3%	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	1	2	0	17	20	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	13	13	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	8	10	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	6	7	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	1	5	8	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Count Total	1	6	3	55	65	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	4	1	16	21	0	0	0	0	0	0	0	0	0	0



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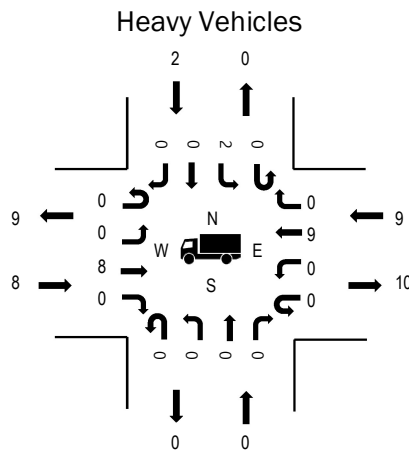
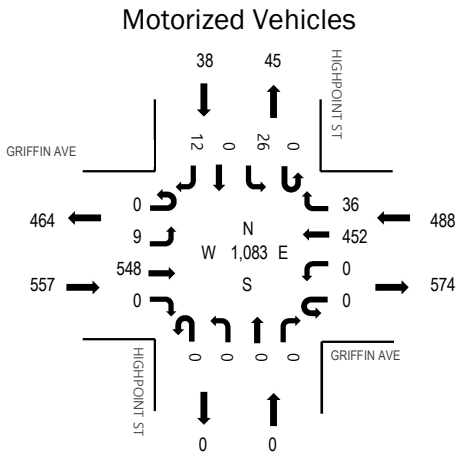
www.alltrafficdata.net

Location: 6 HIGHPOINT ST & GRIFFIN AVE PM

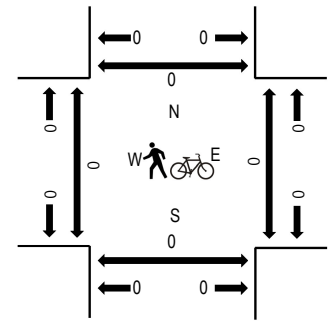
Date: Wednesday, December 4, 2024

Peak Hour: 04:15 PM - 05:15 PM

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	1.4%	0.92
WB	1.8%	0.92
NB	0.0%	0.00
SB	5.3%	0.73
All	1.8%	0.93

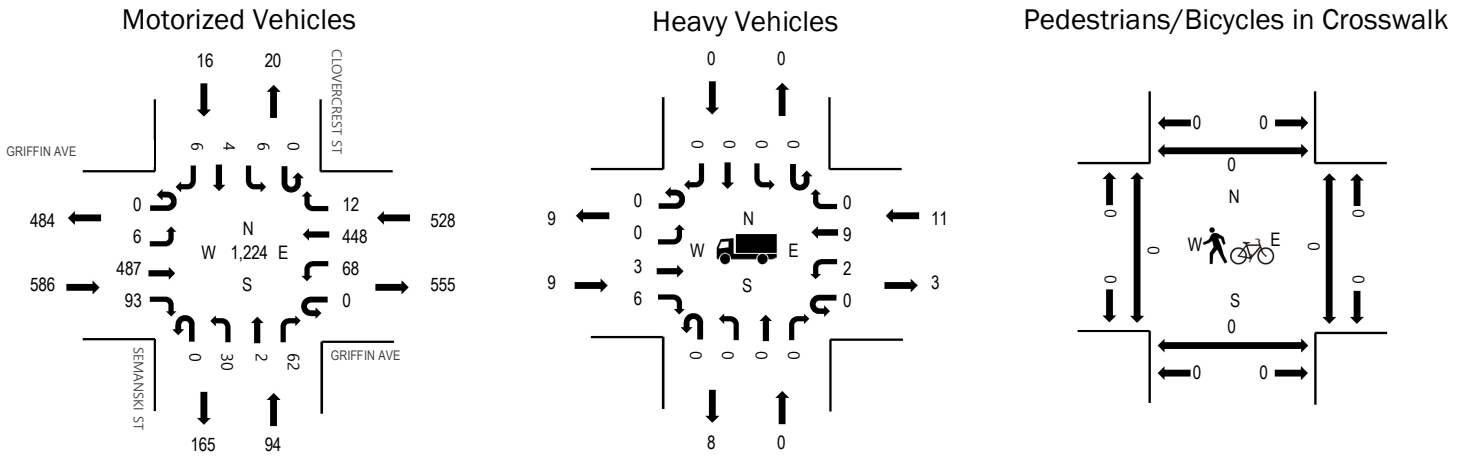
Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				HIGHPOINT ST Northbound				HIGHPOINT ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	98	0	0	0	120	11	0	0	0	0	0	7	0	1	238	1,030
4:15 PM	0	3	130	0	0	0	106	13	0	0	0	0	0	5	0	4	261	1,083
4:30 PM	0	3	126	0	0	0	118	8	0	0	0	0	0	11	0	2	268	1,045
4:45 PM	0	0	144	0	0	0	101	9	0	0	0	0	0	5	0	4	263	1,003
5:00 PM	0	3	148	0	0	0	127	6	0	0	0	0	0	5	0	2	291	969
5:15 PM	0	1	110	0	0	0	101	6	0	0	0	0	0	4	0	1	223	
5:30 PM	0	4	113	0	0	0	94	5	0	0	0	0	0	10	0	0	226	
5:45 PM	0	4	109	0	0	0	101	4	0	0	0	0	0	9	0	2	229	
Count Total	0	19	978	0	0	0	868	62	0	0	0	0	0	56	0	16	1,999	
Peak Hour	0	9	548	0	0	0	452	36	0	0	0	0	0	26	0	12	1,083	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	0	1	0	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	3	0	3	2	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	3	0	3	0	6	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	1	0	1	0	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	2	0	2	0	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	2	0	0	1	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	1	0	2	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	17	0	14	3	34	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	8	0	9	2	19	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Peak Hour



	HV%	PHF
EB	1.5%	0.94
WB	2.1%	0.94
NB	0.0%	0.71
SB	0.0%	0.67
All	1.6%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				SEMANSKI ST Northbound				CLOVERCREST ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	92	15	0	11	113	1	0	13	2	12	0	0	0	2	261	1,167
4:15 PM	0	0	114	22	0	10	114	4	0	8	0	9	0	1	0	2	284	1,224
4:30 PM	0	1	118	20	0	21	117	2	0	6	1	11	0	1	2	3	303	1,213
4:45 PM	0	4	119	32	0	25	101	3	0	13	0	20	0	1	1	0	319	1,165
5:00 PM	0	1	136	19	0	12	116	3	0	3	1	22	0	3	1	1	318	1,109
5:15 PM	0	0	101	17	0	20	100	3	0	9	4	16	0	0	3	0	273	
5:30 PM	0	3	109	14	0	19	80	4	0	8	3	14	0	0	0	1	255	
5:45 PM	0	2	112	11	0	15	88	4	0	12	2	15	0	0	2	0	263	
Count Total	0	11	901	150	0	133	829	24	0	72	13	119	0	6	9	9	2,276	
Peak Hour	0	6	487	93	0	68	448	12	0	30	2	62	0	6	4	6	1,224	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	0	1	0	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:15 PM	4	0	3	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	2	0	4	0	6	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	2	0	2	0	4	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	2	0	2	0	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	3	0	0	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	1	0	2	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	19	0	16	0	35	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	9	0	11	0	20	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



ALL TRAFFIC DATA SERVICES

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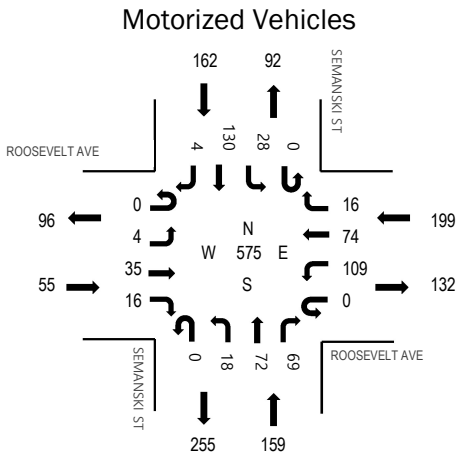
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Location: 8 SEMANSKI ST & ROOSEVELT AVE PM

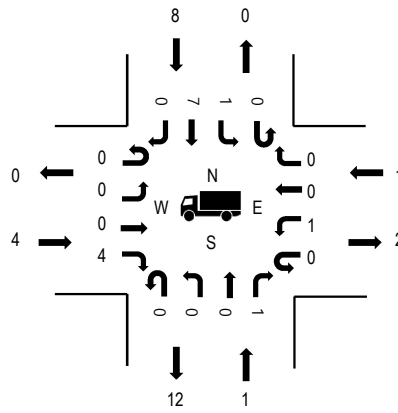
Date: Wednesday, December 4, 2024

Peak Hour: 04:15 PM - 05:15 PM

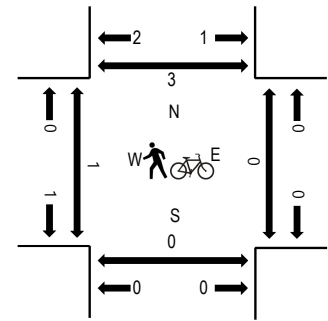
Peak Hour



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	7.3%	0.69
WB	0.5%	0.90
NB	0.6%	0.83
SB	4.9%	0.68
All	2.4%	0.83

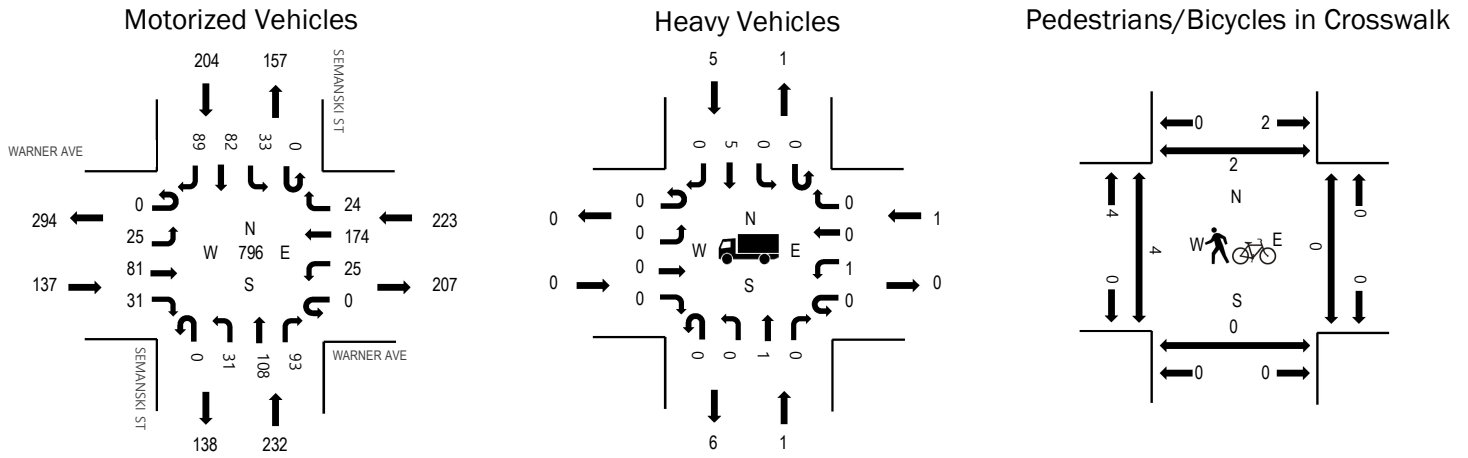
Traffic Counts - Motorized Vehicles

Interval Start Time	ROOSEVELT AVE Eastbound				ROOSEVELT AVE Westbound				SEMANSKI ST Northbound				SEMANSKI ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	2	4	0	27	16	10	0	7	23	20	0	7	19	0	135	559
4:15 PM	0	0	9	7	0	20	15	6	0	0	17	13	0	9	22	1	119	575
4:30 PM	0	0	4	5	0	26	22	4	0	6	15	15	0	4	30	0	131	575
4:45 PM	0	0	9	1	0	29	22	4	0	4	25	20	0	7	51	2	174	570
5:00 PM	0	4	13	3	0	34	15	2	0	8	15	21	0	8	27	1	151	534
5:15 PM	0	1	8	6	0	16	17	5	0	6	14	14	0	6	25	1	119	
5:30 PM	0	1	9	1	0	23	15	6	0	6	20	11	0	6	26	2	126	
5:45 PM	0	0	12	7	0	23	8	6	0	1	28	24	0	5	24	0	138	
Count Total	0	6	66	34	0	198	130	43	0	38	157	138	0	52	224	7	1,093	
Peak Hour	0	4	35	16	0	109	74	16	0	18	72	69	0	28	130	4	575	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	3	2	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	2	2	4
4:15 PM	3	1	0	4	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	3	4	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	2	3
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1
5:15 PM	0	1	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	1	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	1	1	1	3	5:45 PM	0	0	1	0	1	5:45 PM	0	0	0	0	0
Count Total	4	3	6	11	24	Count Total	0	0	1	0	1	Count Total	1	0	2	5	8
Peak Hour	4	1	1	8	14	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	3	4

Peak Hour



	HV%	PHF
EB	0.0%	0.71
WB	0.4%	0.84
NB	0.4%	0.58
SB	2.5%	0.88
All	0.9%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	WARNER AVE Eastbound				WARNER AVE Westbound				SEMANSKI ST Northbound				SEMANSKI ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	9	19	4	1	6	37	6	0	1	30	11	0	11	8	27	170	722
4:15 PM	0	8	29	2	1	12	31	5	0	6	20	9	0	7	12	8	150	777
4:30 PM	0	5	17	6	0	8	40	4	0	5	23	14	0	9	23	20	174	796
4:45 PM	0	4	17	8	0	5	30	6	0	7	43	50	0	7	32	19	228	774
5:00 PM	0	8	32	8	0	1	55	10	0	10	24	22	0	10	19	26	225	705
5:15 PM	0	8	15	9	0	11	49	4	0	9	18	7	0	7	8	24	169	
5:30 PM	0	10	32	5	0	4	27	4	0	6	22	16	0	4	11	11	152	
5:45 PM	0	10	24	3	0	8	36	10	0	4	21	7	0	8	15	13	159	
Count Total	0	62	185	45	2	55	305	49	0	48	201	136	0	63	128	148	1,427	
Peak Hour	0	25	81	31	0	25	174	24	0	31	108	93	0	33	82	89	796	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	0	1	2	6	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:15 PM	0	1	1	7	9	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	2	3	4:30 PM	0	0	0	0	0	4:30 PM	3	0	0	1	4
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	1	0	1	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	0	1
5:30 PM	1	1	0	1	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	4	6
Count Total	4	3	3	15	25	Count Total	0	0	0	0	0	Count Total	6	0	0	8	14
Peak Hour	0	1	1	5	7	Peak Hour	0	0	0	0	0	Peak Hour	4	0	0	2	6



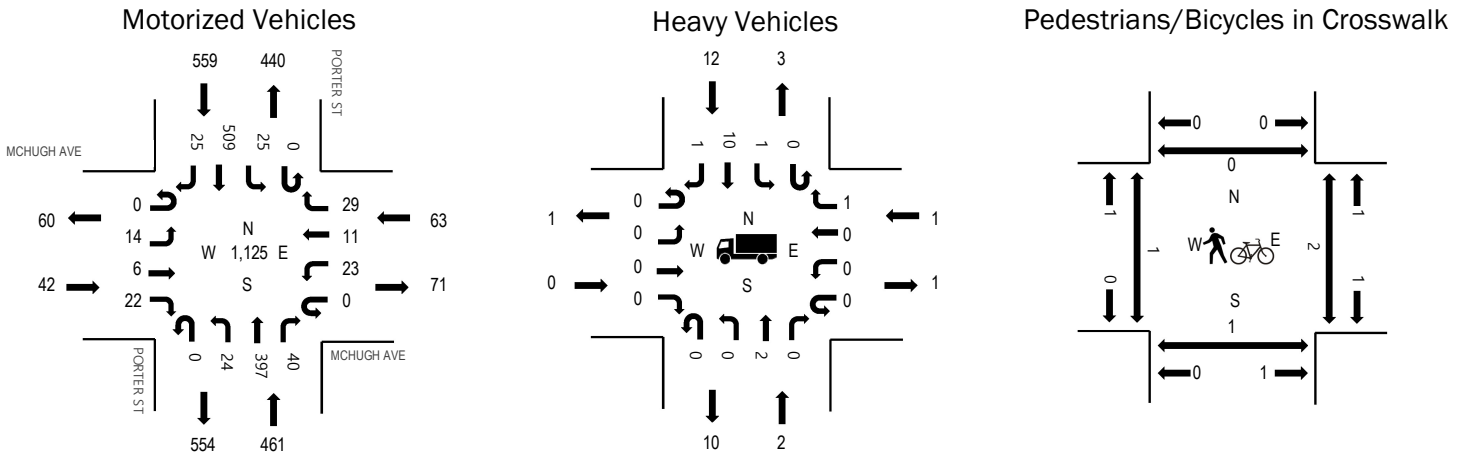
(303) 216-2439
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Location: 10 PORTER ST & MCHUGH AVE PM

Date: Wednesday, December 4, 2024

Peak Hour: 04:00 PM - 05:00 PM

Peak Hour



	HV%	PHF
EB	0.0%	0.70
WB	1.6%	0.79
NB	0.4%	0.83
SB	2.1%	0.90
All	1.3%	0.94

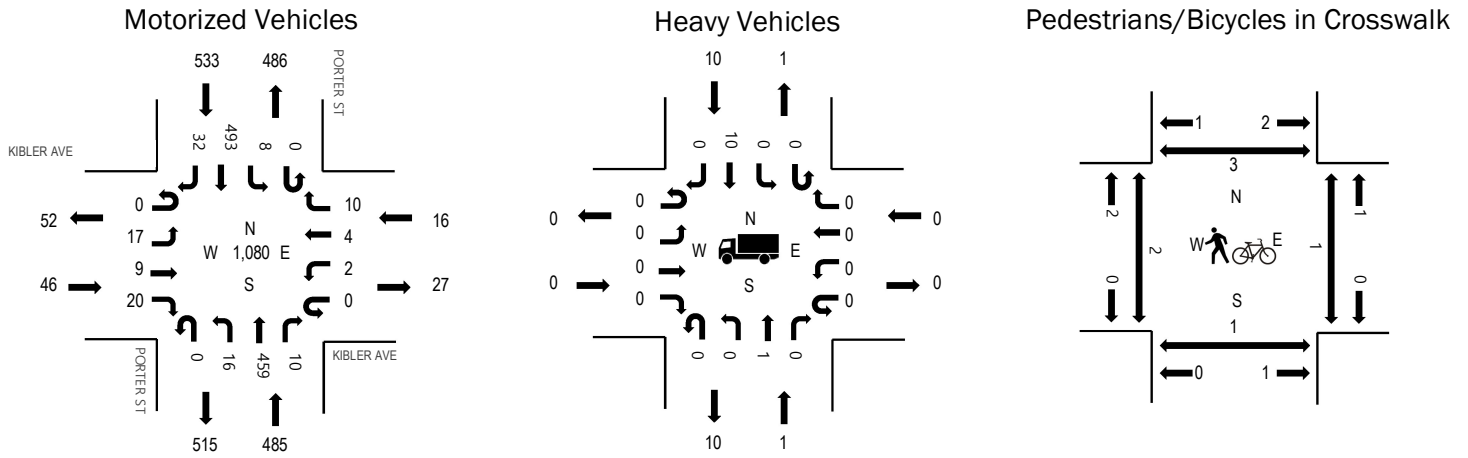
Traffic Counts - Motorized Vehicles

Interval Start Time	MCHUGH AVE Eastbound				MCHUGH AVE Westbound				PORTER ST Northbound				PORTER ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	3	1	5	0	5	6	9	0	8	118	13	0	11	116	4	299	1,125
4:15 PM	0	8	1	6	0	7	1	9	0	5	94	13	0	2	117	4	267	1,091
4:30 PM	0	2	3	6	0	6	3	6	0	7	87	9	0	5	139	6	279	1,060
4:45 PM	0	1	1	5	0	5	1	5	0	4	98	5	0	7	137	11	280	1,006
5:00 PM	0	0	2	4	0	3	2	5	0	11	106	16	0	2	110	4	265	953
5:15 PM	0	3	4	4	0	8	3	7	0	8	87	8	0	8	92	4	236	
5:30 PM	0	0	3	7	0	9	4	7	0	5	67	10	0	9	101	3	225	
5:45 PM	0	2	3	2	0	9	5	3	0	6	82	10	0	2	99	4	227	
Count Total	0	19	18	39	0	52	25	51	0	54	739	84	0	46	911	40	2,078	
Peak Hour	0	14	6	22	0	23	11	29	0	24	397	40	0	25	509	25	1,125	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	1	5	7	4:00 PM	0	0	0	0	0	4:00 PM	0	1	2	0	3
4:15 PM	0	0	0	2	2	4:15 PM	1	0	0	0	1	4:15 PM	1	0	0	0	1
4:30 PM	0	1	0	3	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	3	0	3
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	1	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	0	3	1	15	19	Count Total	1	0	0	0	1	Count Total	1	1	5	0	7
Peak Hour	0	2	1	12	15	Peak Hour	1	0	0	0	1	Peak Hour	1	1	2	0	4

Peak Hour



	HV%	PHF
EB	0.0%	0.68
WB	0.0%	0.67
NB	0.2%	0.85
SB	1.9%	0.93
All	1.0%	0.97

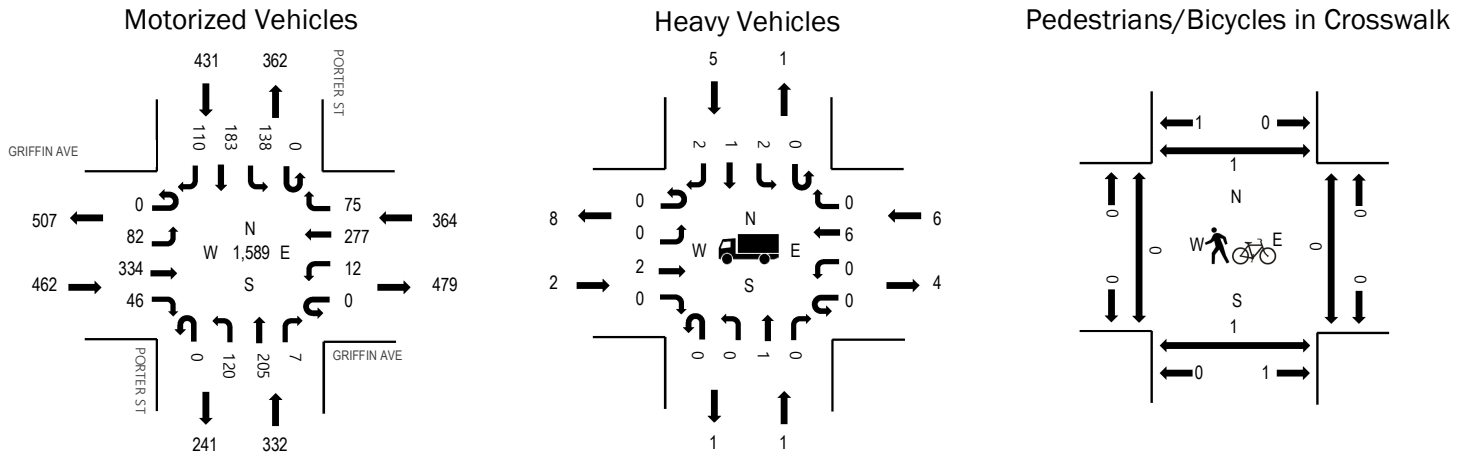
Traffic Counts - Motorized Vehicles

Interval Start Time	KIBLER AVE Eastbound				KIBLER AVE Westbound				PORTER ST Northbound				PORTER ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	5	0	3	0	2	0	3	0	5	131	2	0	3	103	7	264	1,065
4:15 PM	0	8	3	5	0	0	1	2	0	3	114	0	0	2	115	14	267	1,080
4:30 PM	0	0	0	3	0	0	1	2	0	5	100	1	0	1	138	4	255	1,015
4:45 PM	0	2	2	6	0	1	1	4	0	2	110	7	0	4	132	8	279	993
5:00 PM	0	7	4	6	0	1	1	2	0	6	135	2	0	1	108	6	279	939
5:15 PM	0	3	1	3	0	2	0	0	0	1	102	2	0	1	83	4	202	
5:30 PM	0	5	1	6	0	1	1	2	0	4	85	4	0	1	117	6	233	
5:45 PM	0	5	1	5	0	1	3	1	0	3	94	3	0	0	104	5	225	
Count Total	0	35	12	37	0	8	8	16	0	29	871	21	0	13	900	54	2,004	
Peak Hour	0	17	9	20	0	2	4	10	0	16	459	10	0	8	493	32	1,080	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1	3	4	4:00 PM	0	0	0	0	0	4:00 PM	1	8	5	1	15
4:15 PM	0	0	0	2	2	4:15 PM	0	0	0	0	0	4:15 PM	2	0	0	2	4
4:30 PM	0	1	0	4	5	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	3	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	1	1	2
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	1	2	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	0	2	1	15	18	Count Total	0	0	0	0	0	Count Total	3	9	6	4	22
Peak Hour	0	1	0	10	11	Peak Hour	0	0	0	0	0	Peak Hour	2	1	1	3	7

Peak Hour



	HV%	PHF
EB	0.4%	0.92
WB	1.6%	0.88
NB	0.3%	0.87
SB	1.2%	0.87
All	0.9%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				PORTER ST Northbound			PORTER ST Southbound			Total	Rolling Hour		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left			Thru	Right
4:00 PM	0	13	80	5	0	1	89	20	0	11	53	0	0	30	37	25	364	1,513
4:15 PM	0	18	75	5	0	1	75	24	0	23	36	1	0	30	35	18	341	1,579
4:30 PM	0	14	98	14	0	3	75	15	0	32	44	0	0	38	57	29	419	1,589
4:45 PM	0	28	81	12	0	2	56	25	0	24	54	2	0	36	36	33	389	1,481
5:00 PM	0	25	87	11	0	5	77	21	0	36	55	4	0	42	47	20	430	1,432
5:15 PM	0	15	68	9	0	2	69	14	0	28	52	1	0	22	43	28	351	
5:30 PM	0	15	73	13	0	1	54	18	0	18	29	1	0	32	38	19	311	
5:45 PM	0	21	85	16	0	2	59	18	0	21	29	0	0	31	34	24	340	
Count Total	0	149	647	85	0	17	554	155	0	193	352	9	0	261	327	196	2,945	
Peak Hour	0	82	334	46	0	12	277	75	0	120	205	7	0	138	183	110	1,589	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	0	1	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	2	0	2
4:15 PM	0	0	3	0	3	4:15 PM	0	0	0	0	0	4:15 PM	1	0	1	2	4
4:30 PM	0	1	1	3	5	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:45 PM	1	0	0	1	2	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	0	1
5:00 PM	1	0	2	1	4	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:15 PM	0	0	3	0	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	1	1
5:30 PM	3	0	0	2	5	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:45 PM	0	0	2	0	2	5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	0	1
Count Total	7	1	12	7	27	Count Total	0	0	0	0	0	Count Total	1	2	3	3	9
Peak Hour	2	1	6	5	14	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	1	2



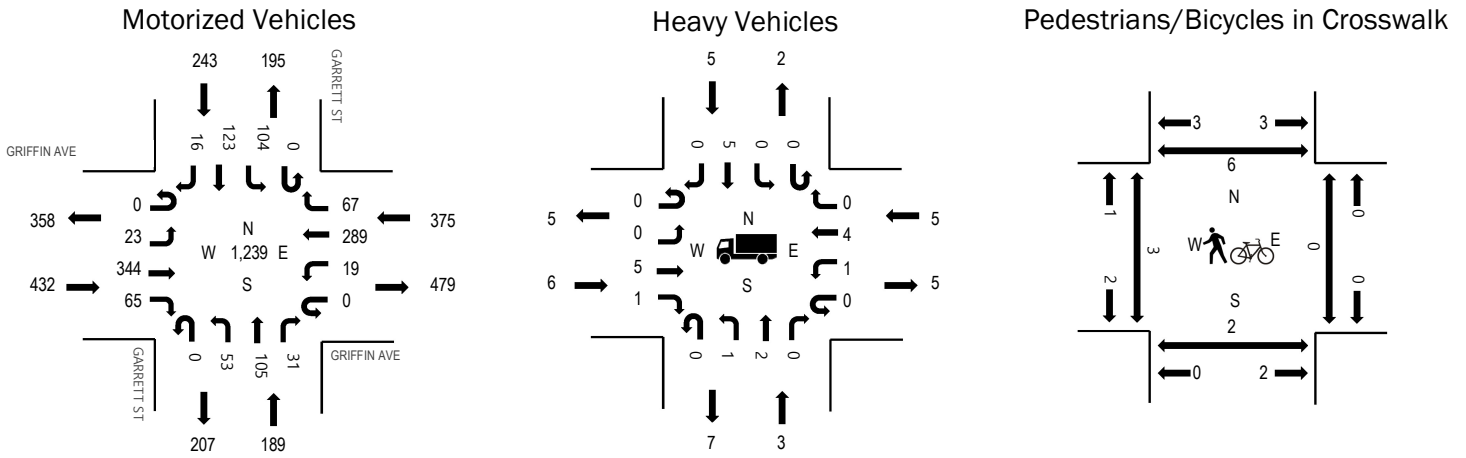
(303) 216-2439
www.alltrafficdata.net

Location: 13 GARRETT ST & GRIFFIN AVE PM

Date: Wednesday, December 4, 2024

Peak Hour: 04:00 PM - 05:00 PM

Peak Hour



	HV%	PHF
EB	1.4%	0.94
WB	1.3%	0.90
NB	1.6%	0.83
SB	2.1%	0.87
All	1.5%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	GRIFFIN AVE Eastbound				GRIFFIN AVE Westbound				GARRETT ST Northbound				GARRETT ST Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	5	78	18	0	4	84	16	0	14	30	7	0	30	34	6	326	1,239
4:15 PM	0	8	82	12	0	6	64	17	0	16	26	15	0	23	29	2	300	1,233
4:30 PM	0	5	94	16	0	3	73	15	0	12	23	6	0	29	28	2	306	1,183
4:45 PM	0	5	90	19	0	6	68	19	0	11	26	3	0	22	32	6	307	1,136
5:00 PM	0	5	85	17	0	5	82	21	0	11	21	8	0	24	35	6	320	1,074
5:15 PM	0	1	79	7	0	6	64	17	0	18	17	3	0	15	22	1	250	
5:30 PM	0	0	71	16	0	7	62	20	0	15	17	6	0	20	22	3	259	
5:45 PM	0	5	71	18	0	3	55	21	0	8	16	5	0	22	17	4	245	
Count Total	0	34	650	123	0	40	552	146	0	105	176	53	0	185	219	30	2,313	
Peak Hour	0	23	344	65	0	19	289	67	0	53	105	31	0	104	123	16	1,239	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	2	3	3	10	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	1	2
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	2	1	0	2	5
4:30 PM	1	0	1	1	3	4:30 PM	0	0	0	0	0	4:30 PM	0	1	0	1	2
4:45 PM	3	1	0	1	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	2	2
5:00 PM	1	1	2	2	6	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:15 PM	0	0	1	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	1	1
5:30 PM	2	0	2	0	4	5:30 PM	0	0	0	0	0	5:30 PM	1	0	0	0	1
5:45 PM	1	0	1	1	3	5:45 PM	0	0	0	0	0	5:45 PM	0	1	1	1	3
Count Total	10	4	11	8	33	Count Total	0	0	0	0	0	Count Total	4	4	1	8	17
Peak Hour	6	3	5	5	19	Peak Hour	0	0	0	0	0	Peak Hour	3	2	0	6	11

Appendix C

Level of Service (LOS) Methodology and Calculations

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 Intersections¹

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.



2024 Existing AM Peak Hour



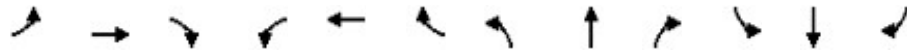
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	3	2	2	3	3	7	2	214	3	1	185	5
Future Volume (vph)	3	2	2	3	3	7	2	214	3	1	185	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	8%	8%	8%	8%	8%	8%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	2	2	3	3	7	2	214	3	1	185	5
Future Vol, veh/h	3	2	2	3	3	7	2	214	3	1	185	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	8	8	8	8	8	8	7	7	7
Mvmt Flow	4	2	2	4	4	8	2	252	4	1	218	6
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	481	483	221	479	484	254	224	0	0	255	0	0
Stage 1	223	223	-	258	258	-	-	-	-	-	-	-
Stage 2	258	260	-	221	226	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8.18	7.58	6.78	4.18	-	-	4.17	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4.072	3.372	2.272	-	-	2.263	-	-
Pot Cap-1 Maneuver	499	486	824	426	414	744	1311	-	-	1281	-	-
Stage 1	784	723	-	683	636	-	-	-	-	-	-	-
Stage 2	751	697	-	722	663	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	487	485	824	421	413	744	1311	-	-	1281	-	-
Mov Cap-2 Maneuver	487	485	-	421	413	-	-	-	-	-	-	-
Stage 1	783	722	-	681	635	-	-	-	-	-	-	-
Stage 2	737	695	-	717	662	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	11.64	11.78			0.07			0.04				
HCM LOS	B	B										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	16	-	-	551	546	9	-					
HCM Lane V/C Ratio	0.002	-	-	0.015	0.028	0.001	-					
HCM Ctrl Dly (s/v)	7.8	0	-	11.6	11.8	7.8	0					
HCM Lane LOS	A	A	-	B	B	A	A					
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-					

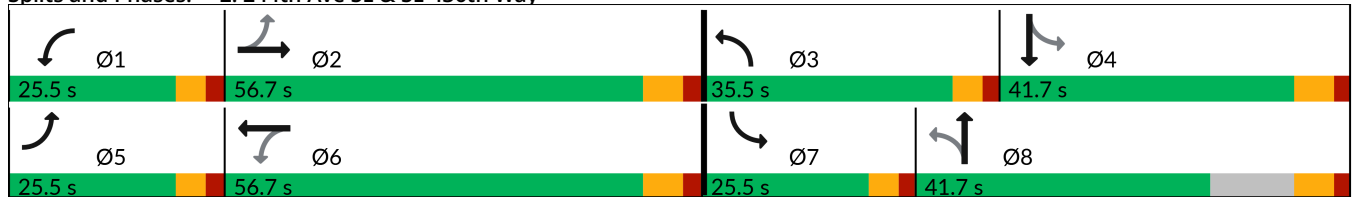


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	212	71	33	279	51	187	175	83	59	124	2
Future Volume (vph)	2	212	71	33	279	51	187	175	83	59	124	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	56.7		25.5	56.7		35.5	41.7		25.5	41.7	
Total Split (%)	16.0%	35.6%		16.0%	35.6%		22.3%	26.2%		16.0%	26.2%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 159.4
 Actuated Cycle Length: 82.4
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	212	71	33	279	51	187	175	83	59	124	2
Future Volume (veh/h)	2	212	71	33	279	51	187	175	83	59	124	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1811	1811	1811	1826	1826	1826	1826	1826	1826	1796	1796	1796
Adj Flow Rate, veh/h	2	241	81	38	317	58	213	199	94	67	141	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	6	6	6	5	5	5	5	5	5	7	7	7
Cap, veh/h	255	346	116	291	456	83	451	270	127	292	262	4
Arrive On Green	0.00	0.27	0.27	0.04	0.30	0.30	0.14	0.23	0.23	0.06	0.15	0.15
Sat Flow, veh/h	1725	1296	436	1739	1501	275	1739	1172	554	1711	1767	25
Grp Volume(v), veh/h	2	0	322	38	0	375	213	0	293	67	0	143
Grp Sat Flow(s),veh/h/ln	1725	0	1732	1739	0	1776	1739	0	1726	1711	0	1792
Q Serve(g_s), s	0.1	0.0	10.0	0.9	0.0	11.2	5.8	0.0	9.4	1.9	0.0	4.4
Cycle Q Clear(g_c), s	0.1	0.0	10.0	0.9	0.0	11.2	5.8	0.0	9.4	1.9	0.0	4.4
Prop In Lane	1.00		0.25	1.00		0.15	1.00		0.32	1.00		0.01
Lane Grp Cap(c), veh/h	255	0	463	291	0	539	451	0	397	292	0	266
V/C Ratio(X)	0.01	0.00	0.70	0.13	0.00	0.70	0.47	0.00	0.74	0.23	0.00	0.54
Avail Cap(c_a), veh/h	827	0	1446	804	0	1483	1082	0	1009	768	0	1047
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	19.8	15.6	0.0	18.4	16.6	0.0	21.4	19.9	0.0	23.6
Incr Delay (d2), s/veh	0.0	0.0	4.0	0.2	0.0	3.4	0.9	0.0	3.8	0.5	0.0	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.9	0.3	0.0	4.3	2.1	0.0	3.8	0.7	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.5	0.0	23.8	15.8	0.0	21.9	17.5	0.0	25.2	20.4	0.0	26.0
LnGrp LOS	B		C	B		C	B		C	C		C
Approach Vol, veh/h		324			413			506			210	
Approach Delay, s/veh		23.7			21.3			22.0			24.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	22.7	13.8	15.6	5.7	24.9	8.9	20.5				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	50.0	30.0	35.0	20.0	50.0	20.0	35.0				
Max Q Clear Time (g_c+I1), s	2.9	12.0	7.8	6.4	3.1	13.2	3.9	11.4				
Green Ext Time (p_c), s	0.1	3.9	0.7	1.0	0.0	4.6	0.1	2.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			22.5									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	0	7	0	0	1	9	441	0	2	225	1
Future Volume (vph)	7	0	7	0	0	1	9	441	0	2	225	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			280			2645			319	
Travel Time (s)		4.8			7.6			45.1			5.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	7	0	0	1	9	441	0	2	225	1
Future Vol, veh/h	7	0	7	0	0	1	9	441	0	2	225	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	3	3	3
Mvmt Flow	8	0	8	0	0	1	11	519	0	2	265	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	810	810	265	809	811	519	266	0	0	519	0	0
Stage 1	270	270	-	540	540	-	-	-	-	-	-	-
Stage 2	540	540	-	269	271	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.15	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.245	-	-	2.227	-	-
Pot Cap-1 Maneuver	301	316	778	301	316	561	1281	-	-	1042	-	-
Stage 1	740	690	-	530	524	-	-	-	-	-	-	-
Stage 2	530	524	-	741	689	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	296	312	778	294	311	561	1281	-	-	1042	-	-
Mov Cap-2 Maneuver	296	312	-	294	311	-	-	-	-	-	-	-
Stage 1	738	688	-	523	518	-	-	-	-	-	-	-
Stage 2	522	518	-	731	687	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	13.73		11.43		0.16		0.07	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	36	-	-	429	561	16	-
HCM Lane V/C Ratio	0.008	-	-	0.038	0.002	0.002	-
HCM Ctrl Dly (s/v)	7.8	0	-	13.7	11.4	8.5	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	12	8	13	7	42	9	481	29	29	353	3
Future Volume (vph)	0	12	8	13	7	42	9	481	29	29	353	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		480			2667			2658			2645	
Travel Time (s)		9.4			72.7			45.3			45.1	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	5%	5%	5%	8%	8%	8%	10%	10%	10%	8%	8%	8%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	12	8	13	7	42	9	481	29	29	353	3
Future Vol, veh/h	0	12	8	13	7	42	9	481	29	29	353	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	5	5	5	8	8	8	10	10	10	8	8	8
Mvmt Flow	0	15	10	17	9	54	12	617	37	37	453	4
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1173	1206	454	1193	1189	635	456	0	0	654	0	0
Stage 1	529	529	-	658	658	-	-	-	-	-	-	-
Stage 2	644	677	-	535	531	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.18	6.58	6.28	4.2	-	-	4.18	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.572	4.072	3.372	2.29	-	-	2.272	-	-
Pot Cap-1 Maneuver	167	181	599	159	183	468	1063	-	-	905	-	-
Stage 1	528	522	-	443	452	-	-	-	-	-	-	-
Stage 2	456	448	-	519	516	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	130	168	599	133	170	468	1063	-	-	905	-	-
Mov Cap-2 Maneuver	130	168	-	133	170	-	-	-	-	-	-	-
Stage 1	499	494	-	436	444	-	-	-	-	-	-	-
Stage 2	389	440	-	467	488	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	22.09	23.71			0.15			0.69				
HCM LOS	C	C										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	31	-	-	236	271	135	-	-				
HCM Lane V/C Ratio	0.011	-	-	0.109	0.293	0.041	-	-				
HCM Ctrl Dly (s/v)	8.4	0	-	22.1	23.7	9.1	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	1.2	0.1	-	-				



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Volume (vph)	21	47	364	63	105	155
Future Volume (vph)	21	47	364	63	105	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	175	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

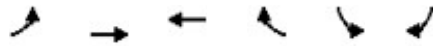
Intersection

Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	21	47	364	63	105	155
Future Vol, veh/h	21	47	364	63	105	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	27	61	473	82	136	201

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	988	514	0	0	555
Stage 1	514	-	-	-	-
Stage 2	474	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	274	561	-	-	1016
Stage 1	601	-	-	-	-
Stage 2	626	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	237	561	-	-	1016
Mov Cap-2 Maneuver	237	-	-	-	-
Stage 1	601	-	-	-	-
Stage 2	542	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.73	0	3.67
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	1016	-
HCM Lane V/C Ratio	-	-	0.224	0.134	-
HCM Ctrl Dly (s/v)	-	-	16.7	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.5	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	3	372	354	14	27	5
Future Volume (vph)	3	372	354	14	27	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Link Speed (mph)		35	35		25	
Link Distance (ft)		554	1316		445	
Travel Time (s)		10.8	25.6		12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	5%	5%	9%	9%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	3	372	354	14	27	5
Future Vol, veh/h	3	372	354	14	27	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	4	-4	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	7	5	5	9	9
Mvmt Flow	3	413	393	16	30	6
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	409	0	0	821	401	
Stage 1	-	-	-	401	-	
Stage 2	-	-	-	420	-	
Critical Hdwy	4.17	-	-	6.49	6.29	
Critical Hdwy Stg 1	-	-	-	5.49	-	
Critical Hdwy Stg 2	-	-	-	5.49	-	
Follow-up Hdwy	2.263	-	-	3.581	3.381	
Pot Cap-1 Maneuver	123	-	-	335	634	
Stage 1	-	-	-	661	-	
Stage 2	-	-	-	648	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	123	-	-	334	634	
Mov Cap-2 Maneuver	-	-	-	334	-	
Stage 1	-	-	-	659	-	
Stage 2	-	-	-	648	-	
Approach	EB	WB	SB			
HCM Ctrl Dly, s/v	0.07	0	16.09			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBRn1
Capacity (veh/h)	14	-	-	-	360	
HCM Lane V/C Ratio	0.003	-	-	-	0.099	
HCM Ctrl Dly (s/v)	8.2	0	-	-	16.1	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Lanes, Volumes, Timings

7: Semanski St/Clovercrest St & Griffin Ave (SR 164)

06/27/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	337	60	96	294	2	62	3	88	3	4	4
Future Volume (vph)	1	337	60	96	294	2	62	3	88	3	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	5%	5%	5%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

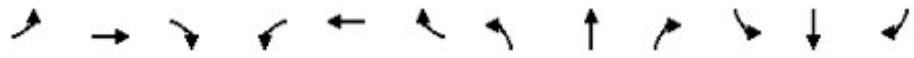
Int Delay, s/veh 4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	1	337	60	96	294	2	62	3	88	3	4	4
Future Vol, veh/h	1	337	60	96	294	2	62	3	88	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	7	7	7	5	5	5	5	5	5	0	0	0
Mvmt Flow	1	411	73	117	359	2	76	4	107	4	5	5

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	361	0	0	484
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.17	-	-	4.15
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.263	-	-	2.245
Pot Cap-1 Maneuver	1170	-	-	1063
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				
Mov Cap-1 Maneuver	1170	-	-	1063
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.02	2.16	20.02	17.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	424	1170	-	-	1063	-	-	297
HCM Lane V/C Ratio	0.44	0.001	-	-	0.11	-	-	0.045
HCM Ctrl Dly (s/v)	20	8.1	-	-	8.8	-	-	17.7
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.2	0	-	-	0.4	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	15	18	66	20	15	29	160	68	13	169	0
Future Volume (vph)	1	15	18	66	20	15	29	160	68	13	169	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	2		2	2		2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 11.2
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	15	18	66	20	15	29	160	68	13	169	0
Future Vol, veh/h	1	15	18	66	20	15	29	160	68	13	169	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	9	9	9	6	6	6	5	5	5	7	7	7
Mvmt Flow	1	21	26	94	29	21	41	229	97	19	241	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9	10.3	12.1	10.9
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	3%	65%	7%
Vol Thru, %	62%	44%	20%	93%
Vol Right, %	26%	53%	15%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	34	101	182
LT Vol	29	1	66	13
Through Vol	160	15	20	169
RT Vol	68	18	15	0
Lane Flow Rate	367	49	144	260
Geometry Grp	1	1	1	1
Degree of Util (X)	0.479	0.075	0.227	0.36
Departure Headway (Hd)	4.697	5.568	5.671	4.99
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	646	636	712
Service Time	2.782	3.574	3.673	3.085
HCM Lane V/C Ratio	0.483	0.076	0.226	0.365
HCM Control Delay, s/veh	12.1	9	10.3	10.9
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.6	0.2	0.9	1.6

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [9-AM-E] Semanski St / Warner Ave (2024 Existing - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

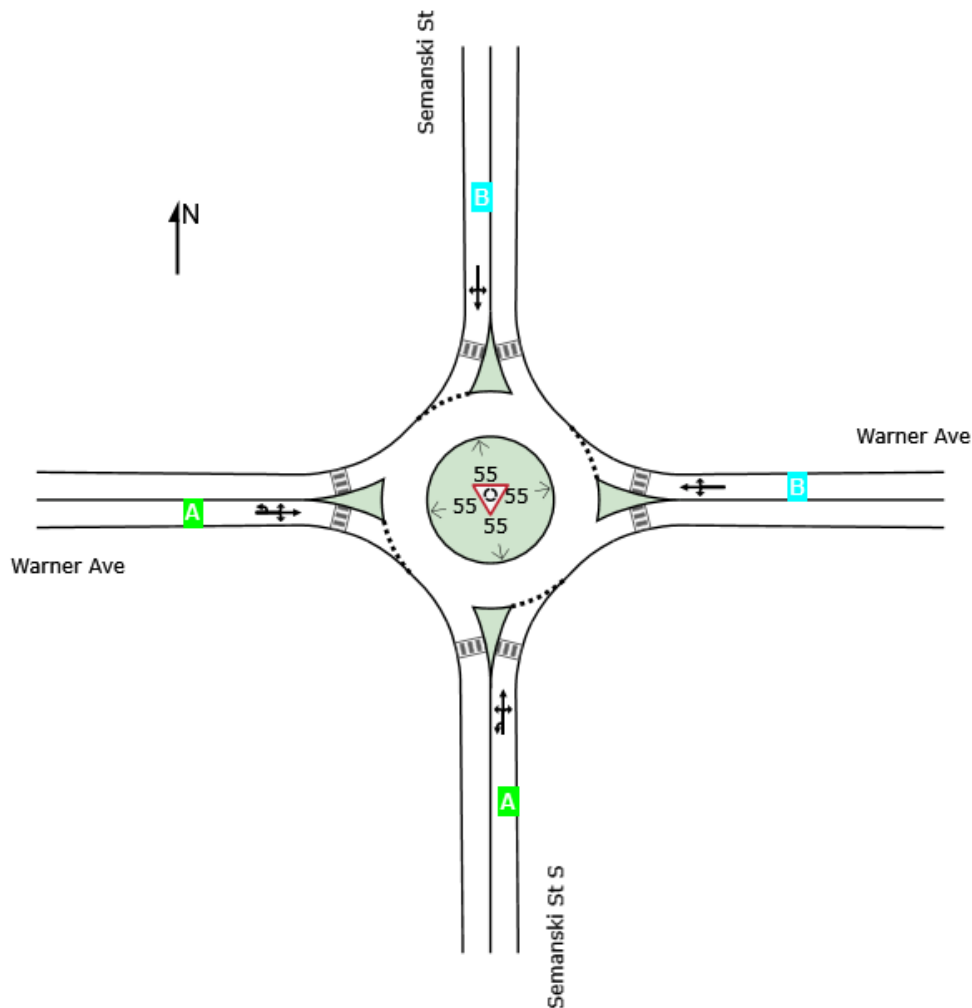
Semanski St S / Warner Ave

Site Category: 2024 Existing - AM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	B	B	A	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [9-AM-E] Semanski St / Warner Ave (2024 Existing - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2024 Existing - AM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: Semanski St S															
3u	U	All MCs	2	9.0	2	9.0	0.495	9.4	LOS A	3.0	80.7	0.56	0.33	0.56	25.0
3	L2	All MCs	39	9.0	39	9.0	0.495	9.4	LOS A	3.0	80.7	0.56	0.33	0.56	21.6
8	T1	All MCs	266	9.0	266	9.0	0.495	9.4	LOS A	3.0	80.7	0.56	0.33	0.56	21.8
18	R2	All MCs	188	9.0	188	9.0	0.495	9.4	LOS A	3.0	80.7	0.56	0.33	0.56	21.7
Approach			495	9.0	495	9.0	0.495	9.4	LOS A	3.0	80.7	0.56	0.33	0.56	21.8
East: Warner Ave															
1	L2	All MCs	155	1.0	155	1.0	0.469	10.1	LOS B	3.1	78.3	0.68	0.58	0.83	29.9
6	T1	All MCs	212	1.0	212	1.0	0.469	10.1	LOS B	3.1	78.3	0.68	0.58	0.83	30.4
16	R2	All MCs	36	1.0	36	1.0	0.469	10.1	LOS B	3.1	78.3	0.68	0.58	0.83	30.2
Approach			404	1.0	404	1.0	0.469	10.1	LOS B	3.1	78.3	0.68	0.58	0.83	30.2
North: Semanski St															
7	L2	All MCs	16	6.0	16	6.0	0.582	13.0	LOS B	5.0	132.3	0.75	0.71	1.11	30.3
4	T1	All MCs	307	6.0	307	6.0	0.582	13.0	LOS B	5.0	132.3	0.75	0.71	1.11	30.9
14	R2	All MCs	157	6.0	157	6.0	0.582	13.0	LOS B	5.0	132.3	0.75	0.71	1.11	30.6
Approach			480	6.0	480	6.0	0.582	13.0	LOS B	5.0	132.3	0.75	0.71	1.11	30.8
West: Warner Ave															
5u	U	All MCs	9	3.0	9	3.0	0.343	8.6	LOS A	1.6	41.1	0.63	0.50	0.63	29.7
5	L2	All MCs	100	3.0	100	3.0	0.343	8.6	LOS A	1.6	41.1	0.63	0.50	0.63	29.7
2	T1	All MCs	86	3.0	86	3.0	0.343	8.6	LOS A	1.6	41.1	0.63	0.50	0.63	30.2
12	R2	All MCs	77	3.0	77	3.0	0.343	8.6	LOS A	1.6	41.1	0.63	0.50	0.63	30.0
Approach			271	3.0	271	3.0	0.343	8.6	LOS A	1.6	41.1	0.63	0.50	0.63	29.9
All Vehicles			1650	5.2	1650	5.2	0.582	10.5	LOS B	5.0	132.3	0.65	0.53	0.80	27.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Lanes, Volumes, Timings

10: Porter St (SR 169) & McHugh Ave

06/27/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	17	17	21	36	16	13	9	294	25	12	291	14
Future Volume (vph)	17	17	21	36	16	13	9	294	25	12	291	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)	1						1					
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	17	17	21	36	16	13	9	294	25	12	291	14
Future Vol, veh/h	17	17	21	36	16	13	9	294	25	12	291	14
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	5	5	5
Mvmt Flow	22	22	28	47	21	17	12	387	33	16	383	18

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	846	867	392	853	860	404	401	0	0	420	0	0
Stage 1	424	424	-	427	427	-	-	-	-	-	-	-
Stage 2	422	443	-	426	433	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.15	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.245	-	-
Pot Cap-1 Maneuver	282	291	657	279	294	646	1152	-	-	1123	-	-
Stage 1	608	587	-	606	585	-	-	-	-	-	-	-
Stage 2	609	576	-	607	582	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	249	284	657	241	287	646	1152	-	-	1123	-	-
Mov Cap-2 Maneuver	249	284	-	241	287	-	-	-	-	-	-	-
Stage 1	600	579	-	599	579	-	-	-	-	-	-	-
Stage 2	565	570	-	551	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	18.27	22.66	0.22	0.31
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1152	-	-	343	288	1123	-
HCM Lane V/C Ratio	0.01	-	-	0.211	0.297	0.014	-
HCM Ctrl Dly (s/v)	8.2	-	-	18.3	22.7	8.3	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	1.2	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	16	2	7	2	3	10	36	297	8	9	302	45
Future Volume (vph)	16	2	7	2	3	10	36	297	8	9	302	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	9		2	2		9	2		2	2		2
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	2	7	2	3	10	36	297	8	9	302	45
Future Vol, veh/h	16	2	7	2	3	10	36	297	8	9	302	45
Conflicting Peds, #/hr	9	0	2	2	0	9	2	0	2	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	22	3	10	3	4	14	50	413	11	13	419	63
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1001	1003	455	968	1029	429	484	0	0	426	0	0
Stage 1	478	478	-	520	520	-	-	-	-	-	-	-
Stage 2	524	526	-	448	509	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	223	244	610	190	187	601	1068	-	-	1123	-	-
Stage 1	572	559	-	484	477	-	-	-	-	-	-	-
Stage 2	540	532	-	538	484	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	195	225	607	170	173	595	1066	-	-	1121	-	-
Mov Cap-2 Maneuver	195	225	-	170	173	-	-	-	-	-	-	-
Stage 1	562	549	-	453	447	-	-	-	-	-	-	-
Stage 2	487	499	-	517	475	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	22.19		16.78			0.9			0.21			
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	189	-	-	244	326	44	-					
HCM Lane V/C Ratio	0.047	-	-	0.142	0.064	0.011	-					
HCM Ctrl Dly (s/v)	8.5	0	-	22.2	16.8	8.2	0					
HCM Lane LOS	A	A	-	C	C	A	A					
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.2	0	-					



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	251	33	0	187	64	39	151	3	64	113	61
Future Volume (vph)	93	251	33	0	187	64	39	151	3	64	113	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	20.1	35.1		20.1	35.1		20.1	35.1		20.1	35.1	
Total Split (%)	18.2%	31.8%		18.2%	31.8%		18.2%	31.8%		18.2%	31.8%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 110.4
 Actuated Cycle Length: 65.9
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)

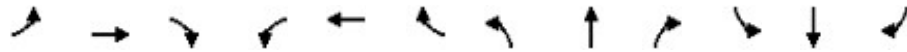
Ø1	Ø2	Ø3	Ø4
20.1 s	35.1 s	20.1 s	35.1 s
Ø5	Ø6	Ø7	Ø8
20.1 s	35.1 s	20.1 s	35.1 s

HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	251	33	0	187	64	39	151	3	64	113	61
Future Volume (veh/h)	93	251	33	0	187	64	39	151	3	64	113	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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	1841	1841	1841	1687	1687	1687	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	109	295	39	0	220	75	46	178	4	75	133	72
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	8	8	8	2	2	2	3	3	3
Cap, veh/h	383	707	93	412	318	108	307	308	7	341	214	116
Arrive On Green	0.07	0.44	0.44	0.00	0.26	0.26	0.03	0.17	0.17	0.05	0.19	0.19
Sat Flow, veh/h	1753	1592	211	1607	1203	410	1781	1822	41	1767	1132	613
Grp Volume(v), veh/h	109	0	334	0	0	295	46	0	182	75	0	205
Grp Sat Flow(s),veh/h/ln	1753	0	1803	1607	0	1613	1781	0	1863	1767	0	1745
Q Serve(g_s), s	1.9	0.0	5.7	0.0	0.0	7.5	1.0	0.0	4.1	1.6	0.0	4.9
Cycle Q Clear(g_c), s	1.9	0.0	5.7	0.0	0.0	7.5	1.0	0.0	4.1	1.6	0.0	4.9
Prop In Lane	1.00		0.12	1.00		0.25	1.00		0.02	1.00		0.35
Lane Grp Cap(c), veh/h	383	0	800	412	0	427	307	0	315	341	0	330
V/C Ratio(X)	0.28	0.00	0.42	0.00	0.00	0.69	0.15	0.00	0.58	0.22	0.00	0.62
Avail Cap(c_a), veh/h	846	0	1193	940	0	1068	844	0	1233	838	0	1155
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(l)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	8.6	0.0	0.0	15.0	15.1	0.0	17.3	14.6	0.0	16.9
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.0	0.0	2.9	0.2	0.0	2.4	0.3	0.0	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.9	0.0	0.0	2.7	0.4	0.0	1.8	0.6	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	0.0	9.1	0.0	0.0	17.9	15.4	0.0	19.7	15.0	0.0	19.6
LnGrp LOS	B		A		B		B		B		B	
Approach Vol, veh/h	443			295			228			280		
Approach Delay, s/veh	9.5			17.9			18.8			18.3		
Approach LOS	A			B			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	25.2	7.3	12.8	8.1	17.1	6.4	13.7				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	5.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	0.0	7.7	3.6	6.1	3.9	9.5	3.0	6.9				
Green Ext Time (p_c), s	0.0	3.0	0.1	1.5	0.2	2.5	0.1	1.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				15.2								
HCM 7th LOS				B								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	230	50	15	199	36	42	61	20	44	67	9
Future Volume (vph)	11	230	50	15	199	36	42	61	20	44	67	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 29.6
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	230	50	15	199	36	42	61	20	44	67	9
Future Volume (veh/h)	11	230	50	15	199	36	42	61	20	44	67	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1826	1826	1826	1826	1826	1826	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	13	277	60	18	240	43	51	73	24	53	81	11
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	5	5	5	5	5	5	6	6	6	7	7	7
Cap, veh/h	609	592	128	566	614	110	460	231	76	454	275	37
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1070	1454	315	1019	1507	270	1263	1305	429	1247	1548	210
Grp Volume(v), veh/h	13	0	337	18	0	283	51	0	97	53	0	92
Grp Sat Flow(s),veh/h/ln	1070	0	1769	1019	0	1777	1263	0	1734	1247	0	1758
Q Serve(g_s), s	0.2	0.0	3.4	0.3	0.0	2.8	0.9	0.0	1.2	0.9	0.0	1.1
Cycle Q Clear(g_c), s	3.0	0.0	3.4	3.7	0.0	2.8	2.0	0.0	1.2	2.1	0.0	1.1
Prop In Lane	1.00		0.18	1.00		0.15	1.00		0.25	1.00		0.12
Lane Grp Cap(c), veh/h	609	0	721	566	0	724	460	0	308	454	0	312
V/C Ratio(X)	0.02	0.00	0.47	0.03	0.00	0.39	0.11	0.00	0.32	0.12	0.00	0.29
Avail Cap(c_a), veh/h	2570	0	3963	2433	0	3981	1522	0	1765	1502	0	1790
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.2	0.0	5.3	6.7	0.0	5.1	9.6	0.0	8.8	9.7	0.0	8.8
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.0	0.0	0.5	0.2	0.0	0.8	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	0.0	0.0	0.6	0.2	0.0	0.4	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.2	0.0	6.0	6.7	0.0	5.6	9.8	0.0	9.6	9.9	0.0	9.5
LnGrp LOS	A		A	A		A	A		A	A		A
Approach Vol, veh/h		350			301			148			145	
Approach Delay, s/veh		6.0			5.7			9.7			9.7	
Approach LOS		A			A			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.1		9.5		15.1		9.5				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		55.0		25.0		55.0		25.0				
Max Q Clear Time (g_c+I1), s		5.4		4.1		5.7		4.0				
Green Ext Time (p_c), s		3.7		0.9		3.1		0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh				7.0								
HCM 7th LOS				A								



2024 Existing PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	2	4	1	2	7	4	169	6	13	447	6
Future Volume (vph)	8	2	4	1	2	7	4	169	6	13	447	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	1%	1%	1%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EFT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	8	2	4	1	2	7	4	169	6	13	447	6
Future Vol, veh/h	8	2	4	1	2	7	4	169	6	13	447	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	10	10	10	1	1	1	4	4	4
Mvmt Flow	9	2	5	1	2	8	5	192	7	15	508	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	743	749	511	743	749	195	515	0	0	199	0	0
Stage 1	541	541	-	205	205	-	-	-	-	-	-	-
Stage 2	202	208	-	539	544	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.57	6.27	8.2	7.6	6.8	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.063	3.363	3.59	4.09	3.39	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	325	335	553	261	269	804	1056	-	-	1362	-	-
Stage 1	516	513	-	736	678	-	-	-	-	-	-	-
Stage 2	788	721	-	441	435	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	313	328	553	252	264	804	1056	-	-	1362	-	-
Mov Cap-2 Maneuver	313	328	-	252	264	-	-	-	-	-	-	-
Stage 1	508	505	-	733	675	-	-	-	-	-	-	-
Stage 2	774	717	-	429	428	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	15.48		12.47		0.19		0.21	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	40	-	-	360	494	50	-
HCM Lane V/C Ratio	0.004	-	-	0.044	0.023	0.011	-
HCM Ctrl Dly (s/v)	8.4	0	-	15.5	12.5	7.7	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

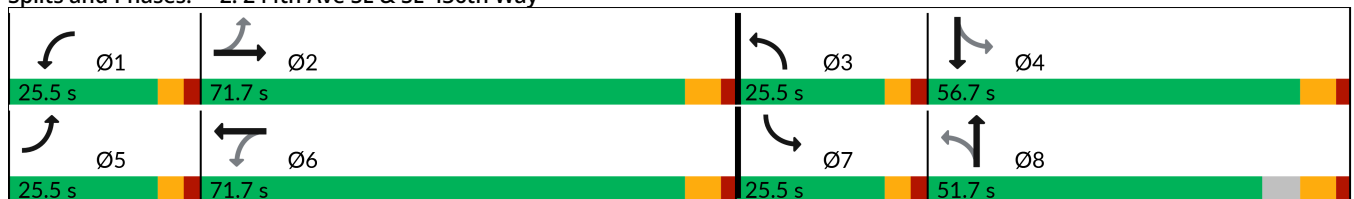


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	379	142	122	285	52	100	128	55	113	348	7
Future Volume (vph)	2	379	142	122	285	52	100	128	55	113	348	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
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%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	71.7		25.5	71.7		25.5	51.7		25.5	56.7	
Total Split (%)	14.2%	40.0%		14.2%	40.0%		14.2%	28.8%		14.2%	31.6%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 179.4
 Actuated Cycle Length: 129.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	2	379	142	122	285	52	100	128	55	113	348	7
Future Volume (veh/h)	2	379	142	122	285	52	100	128	55	113	348	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	2	395	148	127	297	54	104	133	57	118	362	7
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	2	2	2	1	1	1	2	2	2
Cap, veh/h	403	488	183	278	669	122	244	293	126	372	442	9
Arrive On Green	0.00	0.37	0.37	0.06	0.43	0.43	0.06	0.23	0.23	0.07	0.24	0.24
Sat Flow, veh/h	1795	1307	490	1781	1540	280	1795	1252	537	1781	1829	35
Grp Volume(v), veh/h	2	0	543	127	0	351	104	0	190	118	0	369
Grp Sat Flow(s),veh/h/ln	1795	0	1797	1781	0	1820	1795	0	1789	1781	0	1864
Q Serve(g_s), s	0.1	0.0	25.6	3.9	0.0	12.7	4.1	0.0	8.6	4.6	0.0	17.6
Cycle Q Clear(g_c), s	0.1	0.0	25.6	3.9	0.0	12.7	4.1	0.0	8.6	4.6	0.0	17.6
Prop In Lane	1.00		0.27	1.00		0.15	1.00		0.30	1.00		0.02
Lane Grp Cap(c), veh/h	403	0	670	278	0	790	244	0	418	372	0	450
V/C Ratio(X)	0.00	0.00	0.81	0.46	0.00	0.44	0.43	0.00	0.45	0.32	0.00	0.82
Avail Cap(c_a), veh/h	779	0	1240	543	0	1256	513	0	855	625	0	990
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	26.5	19.6	0.0	18.7	26.4	0.0	30.9	24.9	0.0	33.8
Incr Delay (d2), s/veh	0.0	0.0	5.0	1.4	0.0	0.8	1.4	0.0	1.1	0.6	0.0	5.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	10.9	1.6	0.0	5.1	1.8	0.0	3.7	1.9	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.6	0.0	31.5	21.0	0.0	19.5	27.8	0.0	32.0	25.4	0.0	39.0
LnGrp LOS	B		C	C		B	C		C	C		D
Approach Vol, veh/h		545			478			294			487	
Approach Delay, s/veh		31.5			19.9			30.5			35.7	
Approach LOS		C			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	41.8	11.4	29.4	5.8	47.6	12.1	28.7				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	65.0	20.0	50.0	20.0	65.0	20.0	45.0				
Max Q Clear Time (g_c+I1), s	5.9	27.6	6.1	19.6	3.1	14.7	6.6	10.6				
Green Ext Time (p_c), s	0.3	7.6	0.2	3.1	0.0	4.5	0.3	1.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			29.4									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	0	24	3	0	4	5	272	2	2	604	11
Future Volume (vph)	6	0	24	3	0	4	5	272	2	2	604	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			280			2645			319	
Travel Time (s)		4.8			7.6			45.1			5.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	24	3	0	4	5	272	2	2	604	11
Future Vol, veh/h	6	0	24	3	0	4	5	272	2	2	604	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	0	0	0	1	1	1	1	1	1
Mvmt Flow	6	0	26	3	0	4	5	289	2	2	643	12

Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	953	955	648	948	960	290	654	0	0	291	0	0
Stage 1	653	653	-	301	301	-	-	-	-	-	-	-
Stage 2	300	302	-	647	659	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	238	257	468	243	259	754	938	-	-	1276	-	-
Stage 1	455	462	-	712	668	-	-	-	-	-	-	-
Stage 2	707	662	-	463	464	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	234	255	468	227	256	754	938	-	-	1276	-	-
Mov Cap-2 Maneuver	234	255	-	227	256	-	-	-	-	-	-	-
Stage 1	454	461	-	708	664	-	-	-	-	-	-	-
Stage 2	698	658	-	437	463	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.04	14.71	0.16	0.03
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	32	-	-	390	378	6	-
HCM Lane V/C Ratio	0.006	-	-	0.082	0.02	0.002	-
HCM Ctrl Dly (s/v)	8.9	0	-	15	14.7	7.8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	13	7	56	32	23	14	322	52	36	616	7
Future Volume (vph)	2	13	7	56	32	23	14	322	52	36	616	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		480			2667			2658			2645	
Travel Time (s)		9.4			72.7			45.3			45.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	13	7	56	32	23	14	322	52	36	616	7
Future Vol, veh/h	2	13	7	56	32	23	14	322	52	36	616	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	4	4	1	1	1	3	3	3
Mvmt Flow	2	14	7	59	34	24	15	339	55	38	648	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1113	1151	652	1127	1127	366	656	0	0	394	0	0
Stage 1	728	728	-	396	396	-	-	-	-	-	-	-
Stage 2	385	423	-	731	732	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.14	6.54	6.24	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.14	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.14	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.536	4.036	3.336	2.209	-	-	2.227	-	-
Pot Cap-1 Maneuver	187	200	471	180	203	674	936	-	-	1159	-	-
Stage 1	418	432	-	626	601	-	-	-	-	-	-	-
Stage 2	642	591	-	410	424	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	140	185	471	153	188	674	936	-	-	1159	-	-
Mov Cap-2 Maneuver	140	185	-	153	188	-	-	-	-	-	-	-
Stage 1	397	409	-	613	588	-	-	-	-	-	-	-
Stage 2	572	579	-	370	402	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	23.13	47.75	0.32	0.45
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	63	-	-	222	195	98	-
HCM Lane V/C Ratio	0.016	-	-	0.104	0.599	0.033	-
HCM Ctrl Dly (s/v)	8.9	0	-	23.1	47.7	8.2	0
HCM Lane LOS	A	A	-	C	E	A	A
HCM 95th %tile Q(veh)	0	-	-	0.3	3.3	0.1	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Volume (vph)	138	60	223	60	49	539
Future Volume (vph)	138	60	223	60	49	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	175	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

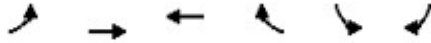
Intersection

Int Delay, s/veh	6.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y		Y	Y
Traffic Vol, veh/h	138	60	223	60	49	539
Future Vol, veh/h	138	60	223	60	49	539
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	175	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	148	65	240	65	53	580

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	959	274	0	0	305
Stage 1	273	-	-	-	-
Stage 2	686	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	285	765	-	-	1255
Stage 1	773	-	-	-	-
Stage 2	500	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	273	763	-	-	1254
Mov Cap-2 Maneuver	273	-	-	-	-
Stage 1	772	-	-	-	-
Stage 2	479	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	32.04	0	0.67
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	1254	-
HCM Lane V/C Ratio	-	-	0.629	0.042	-
HCM Ctrl Dly (s/v)	-	-	32	8	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	4	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	9	548	452	36	26	12
Future Volume (vph)	9	548	452	36	26	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Link Speed (mph)		35	35		25	
Link Distance (ft)		554	1316		445	
Travel Time (s)		10.8	25.6		12.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	2%	2%	5%	5%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	9	548	452	36	26	12
Future Vol, veh/h	9	548	452	36	26	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	4	-4	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	5	5
Mvmt Flow	10	589	486	39	28	13

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	525	0	0 1114 505
Stage 1	-	-	- 505 -
Stage 2	-	-	- 609 -
Critical Hdwy	4.11	-	- 6.45 6.25
Critical Hdwy Stg 1	-	-	- 5.45 -
Critical Hdwy Stg 2	-	-	- 5.45 -
Follow-up Hdwy	2.209	-	- 3.545 3.345
Pot Cap-1 Maneuver	1047	-	- 227 561
Stage 1	-	-	- 600 -
Stage 2	-	-	- 537 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1047	-	- 224 561
Mov Cap-2 Maneuver	-	-	- 224 -
Stage 1	-	-	- 592 -
Stage 2	-	-	- 537 -

Approach

	EB	WB	SB
HCM Ctrl Dly, s/v	0.14	0	20.26
HCM LOS			C

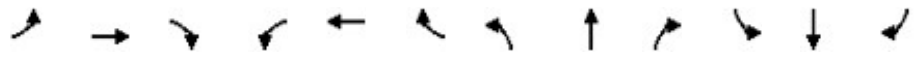
Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	29	-	-	-	277
HCM Lane V/C Ratio	0.009	-	-	-	0.148
HCM Ctrl Dly (s/v)	8.5	0	-	-	20.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Lanes, Volumes, Timings

7: Semanski St/Clovercrest St & Griffin Ave (SR 164)

06/27/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	487	93	68	448	12	30	2	62	6	4	6
Future Volume (vph)	6	487	93	68	448	12	30	2	62	6	4	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
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 (%)	2%	2%	2%	2%	2%	2%	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	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	6	487	93	68	448	12	30	2	62	6	4	6
Future Vol, veh/h	6	487	93	68	448	12	30	2	62	6	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	6	507	97	71	467	13	31	2	65	6	4	6

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	479	0	0	604
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1083	-	-	974
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1083	-	-	974
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	1.16	16.51	18.83
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		410	1083	-	-	974	-	277
HCM Lane V/C Ratio		0.239	0.006	-	-	0.073	-	0.06
HCM Ctrl Dly (s/v)		16.5	8.3	-	-	9	-	18.8
HCM Lane LOS		C	A	-	-	A	-	C
HCM 95th %tile Q(veh)		0.9	0	-	-	0.2	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	35	16	109	74	16	18	72	69	28	130	4
Future Volume (vph)	4	35	16	109	74	16	18	72	69	28	130	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	1					1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	7%	7%	7%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	35	16	109	74	16	18	72	69	28	130	4
Future Vol, veh/h	4	35	16	109	74	16	18	72	69	28	130	4
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	7	7	7	1	1	1	1	1	1	5	5	5
Mvmt Flow	5	42	19	131	89	19	22	87	83	34	157	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	10.6	9.4	10
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	7%	55%	17%
Vol Thru, %	45%	64%	37%	80%
Vol Right, %	43%	29%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	55	199	162
LT Vol	18	4	109	28
Through Vol	72	35	74	130
RT Vol	69	16	16	4
Lane Flow Rate	192	66	240	195
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.094	0.332	0.272
Departure Headway (Hd)	4.703	5.114	4.987	5.009
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	757	692	714	712
Service Time	2.776	3.208	3.061	3.081
HCM Lane V/C Ratio	0.254	0.095	0.336	0.274
HCM Control Delay, s/veh	9.4	8.7	10.6	10
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	0.3	1.5	1.1

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [9-PM-E] Semanski St / Warner Ave (2024 Existing - PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

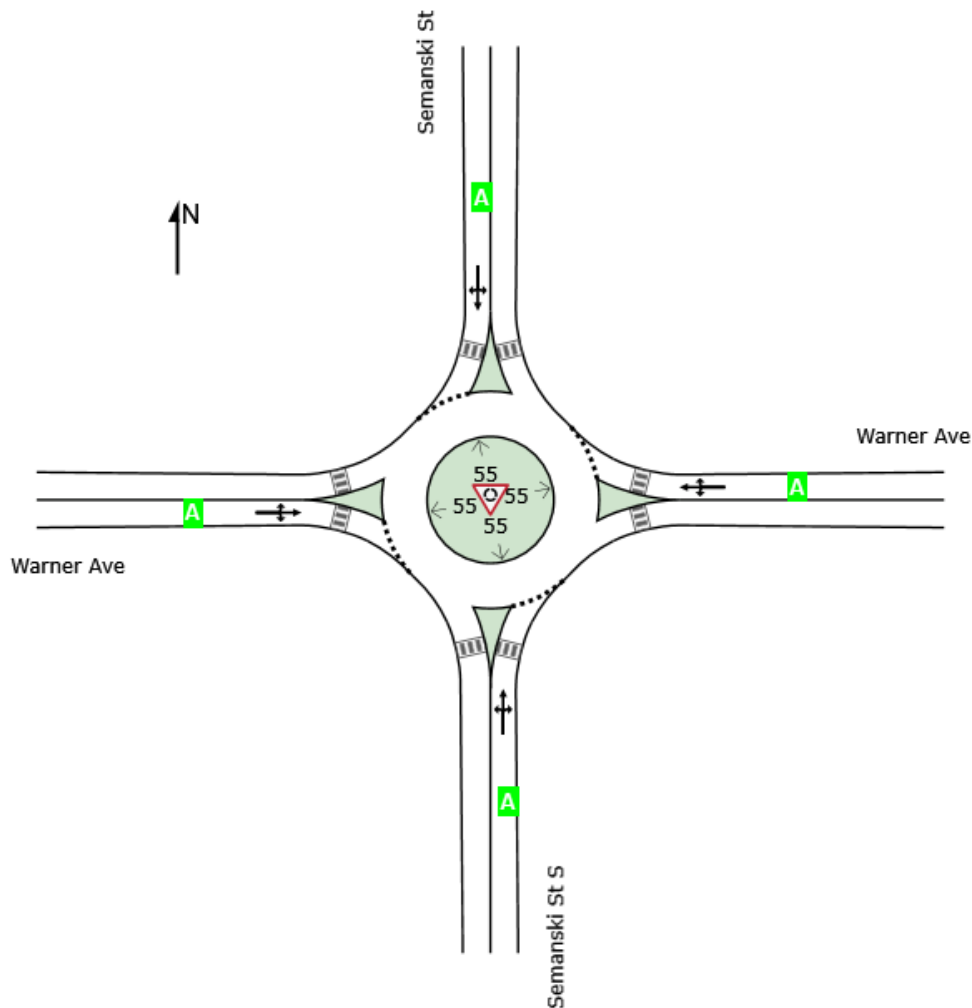
Semanski St S / Warner Ave

Site Category: 2024 Existing - PM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptime Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 **Site: [9-PM-E] Semanski St / Warner Ave (2024 Existing - PM Peak Hour)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2024 Existing - PM Peak Hour
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3	L2	All MCs	36	1.0	36	1.0	0.230	5.1	LOS A	1.2	29.2	0.35	0.19	0.35	21.3
8	T1	All MCs	124	1.0	124	1.0	0.230	5.1	LOS A	1.2	29.2	0.35	0.19	0.35	21.5
18	R2	All MCs	107	1.0	107	1.0	0.230	5.1	LOS A	1.2	29.2	0.35	0.19	0.35	21.4
Approach			267	1.0	267	1.0	0.230	5.1	LOS A	1.2	29.2	0.35	0.19	0.35	21.5
East: Warner Ave															
1	L2	All MCs	29	1.0	29	1.0	0.228	5.2	LOS A	1.1	28.5	0.38	0.22	0.38	29.7
6	T1	All MCs	200	1.0	200	1.0	0.228	5.2	LOS A	1.1	28.5	0.38	0.22	0.38	30.2
16	R2	All MCs	28	1.0	28	1.0	0.228	5.2	LOS A	1.1	28.5	0.38	0.22	0.38	30.0
Approach			256	1.0	256	1.0	0.228	5.2	LOS A	1.1	28.5	0.38	0.22	0.38	30.1
North: Semanski St															
7	L2	All MCs	38	3.0	38	3.0	0.231	5.7	LOS A	1.1	27.9	0.45	0.29	0.45	29.9
4	T1	All MCs	94	3.0	94	3.0	0.231	5.7	LOS A	1.1	27.9	0.45	0.29	0.45	30.4
14	R2	All MCs	102	3.0	102	3.0	0.231	5.7	LOS A	1.1	27.9	0.45	0.29	0.45	30.2
Approach			234	3.0	234	3.0	0.231	5.7	LOS A	1.1	27.9	0.45	0.29	0.45	30.2
West: Warner Ave															
5	L2	All MCs	29	0.0	29	0.0	0.135	4.2	LOS A	0.6	15.6	0.33	0.18	0.33	29.5
2	T1	All MCs	93	0.0	93	0.0	0.135	4.2	LOS A	0.6	15.6	0.33	0.18	0.33	30.0
12	R2	All MCs	36	0.0	36	0.0	0.135	4.2	LOS A	0.6	15.6	0.33	0.18	0.33	29.8
Approach			157	0.0	157	0.0	0.135	4.2	LOS A	0.6	15.6	0.33	0.18	0.33	29.9
All Vehicles			915	1.3	915	1.3	0.231	5.2	LOS A	1.2	29.2	0.38	0.22	0.38	26.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	14	6	22	23	11	29	24	397	40	25	509	25
Future Volume (vph)	14	6	22	23	11	29	24	397	40	25	509	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)			1	1			1		2	2		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	14	6	22	23	11	29	24	397	40	25	509	25
Future Vol, veh/h	14	6	22	23	11	29	24	397	40	25	509	25
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	2	2	2
Mvmt Flow	15	6	23	24	12	31	26	422	43	27	541	27

Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	1088	1127	557	1096	1119	446	569	0	0	467	0	0
Stage 1	609	609	-	497	497	-	-	-	-	-	-	-
Stage 2	479	518	-	599	622	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	195	206	534	191	207	613	1008	-	-	1095	-	-
Stage 1	486	488	-	555	545	-	-	-	-	-	-	-
Stage 2	571	536	-	488	479	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	166	196	533	168	196	611	1007	-	-	1093	-	-
Mov Cap-2 Maneuver	166	196	-	168	196	-	-	-	-	-	-	-
Stage 1	473	476	-	540	530	-	-	-	-	-	-	-
Stage 2	517	522	-	449	467	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	21.06	23.42	0.45	0.37
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1007	-	-	269	262	1093	-
HCM Lane V/C Ratio	0.025	-	-	0.166	0.256	0.024	-
HCM Ctrl Dly (s/v)	8.7	-	-	21.1	23.4	8.4	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	1	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	17	9	20	2	4	10	16	459	10	8	493	32
Future Volume (vph)	17	9	20	2	4	10	16	459	10	8	493	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	3		1	1		3	2		1	1		2
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	9	20	2	4	10	16	459	10	8	493	32
Future Vol, veh/h	17	9	20	2	4	10	16	459	10	8	493	32
Conflicting Peds, #/hr	3	0	1	1	0	3	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	18	9	21	2	4	10	16	473	10	8	508	33
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1054	1061	528	1043	1072	482	543	0	0	485	0	0
Stage 1	543	543	-	512	512	-	-	-	-	-	-	-
Stage 2	511	517	-	530	560	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	205	226	554	166	175	557	1031	-	-	1078	-	-
Stage 1	527	523	-	489	482	-	-	-	-	-	-	-
Stage 2	549	537	-	476	454	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	190	218	553	148	169	555	1029	-	-	1077	-	-
Mov Cap-2 Maneuver	190	218	-	148	169	-	-	-	-	-	-	-
Stage 1	521	516	-	478	471	-	-	-	-	-	-	-
Stage 2	521	524	-	445	448	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Ctrl Dly, s/v	20.79		18.17		0.28		0.13					
HCM LOS	C		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	59	-	-	275	290	27	-	-				
HCM Lane V/C Ratio	0.016	-	-	0.172	0.057	0.008	-	-				
HCM Ctrl Dly (s/v)	8.6	0	-	20.8	18.2	8.4	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	0.2	0	-	-				

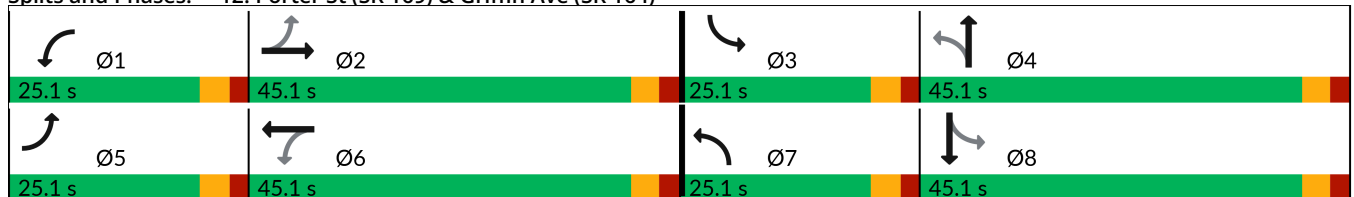


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	334	46	12	277	75	120	205	7	138	183	110
Future Volume (vph)	82	334	46	12	277	75	120	205	7	138	183	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	25.1	45.1		25.1	45.1		25.1	45.1		25.1	45.1	
Total Split (%)	17.9%	32.1%		17.9%	32.1%		17.9%	32.1%		17.9%	32.1%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 140.4
 Actuated Cycle Length: 88.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	82	334	46	12	277	75	120	205	7	138	183	110
Future Volume (veh/h)	82	334	46	12	277	75	120	205	7	138	183	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1776	1776	1776	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	89	363	50	13	301	82	130	223	8	150	199	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	303	549	76	268	396	108	345	427	15	427	272	164
Arrive On Green	0.05	0.34	0.34	0.01	0.29	0.29	0.08	0.24	0.24	0.09	0.25	0.25
Sat Flow, veh/h	1795	1621	223	1692	1344	366	1795	1809	65	1795	1101	664
Grp Volume(v), veh/h	89	0	413	13	0	383	130	0	231	150	0	319
Grp Sat Flow(s),veh/h/ln	1795	0	1845	1692	0	1710	1795	0	1874	1795	0	1766
Q Serve(g_s), s	2.1	0.0	12.0	0.3	0.0	12.8	3.4	0.0	6.8	3.9	0.0	10.4
Cycle Q Clear(g_c), s	2.1	0.0	12.0	0.3	0.0	12.8	3.4	0.0	6.8	3.9	0.0	10.4
Prop In Lane	1.00		0.12	1.00		0.21	1.00		0.03	1.00		0.38
Lane Grp Cap(c), veh/h	303	0	625	268	0	503	345	0	442	427	0	436
V/C Ratio(X)	0.29	0.00	0.66	0.05	0.00	0.76	0.38	0.00	0.52	0.35	0.00	0.73
Avail Cap(c_a), veh/h	777	0	1173	789	0	1087	772	0	1191	834	0	1123
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	17.7	16.0	0.0	20.2	16.7	0.0	20.9	16.0	0.0	21.8
Incr Delay (d2), s/veh	0.5	0.0	1.7	0.1	0.0	3.4	0.7	0.0	1.4	0.5	0.0	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	5.0	0.1	0.0	5.2	1.4	0.0	3.0	1.5	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.0	0.0	19.4	16.1	0.0	23.6	17.4	0.0	22.3	16.4	0.0	25.1
LnGrp LOS	B		B	B		C	B		C	B		C
Approach Vol, veh/h		502			396			361			469	
Approach Delay, s/veh		18.8			23.3			20.5			22.4	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.7	26.4	10.8	20.0	8.5	23.6	10.1	20.6				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	20.0	40.0				
Max Q Clear Time (g_c+I1), s	2.3	14.0	5.9	8.8	4.1	14.8	5.4	12.4				
Green Ext Time (p_c), s	0.0	4.1	0.3	2.1	0.2	3.7	0.3	3.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				21.2								
HCM 7th LOS				C								

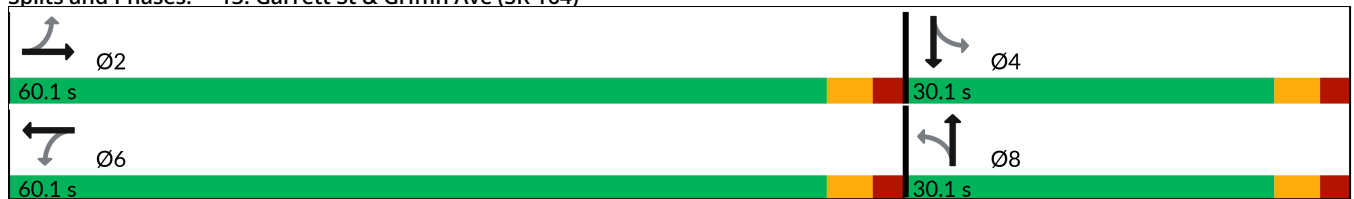


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	344	65	19	289	67	53	105	31	104	123	16
Future Volume (vph)	23	344	65	19	289	67	53	105	31	104	123	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Confl. Peds. (#/hr)	6		2	2		6	3			6	6	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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 35.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	23	344	65	19	289	67	53	105	31	104	123	16
Future Volume (veh/h)	23	344	65	19	289	67	53	105	31	104	123	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	24	362	68	20	304	71	56	111	33	109	129	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	490	634	119	450	602	141	478	366	109	478	428	56
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1012	1541	289	955	1464	342	1247	1394	414	1249	1630	215
Grp Volume(v), veh/h	24	0	430	20	0	375	56	0	144	109	0	146
Grp Sat Flow(s),veh/h/ln	1012	0	1831	955	0	1806	1247	0	1808	1249	0	1845
Q Serve(g_s), s	0.6	0.0	5.6	0.5	0.0	4.8	1.2	0.0	2.0	2.4	0.0	2.0
Cycle Q Clear(g_c), s	5.4	0.0	5.6	6.2	0.0	4.8	3.2	0.0	2.0	4.4	0.0	2.0
Prop In Lane	1.00		0.16	1.00		0.19	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	490	0	753	450	0	743	478	0	474	478	0	484
V/C Ratio(X)	0.05	0.00	0.57	0.04	0.00	0.50	0.12	0.00	0.30	0.23	0.00	0.30
Avail Cap(c_a), veh/h	1856	0	3222	1739	0	3179	1149	0	1447	1150	0	1476
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	7.1	9.4	0.0	6.8	10.5	0.0	9.2	11.0	0.0	9.2
Incr Delay (d2), s/veh	0.1	0.0	1.0	0.1	0.0	0.8	0.2	0.0	0.5	0.3	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	0.1	0.0	1.3	0.3	0.0	0.7	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.9	0.0	8.1	9.5	0.0	7.6	10.6	0.0	9.7	11.3	0.0	9.7
LnGrp LOS	A		A	A		A	B		A	B		A
Approach Vol, veh/h		454			395			200			255	
Approach Delay, s/veh		8.1			7.7			10.0			10.4	
Approach LOS		A			A			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.9		13.3		17.9		13.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		55.0		25.0		55.0		25.0				
Max Q Clear Time (g_c+I1), s		7.6		6.4		8.2		5.2				
Green Ext Time (p_c), s		5.0		1.6		4.3		1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh												8.7
HCM 7th LOS												A



2030 No Action AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	3	3	2	3	4	9	2	234	3	1	202	5
Future Volume (vph)	3	3	2	3	4	9	2	234	3	1	202	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	8%	8%	8%	8%	8%	8%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	2	3	4	9	2	234	3	1	202	5
Future Vol, veh/h	3	3	2	3	4	9	2	234	3	1	202	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	8	8	8	8	8	8	7	7	7
Mvmt Flow	4	4	2	4	5	11	2	275	4	1	238	6

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	525	526	241	524	528	277	244	0	0	279	0	0
Stage 1	243	243	-	282	282	-	-	-	-	-	-	-
Stage 2	282	284	-	242	246	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8.18	7.58	6.78	4.18	-	-	4.17	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4.072	3.372	2.272	-	-	2.263	-	-
Pot Cap-1 Maneuver	466	459	803	393	387	719	1288	-	-	1256	-	-
Stage 1	765	709	-	659	617	-	-	-	-	-	-	-
Stage 2	729	680	-	700	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	452	458	803	388	385	719	1288	-	-	1256	-	-
Mov Cap-2 Maneuver	452	458	-	388	385	-	-	-	-	-	-	-
Stage 1	764	708	-	657	616	-	-	-	-	-	-	-
Stage 2	711	679	-	694	645	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB				
HCM Ctrl Dly, s/v	12.19		12.15			0.07				0.04		
HCM LOS	B		B									

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	15	-	-	510	522	9	-
HCM Lane V/C Ratio	0.002	-	-	0.018	0.036	0.001	-
HCM Ctrl Dly (s/v)	7.8	0	-	12.2	12.1	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

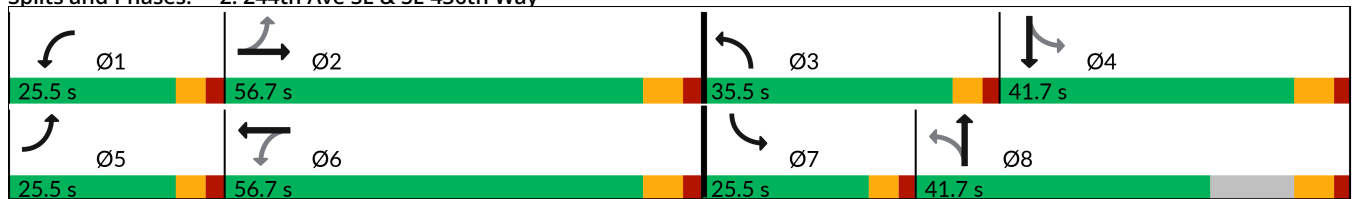


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	244	81	39	338	56	214	191	98	65	136	2
Future Volume (vph)	2	244	81	39	338	56	214	191	98	65	136	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	56.7		25.5	56.7		35.5	41.7		25.5	41.7	
Total Split (%)	16.0%	35.6%		16.0%	35.6%		22.3%	26.2%		16.0%	26.2%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 159.4
 Actuated Cycle Length: 93.9
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	2	244	81	39	338	56	214	191	98	65	136	2
Future Volume (veh/h)	2	244	81	39	338	56	214	191	98	65	136	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1811	1811	1811	1826	1826	1826	1826	1826	1826	1796	1796	1796
Adj Flow Rate, veh/h	2	277	92	44	384	64	243	217	111	74	155	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	6	6	6	5	5	5	5	5	5	7	7	7
Cap, veh/h	227	387	128	284	513	85	450	280	143	270	268	3
Arrive On Green	0.00	0.30	0.30	0.04	0.34	0.34	0.15	0.25	0.25	0.06	0.15	0.15
Sat Flow, veh/h	1725	1301	432	1739	1525	254	1739	1139	582	1711	1769	23
Grp Volume(v), veh/h	2	0	369	44	0	448	243	0	328	74	0	157
Grp Sat Flow(s),veh/h/ln	1725	0	1732	1739	0	1780	1739	0	1721	1711	0	1792
Q Serve(g_s), s	0.1	0.0	12.9	1.2	0.0	15.1	7.4	0.0	12.0	2.4	0.0	5.5
Cycle Q Clear(g_c), s	0.1	0.0	12.9	1.2	0.0	15.1	7.4	0.0	12.0	2.4	0.0	5.5
Prop In Lane	1.00		0.25	1.00		0.14	1.00		0.34	1.00		0.01
Lane Grp Cap(c), veh/h	227	0	515	284	0	598	450	0	422	270	0	272
V/C Ratio(X)	0.01	0.00	0.72	0.15	0.00	0.75	0.54	0.00	0.78	0.27	0.00	0.58
Avail Cap(c_a), veh/h	732	0	1279	726	0	1314	961	0	889	680	0	926
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	0.0	21.3	16.5	0.0	19.9	18.2	0.0	23.8	22.5	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.0	4.0	0.3	0.0	4.0	1.2	0.0	4.4	0.7	0.0	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	5.1	0.4	0.0	6.0	2.8	0.0	4.9	0.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.6	0.0	25.2	16.8	0.0	24.0	19.4	0.0	28.2	23.2	0.0	29.5
LnGrp LOS	B		C	B		C	B		C	C		C
Approach Vol, veh/h		371			492			571			231	
Approach Delay, s/veh		25.2			23.3			24.4			27.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	26.8	15.6	17.0	5.7	29.5	9.3	23.3				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	50.0	30.0	35.0	20.0	50.0	20.0	35.0				
Max Q Clear Time (g_c+I1), s	3.2	14.9	9.4	7.5	3.1	17.1	4.4	14.0				
Green Ext Time (p_c), s	0.1	4.6	0.8	1.1	0.0	5.6	0.2	2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			24.7									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	0	8	0	0	1	10	499	0	2	252	1
Future Volume (vph)	8	0	8	0	0	1	10	499	0	2	252	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			280			2645			319	
Travel Time (s)		4.8			7.6			45.1			5.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	8	0	0	1	10	499	0	2	252	1
Future Vol, veh/h	8	0	8	0	0	1	10	499	0	2	252	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	3	3	3
Mvmt Flow	9	0	9	0	0	1	12	587	0	2	296	1
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	912	912	297	912	913	587	298	0	0	587	0	0
Stage 1	302	302	-	611	611	-	-	-	-	-	-	-
Stage 2	611	611	-	301	302	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.15	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.245	-	-	2.227	-	-
Pot Cap-1 Maneuver	257	276	747	257	276	513	1247	-	-	983	-	-
Stage 1	712	668	-	485	488	-	-	-	-	-	-	-
Stage 2	485	488	-	712	668	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	252	271	747	249	271	513	1247	-	-	983	-	-
Mov Cap-2 Maneuver	252	271	-	249	271	-	-	-	-	-	-	-
Stage 1	710	666	-	478	481	-	-	-	-	-	-	-
Stage 2	477	481	-	701	666	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	15.06	12.03			0.16			0.07				
HCM LOS	C	B										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	35	-	-	377	513	14	-					
HCM Lane V/C Ratio	0.009	-	-	0.05	0.002	0.002	-					
HCM Ctrl Dly (s/v)	7.9	0	-	15.1	12	8.7	0					
HCM Lane LOS	A	A	-	C	B	A	A					
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-					

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [4-AM-NA] 244th Ave SE / SE 448th St (2030 No Action - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

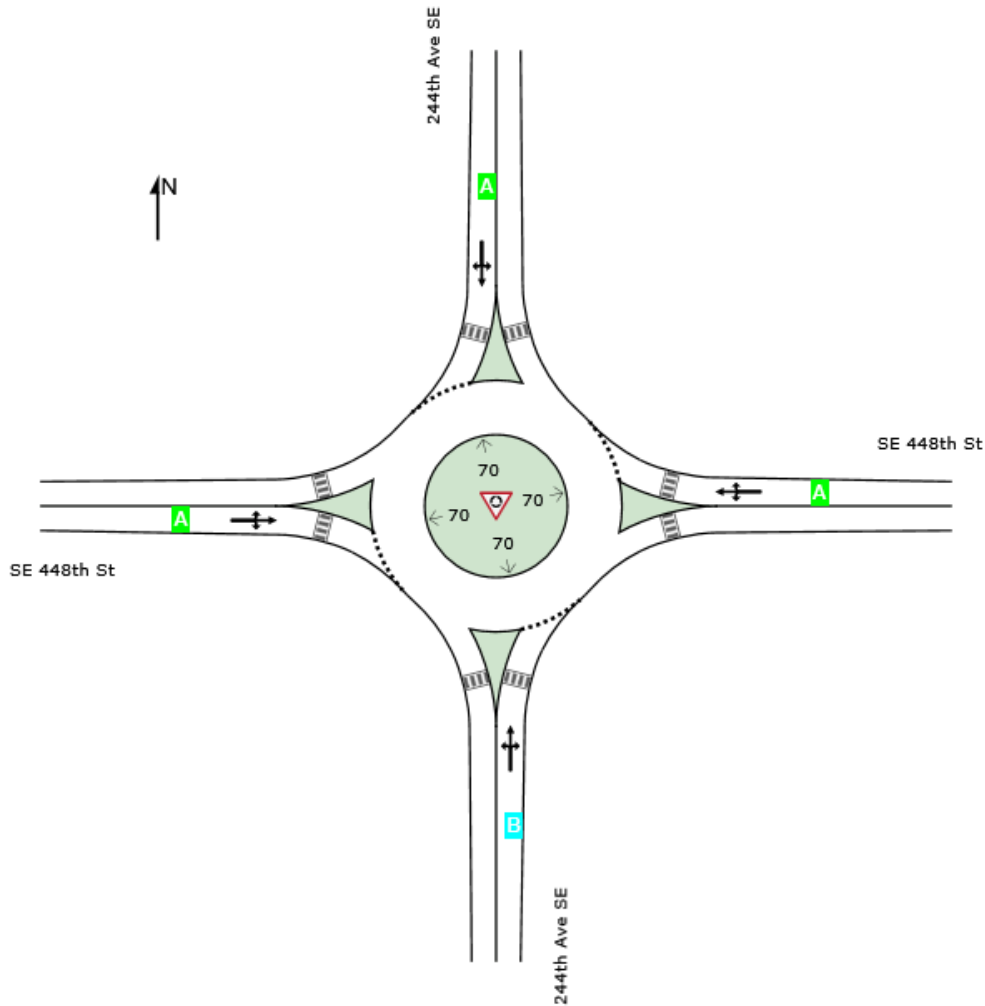
244th Ave SE / SE 448th St

Site Category: 2030 No Action - AM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [4-AM-NA] 244th Ave SE / SE 448th St (2030 No Action - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 No Action - AM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				mph
			veh/h		veh/h					veh	ft				
South: 244th Ave SE															
3	L2	All MCs	13	10.0	13	10.0	0.647	11.2	LOS B	5.9	160.3	0.50	0.21	0.50	29.3
8	T1	All MCs	681	10.0	681	10.0	0.647	11.2	LOS B	5.9	160.3	0.50	0.21	0.50	29.9
18	R2	All MCs	46	10.0	46	10.0	0.647	11.2	LOS B	5.9	160.3	0.50	0.21	0.50	29.6
Approach			740	10.0	740	10.0	0.647	11.2	LOS B	5.9	160.3	0.50	0.21	0.50	29.8
East: SE 448th St															
1	L2	All MCs	19	8.0	19	8.0	0.172	8.8	LOS A	0.6	16.1	0.64	0.59	0.64	21.4
6	T1	All MCs	12	8.0	12	8.0	0.172	8.8	LOS A	0.6	16.1	0.64	0.59	0.64	21.6
16	R2	All MCs	63	8.0	63	8.0	0.172	8.8	LOS A	0.6	16.1	0.64	0.59	0.64	21.5
Approach			94	8.0	94	8.0	0.172	8.8	LOS A	0.6	16.1	0.64	0.59	0.64	21.5
North: 244th Ave SE															
7	L2	All MCs	41	8.0	41	8.0	0.448	7.1	LOS A	3.0	80.6	0.25	0.08	0.25	26.5
4	T1	All MCs	497	8.0	497	8.0	0.448	7.1	LOS A	3.0	80.6	0.25	0.08	0.25	26.9
14	R2	All MCs	9	8.0	9	8.0	0.448	7.1	LOS A	3.0	80.6	0.25	0.08	0.25	26.7
Approach			547	8.0	547	8.0	0.448	7.1	LOS A	3.0	80.6	0.25	0.08	0.25	26.9
West: SE 448th St															
5	L2	All MCs	15	5.0	15	5.0	0.080	6.0	LOS A	0.3	7.7	0.56	0.48	0.56	27.7
2	T1	All MCs	28	5.0	28	5.0	0.080	6.0	LOS A	0.3	7.7	0.56	0.48	0.56	28.1
12	R2	All MCs	12	5.0	12	5.0	0.080	6.0	LOS A	0.3	7.7	0.56	0.48	0.56	27.9
Approach			55	5.0	55	5.0	0.080	6.0	LOS A	0.3	7.7	0.56	0.48	0.56	28.0
All Vehicles			1436	8.9	1436	8.9	0.647	9.3	LOS A	5.9	160.3	0.42	0.20	0.42	27.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	53	403	69	120	184
Future Volume (vph)	23	53	403	69	120	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

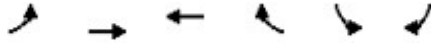
Intersection

Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖	↖	↖	↖
Traffic Vol, veh/h	23	53	403	69	120	184
Future Vol, veh/h	23	53	403	69	120	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	175	-
Veh in Median Storage, #	-	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	30	69	523	90	156	239

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1119	568	0	0	613
Stage 1	568	-	-	-	-
Stage 2	551	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	229	522	-	-	966
Stage 1	567	-	-	-	-
Stage 2	578	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	192	522	-	-	966
Mov Cap-2 Maneuver	192	-	-	-	-
Stage 1	567	-	-	-	-
Stage 2	484	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.25	0	3.73
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	192	522	966	-
HCM Lane V/C Ratio	-	-	0.156	0.132	0.161	-
HCM Ctrl Dly (s/v)	-	-	27.2	12.9	9.4	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.5	0.6	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	3	427	423	15	30	5
Future Volume (vph)	3	427	423	15	30	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Link Speed (mph)		35	35		25	
Link Distance (ft)		554	1316		445	
Travel Time (s)		10.8	25.6		12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	5%	5%	9%	9%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	3	427	423	15	30	5
Future Vol, veh/h	3	427	423	15	30	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	4	-4	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	7	7	5	5	9	9
Mvmt Flow	3	474	470	17	33	6

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	487	0	959
Stage 1	-	-	478
Stage 2	-	-	481
Critical Hdwy	4.17	-	6.49
Critical Hdwy Stg 1	-	-	5.49
Critical Hdwy Stg 2	-	-	5.49
Follow-up Hdwy	2.263	-	3.381
Pot Cap-1 Maneuver	1051	-	573
Stage 1	-	-	609
Stage 2	-	-	607
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1051	-	573
Mov Cap-2 Maneuver	-	-	276
Stage 1	-	-	607
Stage 2	-	-	607

Approach

	EB	WB	SB
HCM Ctrl Dly, s/v	0.06	0	18.91
HCM LOS			C

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	13	-	-	-	298
HCM Lane V/C Ratio	0.003	-	-	-	0.131
HCM Ctrl Dly (s/v)	8.4	0	-	-	18.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Lanes, Volumes, Timings

7: Semanski St/Clovercrest St & Griffin Ave (SR 164)

06/27/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	388	66	105	356	2	68	3	96	3	4	4
Future Volume (vph)	1	388	66	105	356	2	68	3	96	3	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	5%	5%	5%	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	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	1	388	66	105	356	2	68	3	96	3	4	4
Future Vol, veh/h	1	388	66	105	356	2	68	3	96	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	7	7	7	5	5	5	5	5	5	0	0	0
Mvmt Flow	1	473	80	128	434	2	83	4	117	4	5	5

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	437	0	0	554
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.17	-	-	4.15
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.263	-	-	2.245
Pot Cap-1 Maneuver	1097	-	-	1002
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1097	-	-	1002
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.02	2.07	25.89	20.62
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		371	1097	-	-	1002	-	244
HCM Lane V/C Ratio		0.549	0.001	-	-	0.128	-	0.055
HCM Ctrl Dly (s/v)		25.9	8.3	-	-	9.1	-	20.6
HCM Lane LOS		D	A	-	-	A	-	C
HCM 95th %tile Q(veh)		3.2	0	-	-	0.4	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	28	20	72	26	16	32	175	74	14	185	0
Future Volume (vph)	1	28	20	72	26	16	32	175	74	14	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	2		2	2		2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	28	20	72	26	16	32	175	74	14	185	0
Future Vol, veh/h	1	28	20	72	26	16	32	175	74	14	185	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	9	9	9	6	6	6	5	5	5	7	7	7
Mvmt Flow	1	40	29	103	37	23	46	250	106	20	264	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	11.1	14.1	12.1
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	2%	63%	7%
Vol Thru, %	62%	57%	23%	93%
Vol Right, %	26%	41%	14%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	281	49	114	199
LT Vol	32	1	72	14
Through Vol	175	28	26	185
RT Vol	74	20	16	0
Lane Flow Rate	401	70	163	284
Geometry Grp	1	1	1	1
Degree of Util (X)	0.555	0.115	0.268	0.418
Departure Headway (Hd)	4.977	5.904	5.921	5.299
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	727	606	606	679
Service Time	3.009	3.954	3.964	3.335
HCM Lane V/C Ratio	0.552	0.116	0.269	0.418
HCM Control Delay, s/veh	14.1	9.7	11.1	12.1
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.4	0.4	1.1	2.1

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [9-AM-NA] Semanski St / Warner Ave (2030 No Action - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

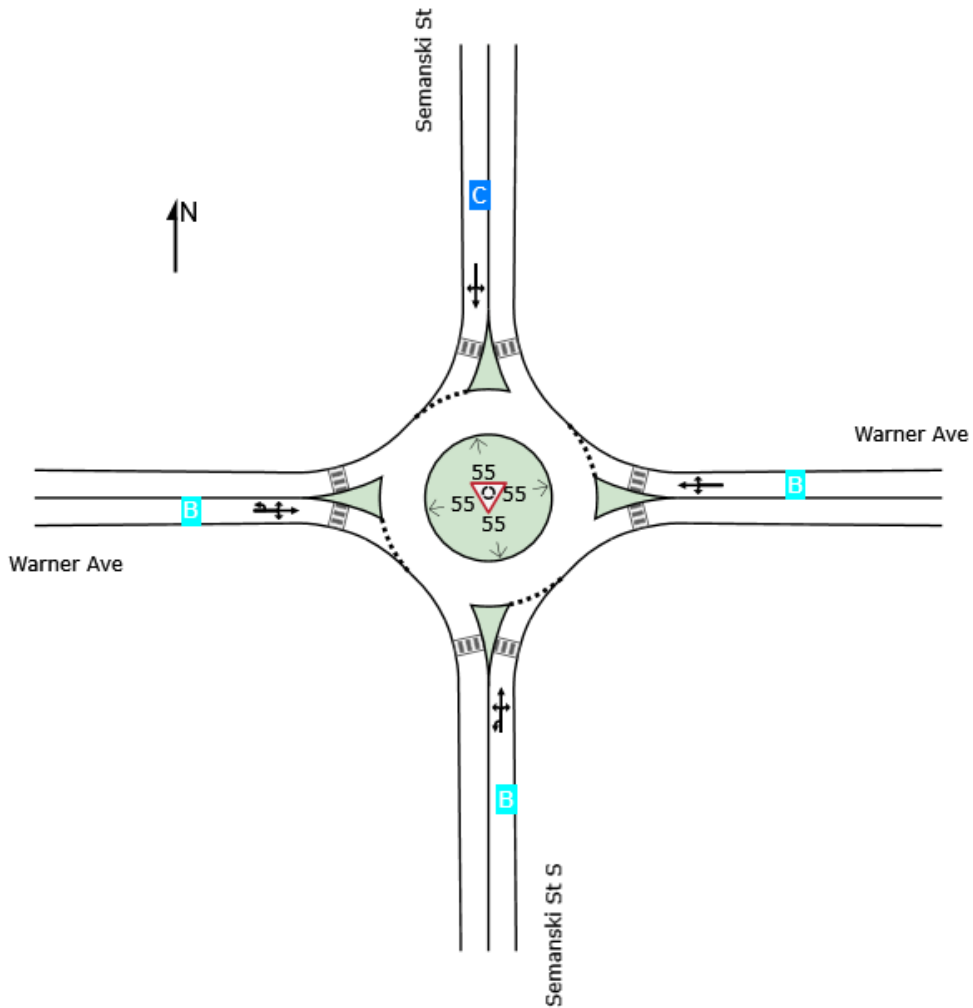
Semanski St S / Warner Ave

Site Category: 2030 No Action - AM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	B	C	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [9-AM-NA] Semanski St / Warner Ave (2030 No Action - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 No Action - AM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3u	U	All MCs	2	9.0	2	9.0	0.571	11.2	LOS B	4.9	131.3	0.64	0.50	0.77	25.2
3	L2	All MCs	43	9.0	43	9.0	0.571	11.2	LOS B	4.9	131.3	0.64	0.50	0.77	21.8
8	T1	All MCs	304	9.0	304	9.0	0.571	11.2	LOS B	4.9	131.3	0.64	0.50	0.77	21.9
18	R2	All MCs	205	9.0	205	9.0	0.571	11.2	LOS B	4.9	131.3	0.64	0.50	0.77	21.9
Approach			554	9.0	554	9.0	0.571	11.2	LOS B	4.9	131.3	0.64	0.50	0.77	21.9
East: Warner Ave															
1	L2	All MCs	170	1.0	170	1.0	0.542	12.1	LOS B	4.2	106.2	0.74	0.71	1.05	29.9
6	T1	All MCs	232	1.0	232	1.0	0.542	12.1	LOS B	4.2	106.2	0.74	0.71	1.05	30.4
16	R2	All MCs	39	1.0	39	1.0	0.542	12.1	LOS B	4.2	106.2	0.74	0.71	1.05	30.2
Approach			441	1.0	441	1.0	0.542	12.1	LOS B	4.2	106.2	0.74	0.71	1.05	30.2
North: Semanski St															
7	L2	All MCs	18	6.0	18	6.0	0.670	16.4	LOS C	7.0	183.2	0.83	0.87	1.40	30.4
4	T1	All MCs	341	6.0	341	6.0	0.670	16.4	LOS C	7.0	183.2	0.83	0.87	1.40	31.0
14	R2	All MCs	171	6.0	171	6.0	0.670	16.4	LOS C	7.0	183.2	0.83	0.87	1.40	30.7
Approach			530	6.0	530	6.0	0.670	16.4	LOS C	7.0	183.2	0.83	0.87	1.40	30.9
West: Warner Ave															
5u	U	All MCs	9	3.0	9	3.0	0.406	10.0	LOS B	2.2	55.9	0.68	0.60	0.80	29.7
5	L2	All MCs	109	3.0	109	3.0	0.406	10.0	LOS B	2.2	55.9	0.68	0.60	0.80	29.7
2	T1	All MCs	102	3.0	102	3.0	0.406	10.0	LOS B	2.2	55.9	0.68	0.60	0.80	30.2
12	R2	All MCs	84	3.0	84	3.0	0.406	10.0	LOS B	2.2	55.9	0.68	0.60	0.80	30.0
Approach			304	3.0	304	3.0	0.406	10.0	LOS B	2.2	55.9	0.68	0.60	0.80	29.9
All Vehicles			1829	5.2	1829	5.2	0.670	12.7	LOS B	7.0	183.2	0.73	0.67	1.03	27.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	19	19	23	39	17	14	10	353	27	13	333	15
Future Volume (vph)	19	19	23	39	17	14	10	353	27	13	333	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)	1						1					
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	19	19	23	39	17	14	10	353	27	13	333	15
Future Vol, veh/h	19	19	23	39	17	14	10	353	27	13	333	15
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	5	5	5
Mvmt Flow	25	25	30	51	22	18	13	464	36	17	438	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	985	1009	448	993	1001	483	458	0	0	500	0	0
Stage 1	482	482	-	509	509	-	-	-	-	-	-	-
Stage 2	503	526	-	485	492	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.15	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.245	-	-
Pot Cap-1 Maneuver	227	240	611	224	243	583	1098	-	-	1049	-	-
Stage 1	565	553	-	547	538	-	-	-	-	-	-	-
Stage 2	551	529	-	563	548	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	194	234	611	185	236	583	1098	-	-	1049	-	-
Mov Cap-2 Maneuver	194	234	-	185	236	-	-	-	-	-	-	-
Stage 1	556	544	-	540	532	-	-	-	-	-	-	-
Stage 2	504	522	-	503	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	22.85	31	0.21	0.31
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	281	229	1049	-
HCM Lane V/C Ratio	0.012	-	-	0.286	0.403	0.016	-
HCM Ctrl Dly (s/v)	8.3	-	-	22.9	31	8.5	-
HCM Lane LOS	A	-	-	C	D	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1.8	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	2	8	2	3	11	39	356	9	10	345	49
Future Volume (vph)	18	2	8	2	3	11	39	356	9	10	345	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	9		2	2		9	2		2	2		2
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	2	8	2	3	11	39	356	9	10	345	49
Future Vol, veh/h	18	2	8	2	3	11	39	356	9	10	345	49
Conflicting Peds, #/hr	9	0	2	2	0	9	2	0	2	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	25	3	11	3	4	15	54	494	13	14	479	68
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1157	1160	517	1121	1188	512	549	0	0	509	0	0
Stage 1	543	543	-	611	611	-	-	-	-	-	-	-
Stage 2	614	617	-	510	577	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	175	197	562	144	146	535	1010	-	-	1046	-	-
Stage 1	528	523	-	423	426	-	-	-	-	-	-	-
Stage 2	483	484	-	491	444	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	148	178	560	126	132	529	1008	-	-	1044	-	-
Mov Cap-2 Maneuver	148	178	-	126	132	-	-	-	-	-	-	-
Stage 1	516	512	-	390	393	-	-	-	-	-	-	-
Stage 2	425	447	-	468	435	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	28.69		19.57			0.85			0.21			
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	173	-	-	190	269	43	-					
HCM Lane V/C Ratio	0.054	-	-	0.204	0.083	0.013	-					
HCM Ctrl Dly (s/v)	8.8	0	-	28.7	19.6	8.5	0					
HCM Lane LOS	A	A	-	D	C	A	A					
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.3	0	-					



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	287	36	0	237	81	43	165	3	75	124	70
Future Volume (vph)	109	287	36	0	237	81	43	165	3	75	124	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	20.1	35.1		20.1	35.1		20.1	35.1		20.1	35.1	
Total Split (%)	18.2%	31.8%		18.2%	31.8%		18.2%	31.8%		18.2%	31.8%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 110.4
 Actuated Cycle Length: 73.5
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)

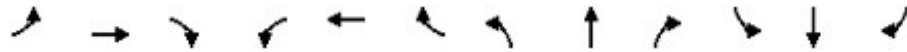
Ø1	Ø2	Ø3	Ø4
20.1 s	35.1 s	20.1 s	35.1 s
Ø5	Ø6	Ø7	Ø8
20.1 s	35.1 s	20.1 s	35.1 s

HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	287	36	0	237	81	43	165	3	75	124	70
Future Volume (veh/h)	109	287	36	0	237	81	43	165	3	75	124	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1841	1841	1841	1687	1687	1687	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	128	338	42	0	279	95	51	194	4	88	146	82
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	8	8	8	2	2	2	3	3	3
Cap, veh/h	365	769	96	418	369	126	282	310	6	325	218	123
Arrive On Green	0.07	0.48	0.48	0.00	0.31	0.31	0.03	0.17	0.17	0.06	0.20	0.20
Sat Flow, veh/h	1753	1605	199	1607	1204	410	1781	1826	38	1767	1116	627
Grp Volume(v), veh/h	128	0	380	0	0	374	51	0	198	88	0	228
Grp Sat Flow(s),veh/h/ln	1753	0	1805	1607	0	1613	1781	0	1864	1767	0	1743
Q Serve(g_s), s	2.4	0.0	7.3	0.0	0.0	10.9	1.2	0.0	5.2	2.1	0.0	6.3
Cycle Q Clear(g_c), s	2.4	0.0	7.3	0.0	0.0	10.9	1.2	0.0	5.2	2.1	0.0	6.3
Prop In Lane	1.00		0.11	1.00		0.25	1.00		0.02	1.00		0.36
Lane Grp Cap(c), veh/h	365	0	864	418	0	495	282	0	317	325	0	341
V/C Ratio(X)	0.35	0.00	0.44	0.00	0.00	0.76	0.18	0.00	0.63	0.27	0.00	0.67
Avail Cap(c_a), veh/h	738	0	1036	876	0	926	735	0	1070	729	0	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	9.0	0.0	0.0	16.4	17.3	0.0	20.1	16.6	0.0	19.5
Incr Delay (d2), s/veh	0.6	0.0	0.5	0.0	0.0	3.4	0.3	0.0	2.9	0.4	0.0	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.5	0.0	0.0	4.1	0.5	0.0	2.3	0.8	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.9	0.0	9.5	0.0	0.0	19.7	17.6	0.0	23.0	17.1	0.0	22.7
LnGrp LOS	B		A			B	B		C	B		C
Approach Vol, veh/h		508			374			249			316	
Approach Delay, s/veh		10.1			19.7			21.9			21.1	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	30.1	8.2	14.0	9.0	21.1	6.8	15.3				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	5.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	0.0	9.3	4.1	7.2	4.4	12.9	3.2	8.3				
Green Ext Time (p_c), s	0.0	3.4	0.1	1.6	0.2	3.1	0.1	1.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			17.0									
HCM 7th LOS			B									

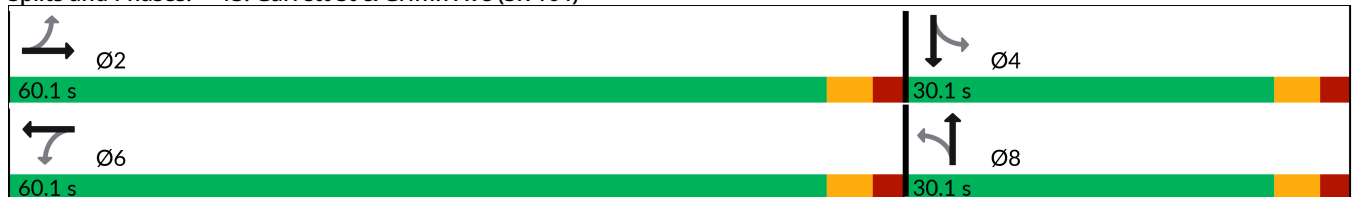


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	273	55	16	274	42	46	67	22	49	73	11
Future Volume (vph)	12	273	55	16	274	42	46	67	22	49	73	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 33.4
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	273	55	16	274	42	46	67	22	49	73	11
Future Volume (veh/h)	12	273	55	16	274	42	46	67	22	49	73	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1826	1826	1826	1826	1826	1826	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	14	329	66	19	330	51	55	81	27	59	88	13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	5	5	5	5	5	5	6	6	6	7	7	7
Cap, veh/h	532	622	125	520	651	101	451	248	83	443	292	43
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	978	1476	296	966	1544	239	1253	1300	433	1235	1530	226
Grp Volume(v), veh/h	14	0	395	19	0	381	55	0	108	59	0	101
Grp Sat Flow(s),veh/h/ln	978	0	1773	966	0	1783	1253	0	1733	1235	0	1756
Q Serve(g_s), s	0.3	0.0	4.4	0.4	0.0	4.1	1.0	0.0	1.4	1.1	0.0	1.3
Cycle Q Clear(g_c), s	4.4	0.0	4.4	4.8	0.0	4.1	2.3	0.0	1.4	2.6	0.0	1.3
Prop In Lane	1.00		0.17	1.00		0.13	1.00		0.25	1.00		0.13
Lane Grp Cap(c), veh/h	532	0	747	520	0	751	451	0	331	443	0	336
V/C Ratio(X)	0.03	0.00	0.53	0.04	0.00	0.51	0.12	0.00	0.33	0.13	0.00	0.30
Avail Cap(c_a), veh/h	2163	0	3703	2131	0	3725	1401	0	1646	1380	0	1667
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	5.7	7.4	0.0	5.6	10.1	0.0	9.2	10.3	0.0	9.1
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.8	0.2	0.0	0.8	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.0	0.1	0.0	0.9	0.2	0.0	0.4	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.3	0.0	6.5	7.5	0.0	6.4	10.3	0.0	10.0	10.5	0.0	9.8
LnGrp LOS	A		A		A		B		A		A	
Approach Vol, veh/h	409			400			163			160		
Approach Delay, s/veh	6.5			6.4			10.1			10.1		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	16.2			10.1			16.2			10.1		
Change Period (Y+Rc), s	5.1			5.1			5.1			5.1		
Max Green Setting (Gmax), s	55.0			25.0			55.0			25.0		
Max Q Clear Time (g_c+I1), s	6.4			4.6			6.8			4.3		
Green Ext Time (p_c), s	4.5			1.0			4.3			1.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	7.5											
HCM 7th LOS	A											



2030 No Action PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	3	4	1	3	8	4	185	7	15	489	7
Future Volume (vph)	9	3	4	1	3	8	4	185	7	15	489	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	1%	1%	1%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Vol, veh/h	9	3	4	1	3	8	4	185	7	15	489	7
Future Vol, veh/h	9	3	4	1	3	8	4	185	7	15	489	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	10	10	10	1	1	1	4	4	4
Mvmt Flow	10	3	5	1	3	9	5	210	8	17	556	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	815	821	560	815	821	214	564	0	0	218	0	0
Stage 1	594	594	-	223	223	-	-	-	-	-	-	-
Stage 2	221	227	-	591	598	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.57	6.27	8.2	7.6	6.8	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.063	3.363	3.59	4.09	3.39	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	290	304	519	229	239	782	1013	-	-	1340	-	-
Stage 1	483	485	-	716	662	-	-	-	-	-	-	-
Stage 2	770	707	-	407	405	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	276	297	519	219	234	782	1013	-	-	1340	-	-
Mov Cap-2 Maneuver	276	297	-	219	234	-	-	-	-	-	-	-
Stage 1	474	476	-	712	658	-	-	-	-	-	-	-
Stage 2	753	703	-	393	398	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.03	13.56	0.17	0.23
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	36	-	-	317	434	53	-
HCM Lane V/C Ratio	0.004	-	-	0.057	0.031	0.013	-
HCM Ctrl Dly (s/v)	8.6	0	-	17	13.6	7.7	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

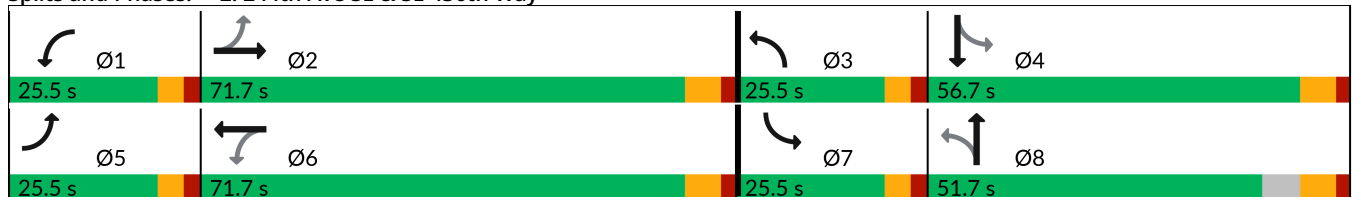


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	449	166	142	334	57	116	140	66	124	381	8
Future Volume (vph)	2	449	166	142	334	57	116	140	66	124	381	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
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%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	71.7		25.5	71.7		25.5	51.7		25.5	56.7	
Total Split (%)	14.2%	40.0%		14.2%	40.0%		14.2%	28.8%		14.2%	31.6%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 179.4
 Actuated Cycle Length: 152.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	2	449	166	142	334	57	116	140	66	124	381	8
Future Volume (veh/h)	2	449	166	142	334	57	116	140	66	124	381	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	2	468	173	148	348	59	121	146	69	129	397	8
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	2	2	2	1	1	1	2	2	2
Cap, veh/h	391	540	199	243	738	125	225	300	142	356	460	9
Arrive On Green	0.00	0.41	0.41	0.07	0.47	0.47	0.07	0.25	0.25	0.07	0.25	0.25
Sat Flow, veh/h	1795	1313	485	1781	1559	264	1795	1210	572	1781	1827	37
Grp Volume(v), veh/h	2	0	641	148	0	407	121	0	215	129	0	405
Grp Sat Flow(s),veh/h/ln	1795	0	1798	1781	0	1823	1795	0	1782	1781	0	1864
Q Serve(g_s), s	0.1	0.0	38.9	5.5	0.0	18.0	5.9	0.0	12.3	6.3	0.0	24.8
Cycle Q Clear(g_c), s	0.1	0.0	38.9	5.5	0.0	18.0	5.9	0.0	12.3	6.3	0.0	24.8
Prop In Lane	1.00		0.27	1.00		0.14	1.00		0.32	1.00		0.02
Lane Grp Cap(c), veh/h	391	0	739	243	0	863	225	0	441	356	0	469
V/C Ratio(X)	0.01	0.00	0.87	0.61	0.00	0.47	0.54	0.00	0.49	0.36	0.00	0.86
Avail Cap(c_a), veh/h	688	0	981	426	0	994	405	0	673	528	0	782
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	32.1	25.3	0.0	21.3	32.8	0.0	38.3	30.5	0.0	42.6
Incr Delay (d2), s/veh	0.0	0.0	8.7	2.9	0.0	0.9	2.4	0.0	1.2	0.7	0.0	7.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	17.7	2.3	0.0	7.5	2.7	0.0	5.4	2.7	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.9	0.0	40.8	28.3	0.0	22.1	35.2	0.0	39.5	31.3	0.0	49.8
LnGrp LOS	C		D	C		C	D		D	C		D
Approach Vol, veh/h		643			555			336			534	
Approach Delay, s/veh		40.8			23.8			38.0			45.3	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	55.7	13.5	36.7	5.8	63.1	14.0	36.2				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	65.0	20.0	50.0	20.0	65.0	20.0	45.0				
Max Q Clear Time (g_c+I1), s	7.5	40.9	7.9	26.8	3.1	20.0	8.3	14.3				
Green Ext Time (p_c), s	0.4	8.1	0.3	3.2	0.0	5.3	0.3	1.8				
Intersection Summary												
HCM 7th Control Delay, s/veh			36.9									
HCM 7th LOS			D									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	0	26	3	0	4	5	310	2	2	680	12
Future Volume (vph)	7	0	26	3	0	4	5	310	2	2	680	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			280			2645			319	
Travel Time (s)		4.8			7.6			45.1			5.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBS	EBR	WBL	WBS	WBR	NBL	NBS	NBR	SBL	SBS	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	26	3	0	4	5	310	2	2	680	12
Future Vol, veh/h	7	0	26	3	0	4	5	310	2	2	680	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	0	0	0	1	1	1	1	1	1
Mvmt Flow	7	0	28	3	0	4	5	330	2	2	723	13
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1074	1077	730	1069	1082	331	736	0	0	332	0	0
Stage 1	734	734	-	341	341	-	-	-	-	-	-	-
Stage 2	340	343	-	728	740	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	197	218	421	201	219	715	874	-	-	1233	-	-
Stage 1	410	424	-	678	642	-	-	-	-	-	-	-
Stage 2	672	636	-	418	426	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	193	216	421	186	217	715	874	-	-	1233	-	-
Mov Cap-2 Maneuver	193	216	-	186	217	-	-	-	-	-	-	-
Stage 1	409	423	-	673	637	-	-	-	-	-	-	-
Stage 2	663	631	-	390	425	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	16.93	16.45			0.14			0.02				
HCM LOS	C	C										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	28	-	-	337	322	5	-					
HCM Lane V/C Ratio	0.006	-	-	0.104	0.023	0.002	-					
HCM Ctrl Dly (s/v)	9.1	0	-	16.9	16.4	7.9	0					
HCM Lane LOS	A	A	-	C	C	A	A					
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-					

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [4-PM-NA] 244th Ave SE / SE 448th St (2030 No Action - PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

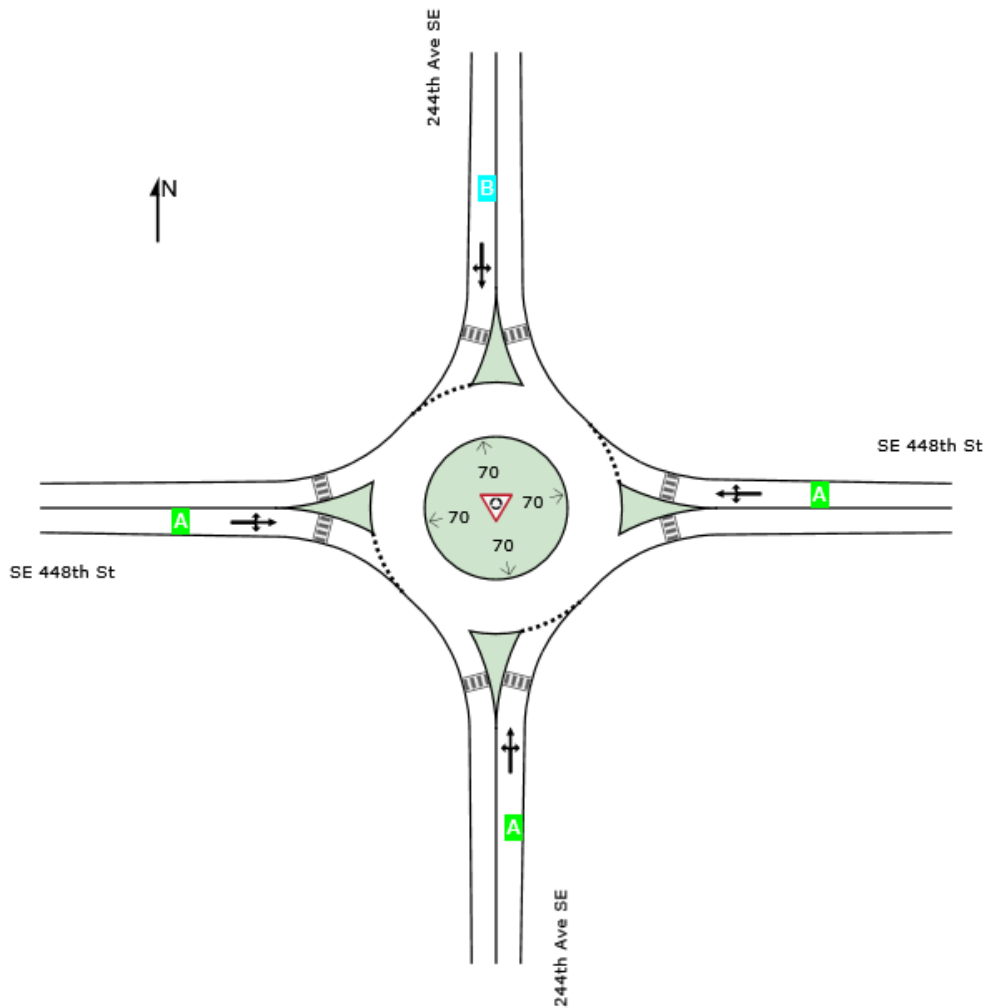
244th Ave SE / SE 448th St

Site Category: 2030 No Action- PM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [4-PM-NA] 244th Ave SE / SE 448th St (2030 No Action - PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 No Action- PM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				mph
			veh/h		veh/h					veh	ft				
South: 244th Ave SE															
3	L2	All MCs	17	1.0	17	1.0	0.360	6.0	LOS A	2.2	55.9	0.28	0.11	0.28	28.0
8	T1	All MCs	377	1.0	377	1.0	0.360	6.0	LOS A	2.2	55.9	0.28	0.11	0.28	28.4
18	R2	All MCs	62	1.0	62	1.0	0.360	6.0	LOS A	2.2	55.9	0.28	0.11	0.28	28.2
Approach			456	1.0	456	1.0	0.360	6.0	LOS A	2.2	55.9	0.28	0.11	0.28	28.4
East: SE 448th St															
1	L2	All MCs	68	4.0	68	4.0	0.165	5.8	LOS A	0.7	17.8	0.51	0.38	0.51	21.7
6	T1	All MCs	47	4.0	47	4.0	0.165	5.8	LOS A	0.7	17.8	0.51	0.38	0.51	21.8
16	R2	All MCs	26	4.0	26	4.0	0.165	5.8	LOS A	0.7	17.8	0.51	0.38	0.51	21.8
Approach			142	4.0	142	4.0	0.165	5.8	LOS A	0.7	17.8	0.51	0.38	0.51	21.8
North: 244th Ave SE															
7	L2	All MCs	41	3.0	41	3.0	0.671	12.0	LOS B	6.4	164.2	0.63	0.31	0.63	30.4
4	T1	All MCs	717	3.0	717	3.0	0.671	12.0	LOS B	6.4	164.2	0.63	0.31	0.63	30.9
14	R2	All MCs	22	3.0	22	3.0	0.671	12.0	LOS B	6.4	164.2	0.63	0.31	0.63	30.7
Approach			780	3.0	780	3.0	0.671	12.0	LOS B	6.4	164.2	0.63	0.31	0.63	30.9
West: SE 448th St															
5	L2	All MCs	11	0.0	11	0.0	0.069	7.0	LOS A	0.3	6.5	0.63	0.60	0.63	27.6
2	T1	All MCs	21	0.0	21	0.0	0.069	7.0	LOS A	0.3	6.5	0.63	0.60	0.63	28.0
12	R2	All MCs	8	0.0	8	0.0	0.069	7.0	LOS A	0.3	6.5	0.63	0.60	0.63	27.9
Approach			40	0.0	40	0.0	0.069	7.0	LOS A	0.3	6.5	0.63	0.60	0.63	27.9
All Vehicles			1418	2.4	1418	2.4	0.671	9.3	LOS A	6.4	164.2	0.50	0.26	0.50	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	151	71	262	66	57	600
Future Volume (vph)	151	71	262	66	57	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

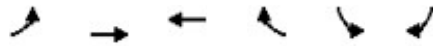
Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	7.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖		↖	↖
Traffic Vol, veh/h	151	71	262	66	57	600
Future Vol, veh/h	151	71	262	66	57	600
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	175	-
Veh in Median Storage, #	-	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	162	76	282	71	61	645

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1087	319	0	0	354
Stage 1	318	-	-	-	-
Stage 2	769	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	239	721	-	-	1205
Stage 1	737	-	-	-	-
Stage 2	457	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	227	720	-	-	1204
Mov Cap-2 Maneuver	227	-	-	-	-
Stage 1	737	-	-	-	-
Stage 2	434	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	39.45	0	0.71
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	227	720	1204	-
HCM Lane V/C Ratio	-	-	0.717	0.106	0.051	-
HCM Ctrl Dly (s/v)	-	-	53	10.6	8.2	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	4.8	0.4	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	10	640	525	39	28	13
Future Volume (vph)	10	640	525	39	28	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		4%	-4%		0%	
Link Speed (mph)		35	35		25	
Link Distance (ft)		554	1316		445	
Travel Time (s)		10.8	25.6		12.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	2%	2%	5%	5%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	10	640	525	39	28	13
Future Vol, veh/h	10	640	525	39	28	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	4	-4	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	2	2	5	5
Mvmt Flow	11	688	565	42	30	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	606	0	0 1295 585
Stage 1	-	-	- 585 -
Stage 2	-	-	- 710 -
Critical Hdwy	4.11	-	- 6.45 6.25
Critical Hdwy Stg 1	-	-	- 5.45 -
Critical Hdwy Stg 2	-	-	- 5.45 -
Follow-up Hdwy	2.209	-	- 3.545 3.345
Pot Cap-1 Maneuver 977	-	-	- 177 505
Stage 1	-	-	- 551 -
Stage 2	-	-	- 482 -
Platoon blocked, %	-	-	- -
Mov Cap-1 Maneuver977	-	-	- 173 505
Mov Cap-2 Maneuver	-	-	- 173 -
Stage 1	-	-	- 541 -
Stage 2	-	-	- 482 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.13	0	25.54
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	28	-	-	-	219
HCM Lane V/C Ratio	0.011	-	-	-	0.201
HCM Ctrl Dly (s/v)	8.7	0	-	-	25.5
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	574	102	74	521	13	33	2	68	7	4	7
Future Volume (vph)	7	574	102	74	521	13	33	2	68	7	4	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
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 (%)	2%	2%	2%	2%	2%	2%	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 2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	7	574	102	74	521	13	33	2	68	7	4	7
Future Vol, veh/h	7	574	102	74	521	13	33	2	68	7	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	598	106	77	543	14	34	2	71	7	4	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	556	0	0	704
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1014	-	-	894
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1014	-	-	894
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	1.15	19.54	22.22
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		354	1014	-	-	894	-	228
HCM Lane V/C Ratio		0.303	0.007	-	-	0.086	-	0.082
HCM Ctrl Dly (s/v)		19.5	8.6	-	-	9.4	-	22.2
HCM Lane LOS		C	A	-	-	A	-	C
HCM 95th %tile Q(veh)		1.3	0	-	-	0.3	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	46	17	119	95	17	20	79	75	31	142	4
Future Volume (vph)	4	46	17	119	95	17	20	79	75	31	142	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	1					1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	7%	7%	7%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 10.8
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	46	17	119	95	17	20	79	75	31	142	4
Future Vol, veh/h	4	46	17	119	95	17	20	79	75	31	142	4
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	7	7	7	1	1	1	1	1	1	5	5	5
Mvmt Flow	5	55	20	143	114	20	24	95	90	37	171	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	11.8	10.1	10.8
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	6%	52%	18%
Vol Thru, %	45%	69%	41%	80%
Vol Right, %	43%	25%	7%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	67	231	177
LT Vol	20	4	119	31
Through Vol	79	46	95	142
RT Vol	75	17	17	4
Lane Flow Rate	210	81	278	213
Geometry Grp	1	1	1	1
Degree of Util (X)	0.291	0.122	0.405	0.314
Departure Headway (Hd)	4.995	5.446	5.244	5.299
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	658	690	678
Service Time	3.026	3.481	3.244	3.33
HCM Lane V/C Ratio	0.292	0.123	0.403	0.314
HCM Control Delay, s/veh	10.1	9.2	11.8	10.8
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.2	0.4	2	1.3

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [9-PM-NA] Semanski St / Warner Ave (2030 No Action - PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

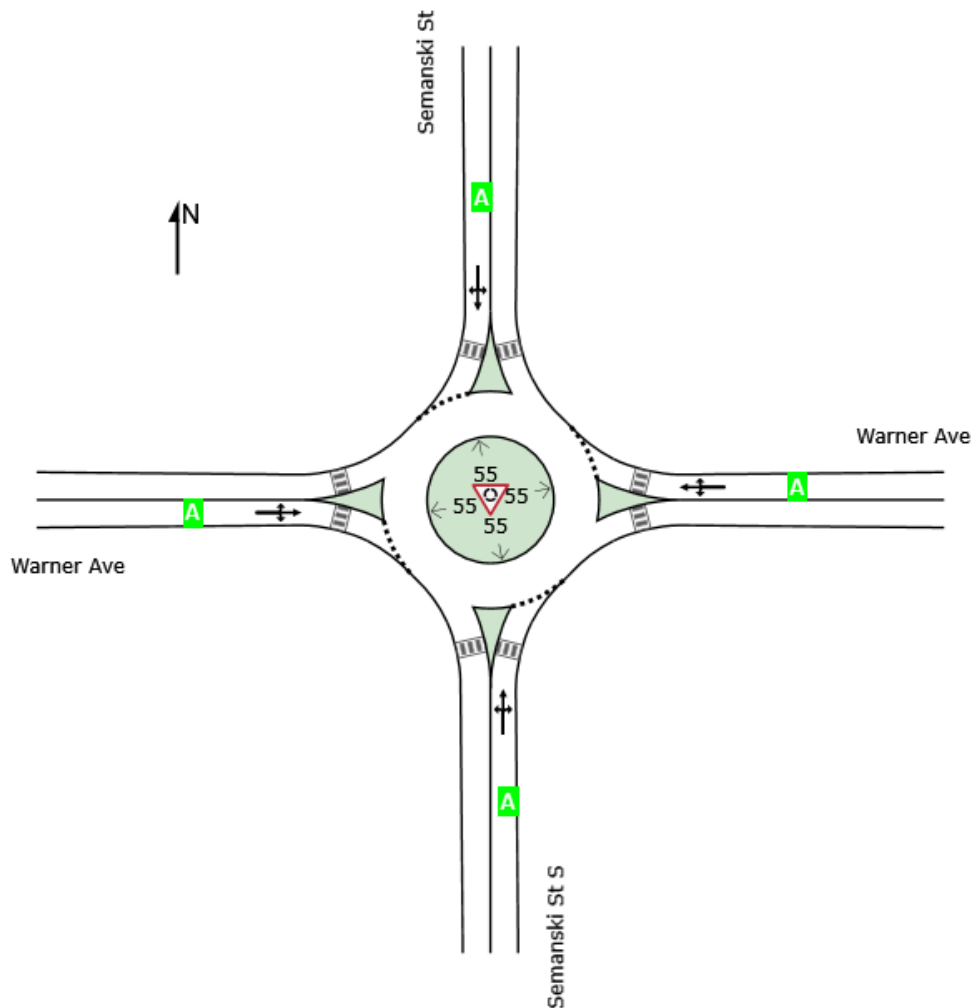
Semanski St S / Warner Ave

Site Category: 2030 No Action - PM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [9-PM-NA] Semanski St / Warner Ave (2030 No Action - PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 No Action - PM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3	L2	All MCs	39	1.0	39	1.0	0.257	5.5	LOS A	1.3	33.3	0.38	0.21	0.38	21.4
8	T1	All MCs	136	1.0	136	1.0	0.257	5.5	LOS A	1.3	33.3	0.38	0.21	0.38	21.6
18	R2	All MCs	117	1.0	117	1.0	0.257	5.5	LOS A	1.3	33.3	0.38	0.21	0.38	21.5
Approach			292	1.0	292	1.0	0.257	5.5	LOS A	1.3	33.3	0.38	0.21	0.38	21.6
East: Warner Ave															
1	L2	All MCs	31	1.0	31	1.0	0.253	5.6	LOS A	1.3	32.2	0.41	0.24	0.41	29.8
6	T1	All MCs	218	1.0	218	1.0	0.253	5.6	LOS A	1.3	32.2	0.41	0.24	0.41	30.3
16	R2	All MCs	30	1.0	30	1.0	0.253	5.6	LOS A	1.3	32.2	0.41	0.24	0.41	30.1
Approach			279	1.0	279	1.0	0.253	5.6	LOS A	1.3	32.2	0.41	0.24	0.41	30.2
North: Semanski St															
7	L2	All MCs	41	3.0	41	3.0	0.259	6.2	LOS A	1.2	31.8	0.48	0.32	0.48	30.0
4	T1	All MCs	103	3.0	103	3.0	0.259	6.2	LOS A	1.2	31.8	0.48	0.32	0.48	30.5
14	R2	All MCs	111	3.0	111	3.0	0.259	6.2	LOS A	1.2	31.8	0.48	0.32	0.48	30.3
Approach			256	3.0	256	3.0	0.259	6.2	LOS A	1.2	31.8	0.48	0.32	0.48	30.3
West: Warner Ave															
5	L2	All MCs	31	0.0	31	0.0	0.153	4.4	LOS A	0.7	17.9	0.35	0.19	0.35	29.7
2	T1	All MCs	106	0.0	106	0.0	0.153	4.4	LOS A	0.7	17.9	0.35	0.19	0.35	30.1
12	R2	All MCs	39	0.0	39	0.0	0.153	4.4	LOS A	0.7	17.9	0.35	0.19	0.35	29.9
Approach			176	0.0	176	0.0	0.153	4.4	LOS A	0.7	17.9	0.35	0.19	0.35	30.0
All Vehicles			1003	1.3	1003	1.3	0.259	5.5	LOS A	1.3	33.3	0.41	0.24	0.41	27.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↑		↘	↑	
Traffic Volume (vph)	15	7	24	25	12	32	26	458	44	27	593	27
Future Volume (vph)	15	7	24	25	12	32	26	458	44	27	593	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)			1	1			1		2	2		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	15	7	24	25	12	32	26	458	44	27	593	27
Future Vol, veh/h	15	7	24	25	12	32	26	458	44	27	593	27
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	2	2	2
Mvmt Flow	16	7	26	27	13	34	28	487	47	29	631	29
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1253	1295	647	1261	1286	513	661	0	0	536	0	0
Stage 1	704	704	-	568	568	-	-	-	-	-	-	-
Stage 2	549	591	-	693	718	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	150	164	474	147	164	561	932	-	-	1032	-	-
Stage 1	431	443	-	508	506	-	-	-	-	-	-	-
Stage 2	524	497	-	434	433	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	123	154	474	125	155	560	932	-	-	1030	-	-
Mov Cap-2 Maneuver	123	154	-	125	155	-	-	-	-	-	-	-
Stage 1	419	430	-	492	490	-	-	-	-	-	-	-
Stage 2	465	482	-	392	421	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	27.18		31.85			0.44			0.36			
HCM LOS	D		D									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	932	-	-	211	206	1030	-	-				
HCM Lane V/C Ratio	0.03	-	-	0.232	0.356	0.028	-	-				
HCM Ctrl Dly (s/v)	9	-	-	27.2	31.9	8.6	-	-				
HCM Lane LOS	A	-	-	D	D	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	1.5	0.1	-	-				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	20	10	22	2	4	11	17	525	11	9	574	36
Future Volume (vph)	20	10	22	2	4	11	17	525	11	9	574	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	3		1	1		3	2		1	1		2
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	10	22	2	4	11	17	525	11	9	574	36
Future Vol, veh/h	20	10	22	2	4	11	17	525	11	9	574	36
Conflicting Peds, #/hr	3	0	1	1	0	3	2	0	1	1	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2
Mvmt Flow	21	10	23	2	4	11	18	541	11	9	592	37
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1212	1219	613	1199	1232	551	631	0	0	554	0	0
Stage 1	631	631	-	583	583	-	-	-	-	-	-	-
Stage 2	581	589	-	616	649	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	160	182	496	125	136	506	956	-	-	1017	-	-
Stage 1	472	478	-	441	441	-	-	-	-	-	-	-
Stage 2	503	499	-	420	405	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	145	174	495	108	130	504	955	-	-	1016	-	-
Mov Cap-2 Maneuver	145	174	-	108	130	-	-	-	-	-	-	-
Stage 1	465	470	-	429	429	-	-	-	-	-	-	-
Stage 2	472	485	-	386	399	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	26.97	21.25			0.27			0.12				
HCM LOS	D	C										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	55	-	-	217	239	26	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.247	0.073	0.009	-	-				
HCM Ctrl Dly (s/v)	8.8	0	-	27	21.2	8.6	0	-				
HCM Lane LOS	A	A	-	D	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.2	0	-	-				

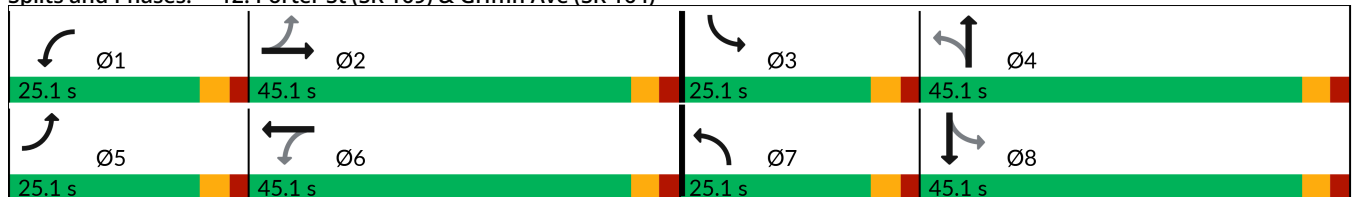


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	404	50	13	328	90	131	224	8	164	200	128
Future Volume (vph)	95	404	50	13	328	90	131	224	8	164	200	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	25.1	45.1		25.1	45.1		25.1	45.1		25.1	45.1	
Total Split (%)	17.9%	32.1%		17.9%	32.1%		17.9%	32.1%		17.9%	32.1%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 140.4
 Actuated Cycle Length: 103.2
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)

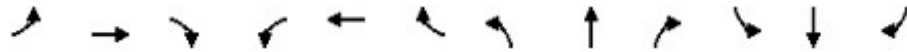


HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	404	50	13	328	90	131	224	8	164	200	128
Future Volume (veh/h)	95	404	50	13	328	90	131	224	8	164	200	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1776	1776	1776	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	103	439	54	14	357	98	142	243	9	178	217	139
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	279	617	76	240	438	120	321	437	16	419	278	178
Arrive On Green	0.06	0.37	0.37	0.01	0.33	0.33	0.08	0.24	0.24	0.10	0.26	0.26
Sat Flow, veh/h	1795	1646	202	1692	1341	368	1795	1806	67	1795	1074	688
Grp Volume(v), veh/h	103	0	493	14	0	455	142	0	252	178	0	356
Grp Sat Flow(s),veh/h/ln	1795	0	1848	1692	0	1709	1795	0	1873	1795	0	1761
Q Serve(g_s), s	2.8	0.0	17.1	0.4	0.0	18.3	4.3	0.0	8.8	5.4	0.0	14.1
Cycle Q Clear(g_c), s	2.8	0.0	17.1	0.4	0.0	18.3	4.3	0.0	8.8	5.4	0.0	14.1
Prop In Lane	1.00		0.11	1.00		0.22	1.00		0.04	1.00		0.39
Lane Grp Cap(c), veh/h	279	0	693	240	0	558	321	0	453	419	0	457
V/C Ratio(X)	0.37	0.00	0.71	0.06	0.00	0.82	0.44	0.00	0.56	0.42	0.00	0.78
Avail Cap(c_a), veh/h	652	0	985	673	0	911	648	0	998	715	0	939
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	20.0	17.9	0.0	23.2	19.8	0.0	24.9	18.6	0.0	25.8
Incr Delay (d2), s/veh	0.8	0.0	1.9	0.1	0.0	4.2	1.0	0.0	1.5	0.7	0.0	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	7.4	0.2	0.0	7.7	1.8	0.0	4.0	2.3	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.2	0.0	21.9	18.0	0.0	27.4	20.7	0.0	26.5	19.3	0.0	29.9
LnGrp LOS	B		C	B		C	C		C	B		C
Approach Vol, veh/h		596			469			394			534	
Approach Delay, s/veh		21.3			27.1			24.4			26.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	33.2	12.7	23.2	9.5	29.6	11.4	24.6				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	20.0	40.0				
Max Q Clear Time (g_c+I1), s	2.4	19.1	7.4	10.8	4.8	20.3	6.3	16.1				
Green Ext Time (p_c), s	0.0	4.7	0.4	2.3	0.2	4.2	0.3	3.4				
Intersection Summary												
HCM 7th Control Delay, s/veh			24.6									
HCM 7th LOS			C									

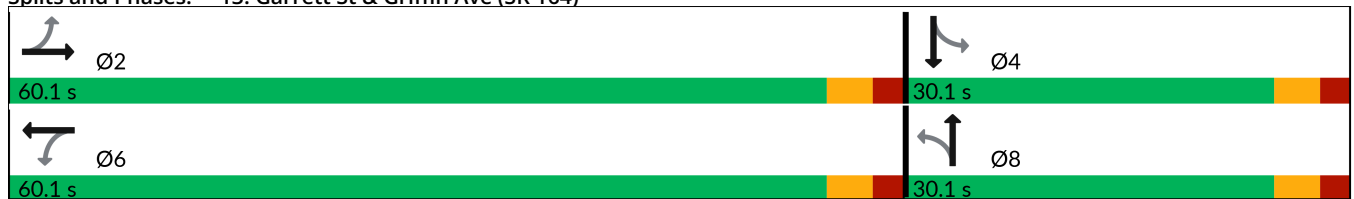


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	443	71	21	356	76	58	115	34	119	134	18
Future Volume (vph)	26	443	71	21	356	76	58	115	34	119	134	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Confl. Peds. (#/hr)	6		2	2		6	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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 42.8
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/27/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	443	71	21	356	76	58	115	34	119	134	18
Future Volume (veh/h)	26	443	71	21	356	76	58	115	34	119	134	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	27	466	75	22	375	80	61	121	36	125	141	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	454	728	117	394	687	146	437	374	111	437	436	59
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	941	1583	255	863	1492	318	1231	1393	415	1234	1625	219
Grp Volume(v), veh/h	27	0	541	22	0	455	61	0	157	125	0	160
Grp Sat Flow(s),veh/h/ln	941	0	1837	863	0	1811	1231	0	1808	1234	0	1844
Q Serve(g_s), s	0.8	0.0	8.5	0.8	0.0	6.8	1.6	0.0	2.6	3.4	0.0	2.6
Cycle Q Clear(g_c), s	7.6	0.0	8.5	9.2	0.0	6.8	4.2	0.0	2.6	6.0	0.0	2.6
Prop In Lane	1.00		0.14	1.00		0.18	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	454	0	845	394	0	833	437	0	485	437	0	495
V/C Ratio(X)	0.06	0.00	0.64	0.06	0.00	0.55	0.14	0.00	0.32	0.29	0.00	0.32
Avail Cap(c_a), veh/h	1399	0	2691	1261	0	2651	926	0	1203	928	0	1228
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	7.8	11.3	0.0	7.3	12.7	0.0	11.0	13.4	0.0	11.0
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.1	0.0	0.8	0.2	0.0	0.5	0.5	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.5	0.1	0.0	2.0	0.4	0.0	0.9	0.9	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.1	0.0	8.9	11.4	0.0	8.1	12.9	0.0	11.6	13.9	0.0	11.5
LnGrp LOS	B		A	B		A	B		B	B		B
Approach Vol, veh/h		568			477			218			285	
Approach Delay, s/veh		9.0			8.3			11.9			12.6	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.4		15.2		22.4		15.2				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		55.0		25.0		55.0		25.0				
Max Q Clear Time (g_c+I1), s		10.5		8.0		11.2		6.2				
Green Ext Time (p_c), s		6.8		1.8		5.4		1.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			9.8									
HCM 7th LOS			A									



2030 With Project AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	3	3	2	3	4	9	2	238	3	1	204	5
Future Volume (vph)	3	3	2	3	4	9	2	238	3	1	204	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	8%	8%	8%	8%	8%	8%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	2	3	4	9	2	238	3	1	204	5
Future Vol, veh/h	3	3	2	3	4	9	2	238	3	1	204	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	8	8	8	8	8	8	7	7	7
Mvmt Flow	4	4	2	4	5	11	2	280	4	1	240	6
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	532	534	243	531	535	282	246	0	0	284	0	0
Stage 1	245	245	-	286	286	-	-	-	-	-	-	-
Stage 2	287	288	-	244	248	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8.18	7.58	6.78	4.18	-	-	4.17	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4.072	3.372	2.272	-	-	2.263	-	-
Pot Cap-1 Maneuver	461	455	801	388	382	715	1286	-	-	1251	-	-
Stage 1	763	707	-	654	613	-	-	-	-	-	-	-
Stage 2	725	677	-	697	644	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	447	454	801	383	381	715	1286	-	-	1251	-	-
Mov Cap-2 Maneuver	447	454	-	383	381	-	-	-	-	-	-	-
Stage 1	762	706	-	652	612	-	-	-	-	-	-	-
Stage 2	707	676	-	691	643	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	12.25		12.22			0.06			0.04			
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	15	-	-	506	517	9	-					
HCM Lane V/C Ratio	0.002	-	-	0.019	0.036	0.001	-					
HCM Ctrl Dly (s/v)	7.8	0	-	12.3	12.2	7.9	0					
HCM Lane LOS	A	A	-	B	B	A	A					
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-					

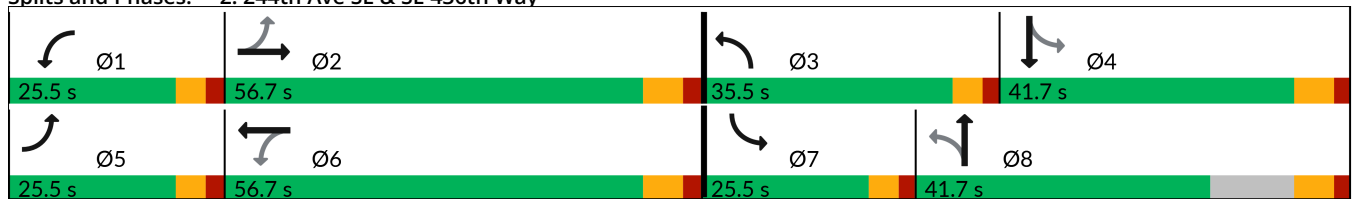


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	256	81	63	365	60	214	191	101	67	136	2
Future Volume (vph)	2	256	81	63	365	60	214	191	101	67	136	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	56.7		25.5	56.7		35.5	41.7		25.5	41.7	
Total Split (%)	16.0%	35.6%		16.0%	35.6%		22.3%	26.2%		16.0%	26.2%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 159.4
 Actuated Cycle Length: 97.3
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	2	256	81	63	365	60	214	191	101	67	136	2
Future Volume (veh/h)	2	256	81	63	365	60	214	191	101	67	136	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1811	1811	1811	1826	1826	1826	1826	1826	1826	1796	1796	1796
Adj Flow Rate, veh/h	2	291	92	72	415	68	243	217	115	76	155	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	6	6	6	5	5	5	5	5	5	7	7	7
Cap, veh/h	219	400	127	298	542	89	443	276	146	260	269	3
Arrive On Green	0.00	0.30	0.30	0.05	0.35	0.35	0.15	0.25	0.25	0.05	0.15	0.15
Sat Flow, veh/h	1725	1318	417	1739	1530	251	1739	1123	595	1711	1769	23
Grp Volume(v), veh/h	2	0	383	72	0	483	243	0	332	76	0	157
Grp Sat Flow(s),veh/h/ln	1725	0	1735	1739	0	1780	1739	0	1719	1711	0	1792
Q Serve(g_s), s	0.1	0.0	14.0	2.0	0.0	17.1	7.8	0.0	12.9	2.6	0.0	5.8
Cycle Q Clear(g_c), s	0.1	0.0	14.0	2.0	0.0	17.1	7.8	0.0	12.9	2.6	0.0	5.8
Prop In Lane	1.00		0.24	1.00		0.14	1.00		0.35	1.00		0.01
Lane Grp Cap(c), veh/h	219	0	527	298	0	631	443	0	422	260	0	273
V/C Ratio(X)	0.01	0.00	0.73	0.24	0.00	0.77	0.55	0.00	0.79	0.29	0.00	0.58
Avail Cap(c_a), veh/h	699	0	1220	694	0	1252	919	0	846	647	0	882
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	22.1	16.8	0.0	20.3	19.2	0.0	25.1	23.7	0.0	28.0
Incr Delay (d2), s/veh	0.0	0.0	4.1	0.5	0.0	4.1	1.3	0.0	4.6	0.7	0.0	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	5.6	0.7	0.0	6.8	3.0	0.0	5.3	1.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.2	0.0	26.2	17.3	0.0	24.5	20.5	0.0	29.8	24.5	0.0	30.7
LnGrp LOS	B		C	B		C	C		C	C		C
Approach Vol, veh/h		385			555			575			233	
Approach Delay, s/veh		26.2			23.6			25.8			28.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	28.3	16.0	17.5	5.7	31.9	9.4	24.1				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	50.0	30.0	35.0	20.0	50.0	20.0	35.0				
Max Q Clear Time (g_c+I1), s	4.0	16.0	9.8	7.8	3.1	19.1	4.6	14.9				
Green Ext Time (p_c), s	0.2	4.7	0.8	1.1	0.0	6.1	0.2	2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			25.6									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	0	8	0	0	1	10	502	0	2	276	1
Future Volume (vph)	8	0	8	0	0	1	10	502	0	2	276	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			454			2645			319	
Travel Time (s)		4.8			12.4			45.1			5.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	8	0	0	1	10	502	0	2	276	1
Future Vol, veh/h	8	0	8	0	0	1	10	502	0	2	276	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	3	3	3
Mvmt Flow	9	0	9	0	0	1	12	591	0	2	325	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	944	944	325	944	945	591	326	0	0	591	0	0
Stage 1	330	330	-	614	614	-	-	-	-	-	-	-
Stage 2	614	614	-	329	331	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.15	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.245	-	-	2.227	-	-
Pot Cap-1 Maneuver	244	264	720	244	264	511	1217	-	-	980	-	-
Stage 1	687	649	-	483	486	-	-	-	-	-	-	-
Stage 2	483	486	-	688	649	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	239	260	720	237	259	511	1217	-	-	980	-	-
Mov Cap-2 Maneuver	239	260	-	237	259	-	-	-	-	-	-	-
Stage 1	685	647	-	476	479	-	-	-	-	-	-	-
Stage 2	474	479	-	677	647	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Ctrl Dly, s/v	15.57		12.06		0.16		0.06					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	35	-	-	359	511	13	-	-				
HCM Lane V/C Ratio	0.01	-	-	0.052	0.002	0.002	-	-				
HCM Ctrl Dly (s/v)	8	0	-	15.6	12.1	8.7	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-				

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [4-AM-WP] 244th Ave SE / SE 448th St (2030 With Project - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

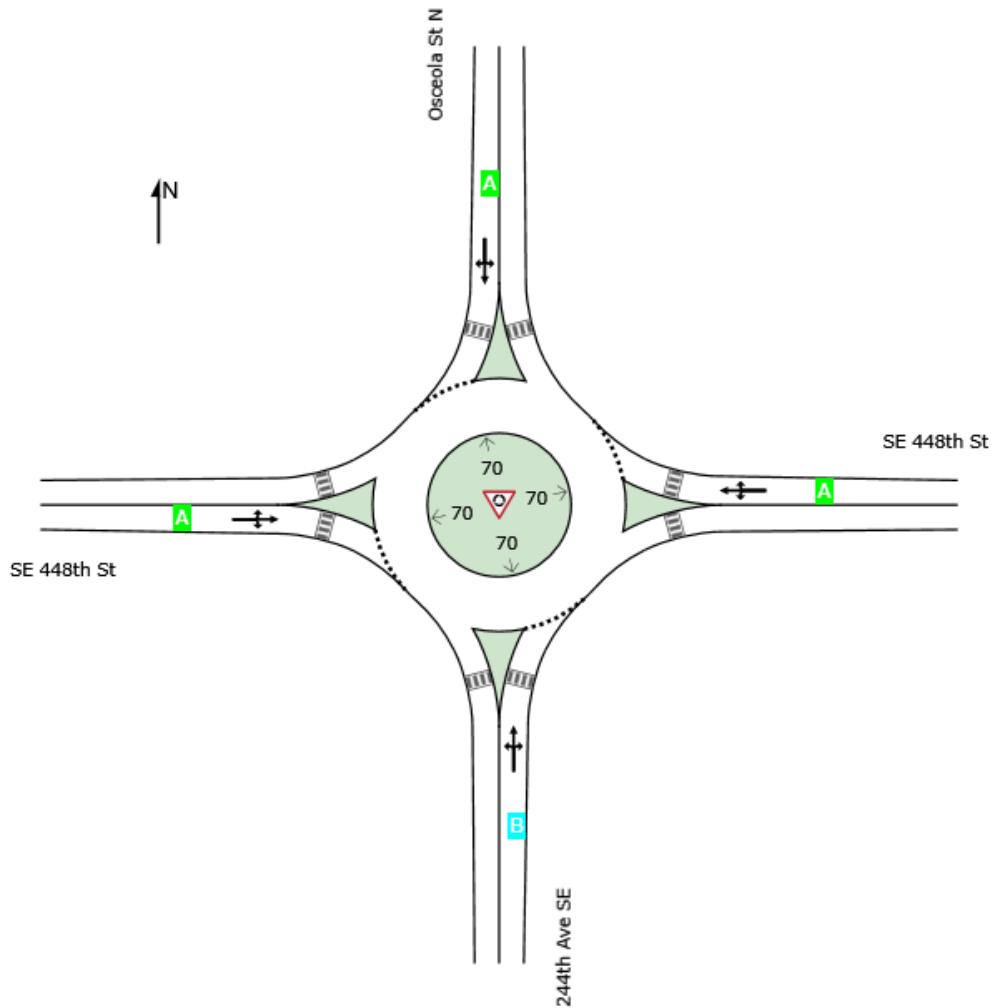
244th Ave SE / SE 448th St

Site Category: 2030 With Project - AM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [4-AM-WP] 244th Ave SE / SE 448th St (2030 With Project - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 With Project - AM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn Class	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%				[Veh.] veh	[Dist] ft				
South: 244th Ave SE															
3	L2	All MCs	13	10.0	13	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.4
8	T1	All MCs	695	10.0	695	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.9
18	R2	All MCs	46	10.0	46	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.7
Approach			754	10.0	754	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.9
East: SE 448th St															
1	L2	All MCs	19	8.0	19	8.0	0.175	9.0	LOSA	0.6	16.3	0.65	0.60	0.65	21.4
6	T1	All MCs	12	8.0	12	8.0	0.175	9.0	LOSA	0.6	16.3	0.65	0.60	0.65	21.6
16	R2	All MCs	63	8.0	63	8.0	0.175	9.0	LOSA	0.6	16.3	0.65	0.60	0.65	21.5
Approach			94	8.0	94	8.0	0.175	9.0	LOSA	0.6	16.3	0.65	0.60	0.65	21.5
North: Osceola St N															
7	L2	All MCs	41	8.0	41	8.0	0.476	7.4	LOSA	3.4	89.6	0.26	0.09	0.26	26.6
4	T1	All MCs	531	8.0	531	8.0	0.476	7.4	LOSA	3.4	89.6	0.26	0.09	0.26	27.0
14	R2	All MCs	9	8.0	9	8.0	0.476	7.4	LOSA	3.4	89.6	0.26	0.09	0.26	26.8
Approach			581	8.0	581	8.0	0.476	7.4	LOSA	3.4	89.6	0.26	0.09	0.26	27.0
West: SE 448th St															
5	L2	All MCs	15	5.0	15	5.0	0.083	6.3	LOSA	0.3	7.9	0.58	0.50	0.58	27.6
2	T1	All MCs	28	5.0	28	5.0	0.083	6.3	LOSA	0.3	7.9	0.58	0.50	0.58	28.1
12	R2	All MCs	12	5.0	12	5.0	0.083	6.3	LOSA	0.3	7.9	0.58	0.50	0.58	27.9
Approach			55	5.0	55	5.0	0.083	6.3	LOSA	0.3	7.9	0.58	0.50	0.58	27.9
All Vehicles			1483	8.9	1483	8.9	0.659	9.6	LOSA	6.2	168.0	0.43	0.20	0.43	28.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	53	414	69	120	210
Future Volume (vph)	23	53	414	69	120	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

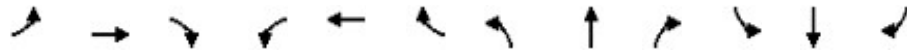
Intersection

Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖	↖	↖	↖
Traffic Vol, veh/h	23	53	414	69	120	210
Future Vol, veh/h	23	53	414	69	120	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	175	-
Veh in Median Storage, #	-	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	30	69	538	90	156	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1167	582	0	0	627
Stage 1	582	-	-	-	-
Stage 2	584	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	214	513	-	-	955
Stage 1	558	-	-	-	-
Stage 2	557	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	179	513	-	-	955
Mov Cap-2 Maneuver	179	-	-	-	-
Stage 1	558	-	-	-	-
Stage 2	466	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.94	0	3.46
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	179	513	955	-
HCM Lane V/C Ratio	-	-	0.167	0.134	0.163	-
HCM Ctrl Dly (s/v)	-	-	29.1	13.1	9.5	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	0.6	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	427	3	10	425	15	10	0	29	30	0	5
Future Volume (vph)	3	427	3	10	425	15	10	0	29	30	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-4%			0%			0%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		400			1316			208			445	
Travel Time (s)		7.8			25.6			5.7			12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	2%	2%	2%	9%	9%	9%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	427	3	10	425	15	10	0	29	30	0	5
Future Vol, veh/h	3	427	3	10	425	15	10	0	29	30	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	4	-	-	-4	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	7	7	5	5	5	2	2	2	9	9	9
Mvmt Flow	3	474	3	11	472	17	11	0	32	33	0	6
Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	489	0	0	478	0	0	977	994	476	984	987	481
Stage 1	-	-	-	-	-	-	483	483	-	503	503	-
Stage 2	-	-	-	-	-	-	494	511	-	481	484	-
Critical Hdwy	4.17	-	-	4.15	-	-	7.12	6.52	6.22	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.19	5.59	-
Follow-up Hdwy	2.263	-	-	2.245	-	-	3.518	4.018	3.318	3.581	4.081	3.381
Pot Cap-1 Maneuver	1049	-	-	1069	-	-	230	245	589	221	241	571
Stage 1	-	-	-	-	-	-	565	553	-	538	530	-
Stage 2	-	-	-	-	-	-	557	537	-	553	540	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1049	-	-	1069	-	-	225	242	589	206	237	571
Mov Cap-2 Maneuver	-	-	-	-	-	-	355	356	-	332	348	-
Stage 1	-	-	-	-	-	-	563	551	-	533	525	-
Stage 2	-	-	-	-	-	-	546	531	-	521	539	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	0.06	0.19			12.82			16.46				
HCM LOS					B			C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)		504	1049	-	-	1069	-	-	353			
HCM Lane V/C Ratio		0.086	0.003	-	-	0.01	-	-	0.11			
HCM Ctrl Dly (s/v)		12.8	8.4	-	-	8.4	-	-	16.5			
HCM Lane LOS		B	A	-	-	A	-	-	C			
HCM 95th %tile Q(veh)		0.3	0	-	-	0	-	-	0.4			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	408	75	105	365	2	71	3	96	3	4	4
Future Volume (vph)	1	408	75	105	365	2	71	3	96	3	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	5%	5%	5%	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 5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	1	408	75	105	365	2	71	3	96	3	4	4
Future Vol, veh/h	1	408	75	105	365	2	71	3	96	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	7	7	7	5	5	5	5	5	5	0	0	0
Mvmt Flow	1	498	91	128	445	2	87	4	117	4	5	5

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	448	0	0	589
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.17	-	-	4.15
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.263	-	-	2.245
Pot Cap-1 Maneuver	1087	-	-	972
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				
Mov Cap-1 Maneuver	1087	-	-	972
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.02	2.06	28.45	21.46
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	1087	-	-	972	-	-	232
HCM Lane V/C Ratio	0.584	0.001	-	-	0.132	-	-	0.058
HCM Ctrl Dly (s/v)	28.4	8.3	-	-	9.3	-	-	21.5
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	3.5	0	-	-	0.5	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	28	20	72	26	16	32	178	74	14	194	0
Future Volume (vph)	1	28	20	72	26	16	32	178	74	14	194	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	2		2	2		2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 12.9
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	28	20	72	26	16	32	178	74	14	194	0
Future Vol, veh/h	1	28	20	72	26	16	32	178	74	14	194	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	9	9	9	6	6	6	5	5	5	7	7	7
Mvmt Flow	1	40	29	103	37	23	46	254	106	20	277	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.8	11.2	14.4	12.5
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	2%	63%	7%
Vol Thru, %	63%	57%	23%	93%
Vol Right, %	26%	41%	14%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	284	49	114	208
LT Vol	32	1	72	14
Through Vol	178	28	26	194
RT Vol	74	20	16	0
Lane Flow Rate	406	70	163	297
Geometry Grp	1	1	1	1
Degree of Util (X)	0.564	0.116	0.27	0.439
Departure Headway (Hd)	5.004	5.959	5.971	5.314
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	600	601	677
Service Time	3.038	4.012	4.017	3.351
HCM Lane V/C Ratio	0.562	0.117	0.271	0.439
HCM Control Delay, s/veh	14.4	9.8	11.2	12.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.6	0.4	1.1	2.2

LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: [9-AM-WP] Semanski St / Warner Ave (2030 With Project - AM Peak Hour)**

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

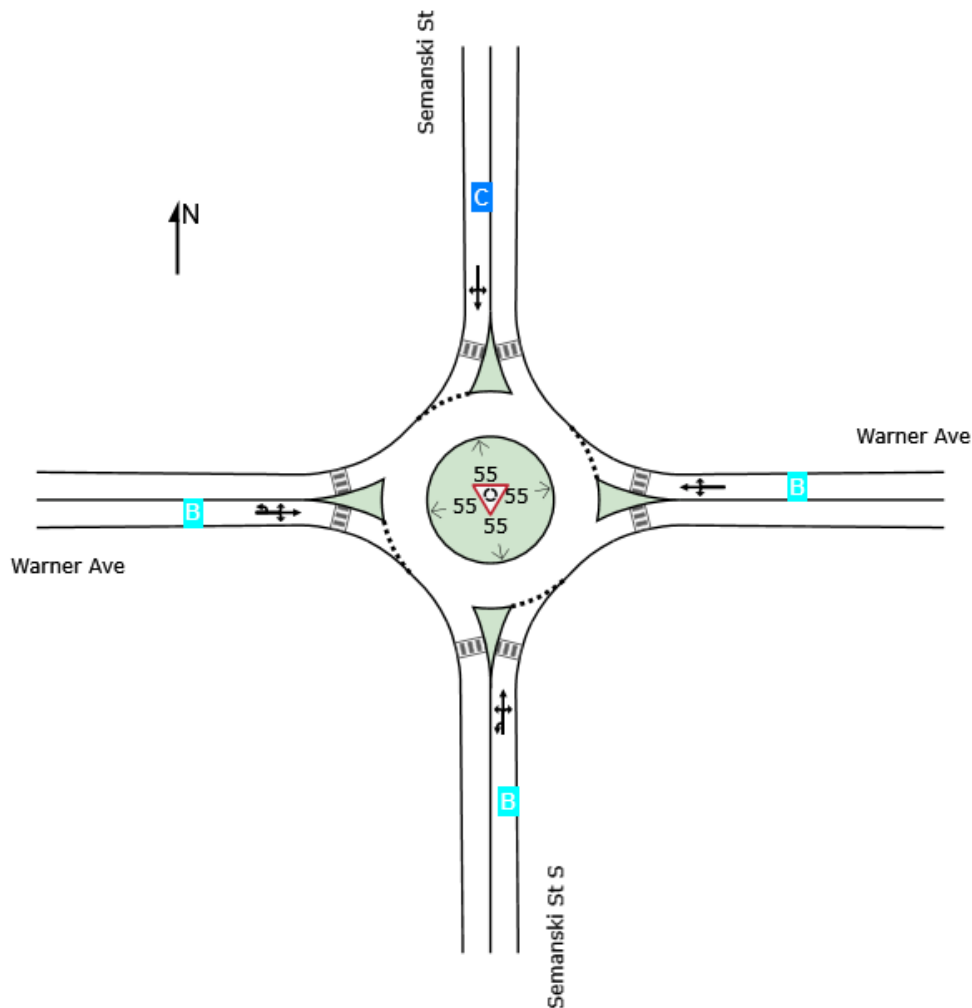
Semanski St S / Warner Ave

Site Category: 2030 With Project - AM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	B	C	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [9-AM-WP] Semanski St / Warner Ave (2030 With Project - AM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 With Project - AM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3u	U	All MCs	2	9.0	2	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	25.2
3	L2	All MCs	43	9.0	43	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.8
8	T1	All MCs	309	9.0	309	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
18	R2	All MCs	205	9.0	205	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
Approach			559	9.0	559	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
East: Warner Ave															
1	L2	All MCs	170	1.0	170	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	29.9
6	T1	All MCs	232	1.0	232	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.4
16	R2	All MCs	39	1.0	39	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.2
Approach			441	1.0	441	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.2
North: Semanski St															
7	L2	All MCs	18	6.0	18	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.4
4	T1	All MCs	357	6.0	357	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	31.0
14	R2	All MCs	171	6.0	171	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.8
Approach			546	6.0	546	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.9
West: Warner Ave															
5u	U	All MCs	9	3.0	9	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.7
5	L2	All MCs	109	3.0	109	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.7
2	T1	All MCs	102	3.0	102	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	30.1
12	R2	All MCs	84	3.0	84	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.9
Approach			304	3.0	304	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.9
All Vehicles			1850	5.2	1850	5.2	0.690	13.1	LOS B	7.6	199.3	0.74	0.69	1.06	27.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	19	19	23	39	17	14	10	366	27	13	339	15
Future Volume (vph)	19	19	23	39	17	14	10	366	27	13	339	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)	1						1					
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	19	19	23	39	17	14	10	366	27	13	339	15
Future Vol, veh/h	19	19	23	39	17	14	10	366	27	13	339	15
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	5	5	5
Mvmt Flow	25	25	30	51	22	18	13	482	36	17	446	20
Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	1010	1034	456	1018	1026	500	466	0	0	517	0	0
Stage 1	490	490	-	526	526	-	-	-	-	-	-	-
Stage 2	520	543	-	493	500	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.15	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.245	-	-
Pot Cap-1 Maneuver	218	232	604	216	235	571	1090	-	-	1034	-	-
Stage 1	560	549	-	535	529	-	-	-	-	-	-	-
Stage 2	539	519	-	558	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	186	226	604	177	228	570	1090	-	-	1034	-	-
Mov Cap-2 Maneuver	186	226	-	177	228	-	-	-	-	-	-	-
Stage 1	551	540	-	529	523	-	-	-	-	-	-	-
Stage 2	493	513	-	497	534	-	-	-	-	-	-	-
Approach	EB	WB		NB		SB						
HCM Ctrl Dly, s/v	23.73	32.75		0.21		0.3						
HCM LOS	C	D										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1090	-	-	272	220	1034	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.296	0.42	0.017	-	-				
HCM Ctrl Dly (s/v)	8.3	-	-	23.7	32.8	8.5	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	1.9	0.1	-	-				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	2	8	2	3	11	39	369	9	10	351	49
Future Volume (vph)	18	2	8	2	3	11	39	369	9	10	351	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	9		2	2		9	2		2	2		2
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	2	8	2	3	11	39	369	9	10	351	49
Future Vol, veh/h	18	2	8	2	3	11	39	369	9	10	351	49
Conflicting Peds, #/hr	9	0	2	2	0	9	2	0	2	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	25	3	11	3	4	15	54	513	13	14	488	68
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1183	1187	526	1148	1214	530	558	0	0	527	0	0
Stage 1	551	551	-	629	629	-	-	-	-	-	-	-
Stage 2	632	635	-	519	585	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	168	190	556	138	140	521	1003	-	-	1030	-	-
Stage 1	522	518	-	412	416	-	-	-	-	-	-	-
Stage 2	472	475	-	485	440	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	142	171	554	120	126	516	1001	-	-	1028	-	-
Mov Cap-2 Maneuver	142	171	-	120	126	-	-	-	-	-	-	-
Stage 1	511	507	-	380	383	-	-	-	-	-	-	-
Stage 2	415	438	-	462	430	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	29.97		20.21			0.82			0.21			
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	168	-	-	183	259	43	-					
HCM Lane V/C Ratio	0.054	-	-	0.213	0.086	0.014	-					
HCM Ctrl Dly (s/v)	8.8	0	-	30	20.2	8.6	0					
HCM Lane LOS	A	A	-	D	C	A	A					
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.3	0	-					



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	296	36	0	240	81	43	165	3	75	124	76
Future Volume (vph)	122	296	36	0	240	81	43	165	3	75	124	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	20.1	35.1		20.1	35.1		20.1	35.1		20.1	35.1	
Total Split (%)	18.2%	31.8%		18.2%	31.8%		18.2%	31.8%		18.2%	31.8%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 110.4
 Actuated Cycle Length: 76.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)

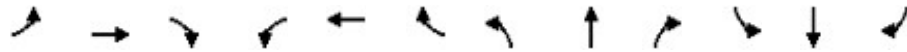
Ø1 20.1 s	Ø2 35.1 s	Ø3 20.1 s	Ø4 35.1 s
Ø5 20.1 s	Ø6 35.1 s	Ø7 20.1 s	Ø8 35.1 s

HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	296	36	0	240	81	43	165	3	75	124	76
Future Volume (veh/h)	122	296	36	0	240	81	43	165	3	75	124	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1841	1841	1841	1687	1687	1687	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	144	348	42	0	282	95	51	194	4	88	146	89
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	8	8	8	2	2	2	3	3	3
Cap, veh/h	372	779	94	411	370	125	277	317	7	326	215	131
Arrive On Green	0.08	0.48	0.48	0.00	0.31	0.31	0.03	0.17	0.17	0.06	0.20	0.20
Sat Flow, veh/h	1753	1611	194	1607	1207	407	1781	1826	38	1767	1079	658
Grp Volume(v), veh/h	144	0	390	0	0	377	51	0	198	88	0	235
Grp Sat Flow(s),veh/h/ln	1753	0	1806	1607	0	1614	1781	0	1864	1767	0	1737
Q Serve(g_s), s	2.8	0.0	7.6	0.0	0.0	11.4	1.3	0.0	5.3	2.2	0.0	6.7
Cycle Q Clear(g_c), s	2.8	0.0	7.6	0.0	0.0	11.4	1.3	0.0	5.3	2.2	0.0	6.7
Prop In Lane	1.00		0.11	1.00		0.25	1.00		0.02	1.00		0.38
Lane Grp Cap(c), veh/h	372	0	873	411	0	494	277	0	323	326	0	346
V/C Ratio(X)	0.39	0.00	0.45	0.00	0.00	0.76	0.18	0.00	0.61	0.27	0.00	0.68
Avail Cap(c_a), veh/h	717	0	1008	857	0	901	715	0	1040	716	0	970
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(l)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	9.1	0.0	0.0	16.9	17.7	0.0	20.5	17.0	0.0	19.9
Incr Delay (d2), s/veh	0.7	0.0	0.5	0.0	0.0	3.5	0.3	0.0	2.7	0.4	0.0	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.6	0.0	0.0	4.3	0.5	0.0	2.4	0.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.3	0.0	9.7	0.0	0.0	20.4	18.0	0.0	23.2	17.4	0.0	23.3
LnGrp LOS	B		A		C		B		C		C	
Approach Vol, veh/h	534			377			249			323		
Approach Delay, s/veh	10.4			20.4			22.2			21.7		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	31.1	8.2	14.4	9.5	21.6	6.9	15.8				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	5.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	0.0	9.6	4.2	7.3	4.8	13.4	3.3	8.7				
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.3	3.1	0.1	2.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				17.3								
HCM 7th LOS				B								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	276	56	16	275	42	46	67	22	49	73	11
Future Volume (vph)	13	276	56	16	275	42	46	67	22	49	73	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 33.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	276	56	16	275	42	46	67	22	49	73	11
Future Volume (veh/h)	13	276	56	16	275	42	46	67	22	49	73	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1826	1826	1826	1826	1826	1826	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	16	333	67	19	331	51	55	81	27	59	88	13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	5	5	5	5	5	5	6	6	6	7	7	7
Cap, veh/h	532	625	126	518	654	101	450	248	83	442	292	43
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	977	1476	297	961	1545	238	1253	1300	433	1235	1530	226
Grp Volume(v), veh/h	16	0	400	19	0	382	55	0	108	59	0	101
Grp Sat Flow(s),veh/h/ln	977	0	1772	961	0	1783	1253	0	1733	1235	0	1756
Q Serve(g_s), s	0.3	0.0	4.4	0.4	0.0	4.2	1.0	0.0	1.4	1.1	0.0	1.3
Cycle Q Clear(g_c), s	4.5	0.0	4.4	4.8	0.0	4.2	2.3	0.0	1.4	2.6	0.0	1.3
Prop In Lane	1.00		0.17	1.00		0.13	1.00		0.25	1.00		0.13
Lane Grp Cap(c), veh/h	532	0	750	518	0	755	450	0	331	442	0	335
V/C Ratio(X)	0.03	0.00	0.53	0.04	0.00	0.51	0.12	0.00	0.33	0.13	0.00	0.30
Avail Cap(c_a), veh/h	2152	0	3688	2111	0	3710	1395	0	1639	1374	0	1660
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	5.7	7.5	0.0	5.6	10.2	0.0	9.2	10.3	0.0	9.2
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.8	0.2	0.0	0.8	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.0	0.1	0.0	0.9	0.2	0.0	0.4	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.3	0.0	6.5	7.5	0.0	6.3	10.4	0.0	10.0	10.5	0.0	9.9
LnGrp LOS	A		A	A		A	B		B	B		A
Approach Vol, veh/h	416			401			163			160		
Approach Delay, s/veh	6.5			6.4			10.1			10.1		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.3		10.1		16.3		10.1					
Change Period (Y+Rc), s	5.1		5.1		5.1		5.1					
Max Green Setting (Gmax), s	55.0		25.0		55.0		25.0					
Max Q Clear Time (g_c+I1), s	6.5		4.6		6.8		4.3					
Green Ext Time (p_c), s	4.6		1.0		4.3		1.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	7.5											
HCM 7th LOS	A											



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (vph)	398	26	8	437	51	12
Future Volume (vph)	398	26	8	437	51	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			0%	0%	
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	154			400	139	
Travel Time (s)	3.0			7.8	3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	5%	5%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↑		↓	↑	↓	
Traffic Vol, veh/h	398	26	8	437	51	12
Future Vol, veh/h	398	26	8	437	51	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	-	-	-	0	1	-
Grade, %	4	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	7	5	5	0	0
Mvmt Flow	433	28	9	475	55	13

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	461	0	939	447
Stage 1	-	-	-	-	447	-
Stage 2	-	-	-	-	492	-
Critical Hdwy	-	-	4.15	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.245	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1085	-	295	616
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1085	-	293	616
Mov Cap-2 Maneuver	-	-	-	-	421	-
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	613	-

Approach EB WB NB

HCM Ctrl Dly, s/v	0	0.15	14.47
HCM LOS			B

Minor Lane/Major MvmtNBLn1 EBT EBR WBL WBT

Capacity (veh/h)	448	-	-	1085	-
HCM Lane V/C Ratio	0.153	-	-	0.008	-
HCM Ctrl Dly (s/v)	14.5	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Traffic Volume (vph)	14	0	0	25	7	6
Future Volume (vph)	14	0	0	25	7	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	174			438	208	
Travel Time (s)	4.7			11.9	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	1	
Traffic Vol, veh/h	14	0	0	25	7	6
Future Vol, veh/h	14	0	0	25	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	0	0	27	8	7

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	38	11	14	0	-
Stage 1	11	-	-	-	-
Stage 2	27	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	979	1076	1617	-	-
Stage 1	1017	-	-	-	-
Stage 2	1001	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	979	1076	1617	-	-
Mov Cap-2 Maneuver	979	-	-	-	-
Stage 1	1017	-	-	-	-
Stage 2	1001	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.73	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	1617	-	979	-
HCM Lane V/C Ratio	-	-	0.016	-
HCM Ctrl Dly (s/v)	0	-	8.7	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Volume (vph)	17	0	0	8	2	5
Future Volume (vph)	17	0	0	8	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	168			155	438	
Travel Time (s)	4.6			4.2	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 4.6

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	Y			4	1	
Traffic Vol, veh/h	17	0	0	8	2	5
Future Vol, veh/h	17	0	0	8	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	0	0	9	2	5

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	14	5	8	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1011	1084	1626	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1011	1084	1626	-	-	-
Mov Cap-2 Maneuver	1011	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1020	-	-	-	-	-

Approach EB NB SB

HCM Ctrl Dly, s/v	8.63	0	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBTEBLn1 SBT SBR

Capacity (veh/h)	1626	-	1011	-	-
HCM Lane V/C Ratio	-	-	0.018	-	-
HCM Ctrl Dly (s/v)	0	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



2030 With Project PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	3	4	1	3	8	4	188	7	15	492	7
Future Volume (vph)	9	3	4	1	3	8	4	188	7	15	492	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	1%	1%	1%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

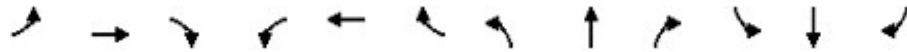
Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	3	4	1	3	8	4	188	7	15	492	7
Future Vol, veh/h	9	3	4	1	3	8	4	188	7	15	492	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	10	10	10	1	1	1	4	4	4
Mvmt Flow	10	3	5	1	3	9	5	214	8	17	559	8

Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	822	828	563	822	828	218	567	0	0	222	0	0
Stage 1	597	597	-	227	227	-	-	-	-	-	-	-
Stage 2	224	231	-	595	601	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.57	6.27	8.2	7.6	6.8	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.063	3.363	3.59	4.09	3.39	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	287	301	516	226	237	779	1010	-	-	1336	-	-
Stage 1	481	483	-	712	659	-	-	-	-	-	-	-
Stage 2	767	704	-	405	404	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	273	294	516	216	231	779	1010	-	-	1336	-	-
Mov Cap-2 Maneuver	273	294	-	216	231	-	-	-	-	-	-	-
Stage 1	472	474	-	708	655	-	-	-	-	-	-	-
Stage 2	750	701	-	391	396	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.15	13.64	0.17	0.23
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	36	-	-	314	430	52	-
HCM Lane V/C Ratio	0.005	-	-	0.058	0.032	0.013	-
HCM Ctrl Dly (s/v)	8.6	0	-	17.2	13.6	7.7	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

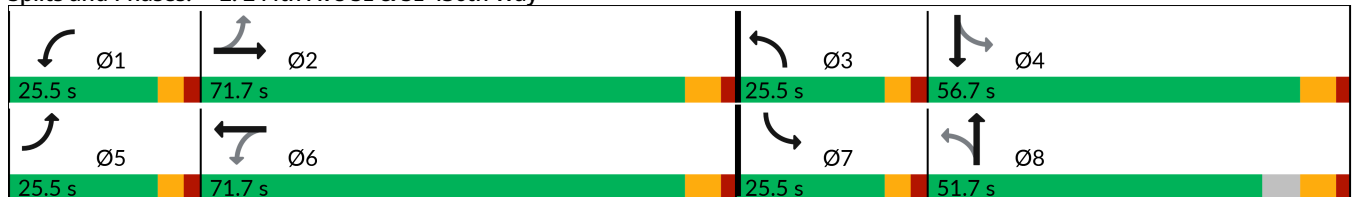


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	480	166	152	357	60	116	140	92	127	381	8
Future Volume (vph)	2	480	166	152	357	60	116	140	92	127	381	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
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%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	71.7		25.5	71.7		25.5	51.7		25.5	56.7	
Total Split (%)	14.2%	40.0%		14.2%	40.0%		14.2%	28.8%		14.2%	31.6%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 179.4
 Actuated Cycle Length: 157.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	2	480	166	152	357	60	116	140	92	127	381	8
Future Volume (veh/h)	2	480	166	152	357	60	116	140	92	127	381	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	2	500	173	158	372	63	121	146	96	132	397	8
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	2	2	2	1	1	1	2	2	2
Cap, veh/h	383	565	196	236	758	128	218	259	170	327	456	9
Arrive On Green	0.00	0.42	0.42	0.07	0.49	0.49	0.07	0.24	0.24	0.07	0.25	0.25
Sat Flow, veh/h	1795	1339	463	1781	1559	264	1795	1062	698	1781	1827	37
Grp Volume(v), veh/h	2	0	673	158	0	435	121	0	242	132	0	405
Grp Sat Flow(s),veh/h/ln	1795	0	1802	1781	0	1823	1795	0	1760	1781	0	1864
Q Serve(g_s), s	0.1	0.0	43.2	6.0	0.0	20.2	6.2	0.0	15.1	6.9	0.0	26.1
Cycle Q Clear(g_c), s	0.1	0.0	43.2	6.0	0.0	20.2	6.2	0.0	15.1	6.9	0.0	26.1
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.40	1.00		0.02
Lane Grp Cap(c), veh/h	383	0	761	236	0	887	218	0	430	327	0	465
V/C Ratio(X)	0.01	0.00	0.88	0.67	0.00	0.49	0.55	0.00	0.56	0.40	0.00	0.87
Avail Cap(c_a), veh/h	664	0	933	401	0	944	384	0	631	482	0	743
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	33.4	27.1	0.0	21.7	34.9	0.0	41.6	32.7	0.0	45.1
Incr Delay (d2), s/veh	0.0	0.0	10.5	3.9	0.0	0.9	2.6	0.0	1.6	1.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	20.0	2.6	0.0	8.4	2.8	0.0	6.7	3.0	0.0	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	0.0	44.0	31.0	0.0	22.6	37.5	0.0	43.2	33.7	0.0	53.6
LnGrp LOS	C		D	C		C	D		D	C		D
Approach Vol, veh/h		675			593			363			537	
Approach Delay, s/veh		43.9			24.9			41.3			48.7	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	59.7	13.9	38.0	5.8	67.7	14.6	37.3				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	65.0	20.0	50.0	20.0	65.0	20.0	45.0				
Max Q Clear Time (g_c+I1), s	8.0	45.2	8.2	28.1	3.1	22.2	8.9	17.1				
Green Ext Time (p_c), s	0.4	7.8	0.3	3.2	0.0	5.7	0.3	2.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			39.4									
HCM 7th LOS			D									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	0	26	3	0	4	5	336	2	2	690	12
Future Volume (vph)	7	0	26	3	0	4	5	336	2	2	690	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			454			2645			319	
Travel Time (s)		4.8			12.4			45.1			5.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	26	3	0	4	5	336	2	2	690	12
Future Vol, veh/h	7	0	26	3	0	4	5	336	2	2	690	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	0	0	0	1	1	1	1	1	1
Mvmt Flow	7	0	28	3	0	4	5	357	2	2	734	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1113	1115	740	1107	1120	359	747	0	0	360	0	0
Stage 1	745	745	-	369	369	-	-	-	-	-	-	-
Stage 2	368	370	-	738	751	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	185	207	415	189	208	690	866	-	-	1205	-	-
Stage 1	405	420	-	655	624	-	-	-	-	-	-	-
Stage 2	650	618	-	413	421	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	182	205	415	175	206	690	866	-	-	1205	-	-
Mov Cap-2 Maneuver	182	205	-	175	206	-	-	-	-	-	-	-
Stage 1	403	418	-	650	619	-	-	-	-	-	-	-
Stage 2	641	614	-	384	420	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.36	17.11	0.13	0.02
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	26	-	-	326	305	5	-
HCM Lane V/C Ratio	0.006	-	-	0.108	0.024	0.002	-
HCM Ctrl Dly (s/v)	9.2	0	-	17.4	17.1	8	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [4-PM-WP] 244th Ave SE / SE 448th St (2030 With Project-PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

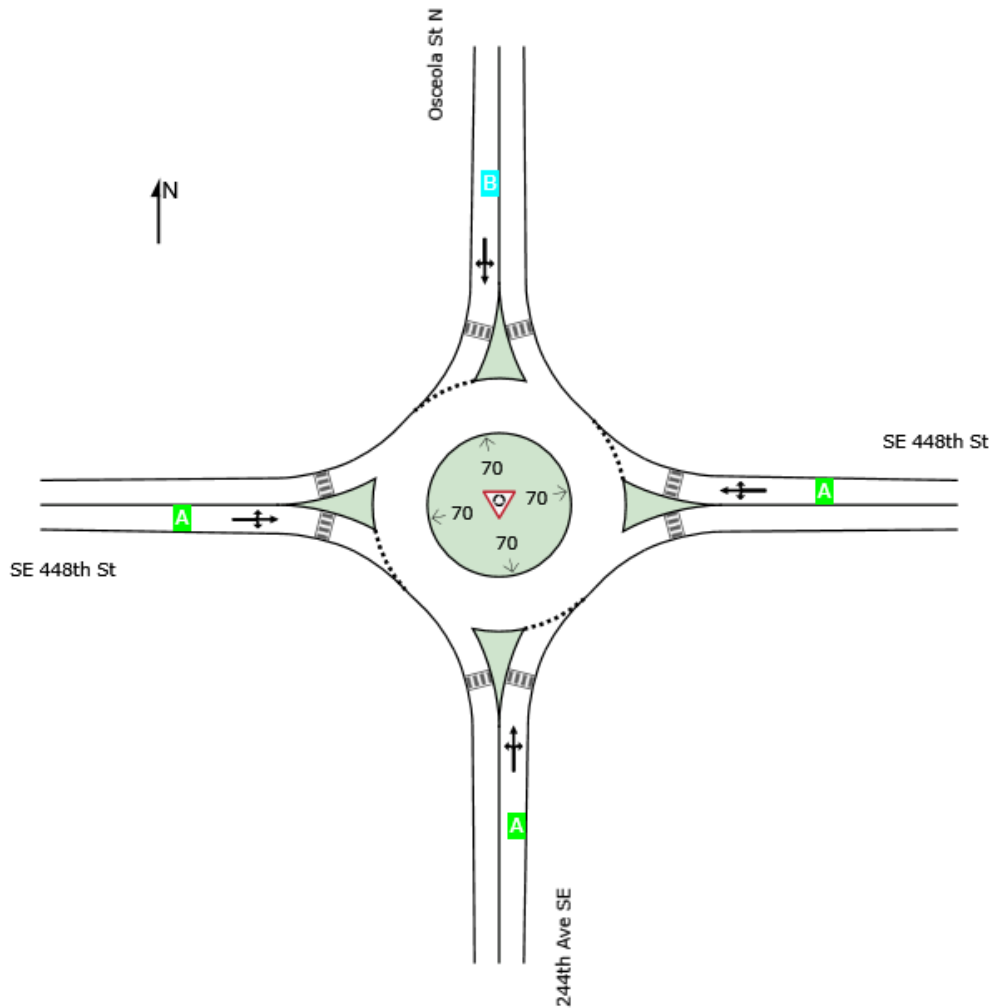
244th Ave SE / SE 448th St

Site Category: 2030 With Project - PM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [4-PM-WP] 244th Ave SE / SE 448th St (2030 With Project-PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 With Project - PM Peak Hour
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: 244th Ave SE															
3	L2	All MCs	17	1.0	17	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.1
8	T1	All MCs	409	1.0	409	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.5
18	R2	All MCs	62	1.0	62	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.3
Approach			488	1.0	488	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.4
East: SE 448th St															
1	L2	All MCs	68	4.0	68	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.7
6	T1	All MCs	47	4.0	47	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
16	R2	All MCs	26	4.0	26	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
Approach			142	4.0	142	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
North: Osceola St N															
7	L2	All MCs	41	3.0	41	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	30.5
4	T1	All MCs	737	3.0	737	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	31.0
14	R2	All MCs	22	3.0	22	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	30.8
Approach			800	3.0	800	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	31.0
West: SE 448th St															
5	L2	All MCs	11	0.0	11	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.6
2	T1	All MCs	21	0.0	21	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	28.0
12	R2	All MCs	8	0.0	8	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.8
Approach			40	0.0	40	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.8
All Vehicles			1471	2.4	1471	2.4	0.688	9.7	LOS A	6.8	174.7	0.52	0.27	0.52	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	151	71	293	66	57	619
Future Volume (vph)	151	71	293	66	57	619
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	8.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖		↖	↖
Traffic Vol, veh/h	151	71	293	66	57	619
Future Vol, veh/h	151	71	293	66	57	619
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	175	-
Veh in Median Storage, #	-	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	162	76	315	71	61	666
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1141	353	0	0	387	0
Stage 1	352	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	222	691	-	-	1171	-
Stage 1	712	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	210	690	-	-	1170	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	46.8	0	0.7			
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	210	690	1170	-
HCM Lane V/C Ratio	-	-	0.773	0.111	0.052	-
HCM Ctrl Dly (s/v)	-	-	63.7	10.9	8.2	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	5.4	0.4	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	642	9	32	529	39	6	0	19	28	0	13
Future Volume (vph)	10	642	9	32	529	39	6	0	19	28	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-4%			0%			0%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		390			1316			251			445	
Travel Time (s)		7.6			25.6			6.8			12.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	10	642	9	32	529	39	6	0	19	28	0	13
Future Vol, veh/h	10	642	9	32	529	39	6	0	19	28	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	4	-	-	-4	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	5	5	5
Mvmt Flow	11	690	10	34	569	42	6	0	20	30	0	14
Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	611	0	0	700	0	0	1354	1396	695	1370	1380	590
Stage 1	-	-	-	-	-	-	717	717	-	659	659	-
Stage 2	-	-	-	-	-	-	638	680	-	712	722	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.545	4.045	3.345
Pot Cap-1 Maneuver	973	-	-	897	-	-	127	141	442	122	142	502
Stage 1	-	-	-	-	-	-	421	434	-	448	456	-
Stage 2	-	-	-	-	-	-	465	451	-	419	427	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	973	-	-	897	-	-	117	134	442	110	135	502
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	256	-	229	249	-
Stage 1	-	-	-	-	-	-	416	429	-	431	439	-
Stage 2	-	-	-	-	-	-	435	434	-	395	422	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	0.13	0.49			15.47			20.46				
HCM LOS					C			C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)		371	973	-	-	897	-	-	277			
HCM Lane V/C Ratio		0.073	0.011	-	-	0.038	-	-	0.159			
HCM Ctrl Dly (s/v)		15.5	8.7	-	-	9.2	-	-	20.5			
HCM Lane LOS		C	A	-	-	A	-	-	C			
HCM 95th %tile Q(veh)		0.2	0	-	-	0.1	-	-	0.6			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	590	107	74	548	13	42	2	68	7	4	7
Future Volume (vph)	7	590	107	74	548	13	42	2	68	7	4	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
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 (%)	2%	2%	2%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

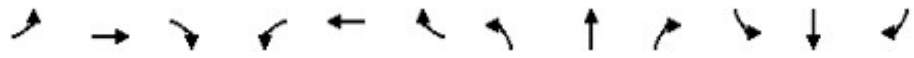
Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	7	590	107	74	548	13	42	2	68	7	4	7
Future Vol, veh/h	7	590	107	74	548	13	42	2	68	7	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	615	111	77	571	14	44	2	71	7	4	7

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	584	0	0	726
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	990	-	-	877
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				
Mov Cap-1 Maneuver	990	-	-	877
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	1.11	21.85	23.16
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		329	990	-	-	877	-	217
HCM Lane V/C Ratio		0.355	0.007	-	-	0.088	-	0.086
HCM Ctrl Dly (s/v)		21.9	8.7	-	-	9.5	-	23.2
HCM Lane LOS		C	A	-	-	A	-	C
HCM 95th %tile Q(veh)		1.6	0	-	-	0.3	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	46	17	119	95	17	20	88	75	31	147	4
Future Volume (vph)	4	46	17	119	95	17	20	88	75	31	147	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	1					1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	7%	7%	7%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 10.9
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	46	17	119	95	17	20	88	75	31	147	4
Future Vol, veh/h	4	46	17	119	95	17	20	88	75	31	147	4
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	7	7	7	1	1	1	1	1	1	5	5	5
Mvmt Flow	5	55	20	143	114	20	24	106	90	37	177	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	11.9	10.3	10.9
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	6%	52%	17%
Vol Thru, %	48%	69%	41%	81%
Vol Right, %	41%	25%	7%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	67	231	182
LT Vol	20	4	119	31
Through Vol	88	46	95	147
RT Vol	75	17	17	4
Lane Flow Rate	220	81	278	219
Geometry Grp	1	1	1	1
Degree of Util (X)	0.308	0.123	0.407	0.324
Departure Headway (Hd)	5.026	5.502	5.267	5.324
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	651	685	675
Service Time	3.055	3.538	3.295	3.354
HCM Lane V/C Ratio	0.307	0.124	0.406	0.324
HCM Control Delay, s/veh	10.3	9.3	11.9	10.9
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.3	0.4	2	1.4

LANE LEVEL OF SERVICE

Lane Level of Service

 Site: [9-PM-WP] Semanski St / Warner Ave (2030 With Project-PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

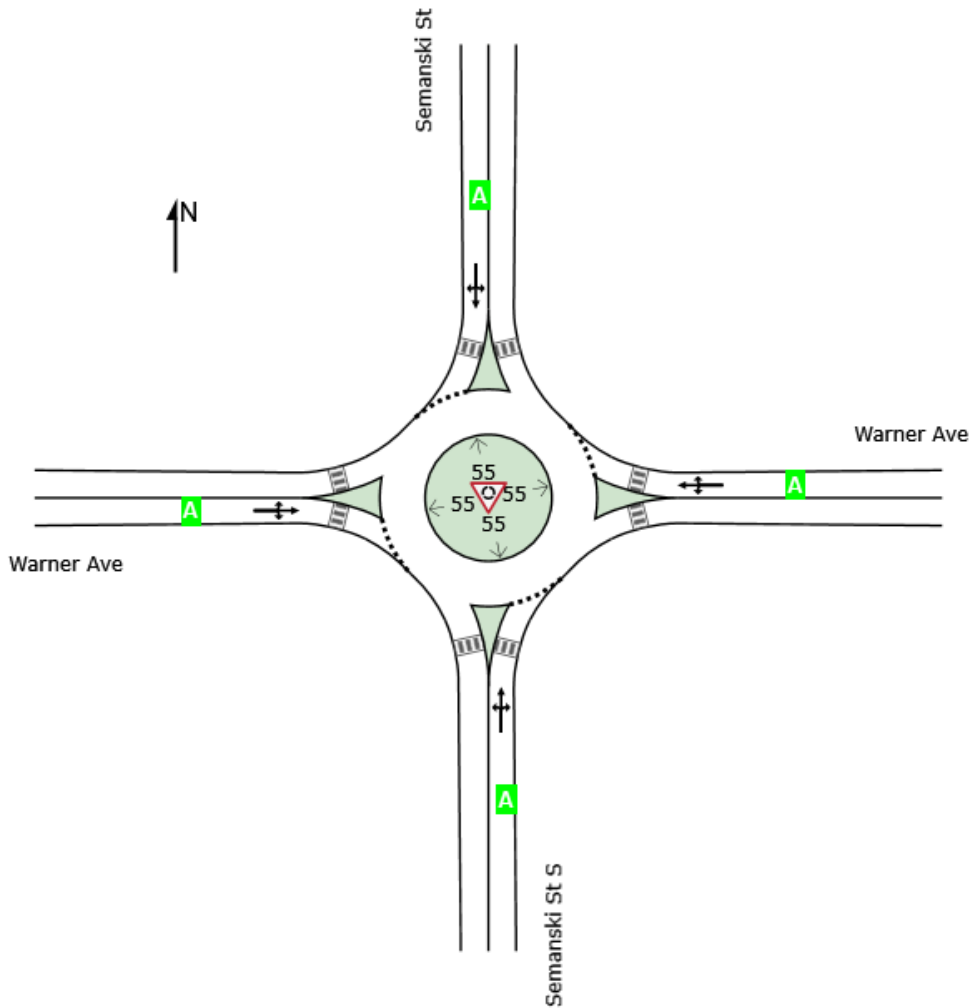
Semanski St S / Warner Ave

Site Category: 2030 With Project - PM Peak Hour

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 Site: [9-PM-WP] Semanski St / Warner Ave (2030 With Project-PM Peak Hour)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 With Project - PM Peak Hour
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3	L2	All MCs	39	1.0	39	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.4
8	T1	All MCs	146	1.0	146	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.6
18	R2	All MCs	117	1.0	117	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.5
Approach			302	1.0	302	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.6
East: Warner Ave															
1	L2	All MCs	31	1.0	31	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	29.9
6	T1	All MCs	218	1.0	218	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.4
16	R2	All MCs	30	1.0	30	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.2
Approach			279	1.0	279	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.3
North: Semanski St															
7	L2	All MCs	41	3.0	41	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.0
4	T1	All MCs	109	3.0	109	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.5
14	R2	All MCs	111	3.0	111	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.3
Approach			262	3.0	262	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.3
West: Warner Ave															
5	L2	All MCs	31	0.0	31	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	29.7
2	T1	All MCs	106	0.0	106	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.2
12	R2	All MCs	39	0.0	39	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.0
Approach			176	0.0	176	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.1
All Vehicles			1020	1.3	1020	1.3	0.266	5.6	LOS A	1.4	34.8	0.42	0.25	0.42	27.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

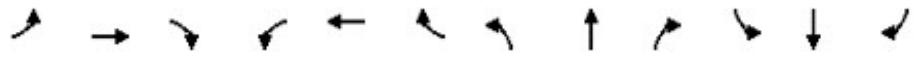
Delay Model: HCM Delay Formula (Stipline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	7	24	25	12	32	26	469	44	27	609	27
Future Volume (vph)	15	7	24	25	12	32	26	469	44	27	609	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)			1	1			1		2	2		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	15	7	24	25	12	32	26	469	44	27	609	27
Future Vol, veh/h	15	7	24	25	12	32	26	469	44	27	609	27
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	2	2	2
Mvmt Flow	16	7	26	27	13	34	28	499	47	29	648	29
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1281	1324	664	1290	1315	524	678	0	0	548	0	0
Stage 1	721	721	-	580	580	-	-	-	-	-	-	-
Stage 2	561	603	-	710	735	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	144	157	464	140	158	553	919	-	-	1022	-	-
Stage 1	422	435	-	500	500	-	-	-	-	-	-	-
Stage 2	516	491	-	424	425	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	117	148	463	119	148	552	918	-	-	1020	-	-
Mov Cap-2 Maneuver	117	148	-	119	148	-	-	-	-	-	-	-
Stage 1	410	422	-	484	484	-	-	-	-	-	-	-
Stage 2	457	476	-	382	413	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	28.43	33.61			0.44			0.35				
HCM LOS	D	D										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	918	-	-	202	198	1020	-	-				
HCM Lane V/C Ratio	0.03	-	-	0.242	0.372	0.028	-	-				
HCM Ctrl Dly (s/v)	9	-	-	28.4	33.6	8.6	-	-				
HCM Lane LOS	A	-	-	D	D	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	1.6	0.1	-	-				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	20	10	22	2	4	11	17	536	11	9	590	36
Future Volume (vph)	20	10	22	2	4	11	17	536	11	9	590	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	3		1	1		3	2		1	1		2
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection														
Int Delay, s/veh	1.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Vol, veh/h	20	10	22	2	4	11	17	536	11	9	590	36		
Future Vol, veh/h	20	10	22	2	4	11	17	536	11	9	590	36		
Conflicting Peds, #/hr	3	0	1	1	0	3	2	0	1	1	0	2		
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-		
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-		
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97		
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2		
Mvmt Flow	21	10	23	2	4	11	18	553	11	9	608	37		
Major/Minor	Minor2	Minor1		Major1		Major2								
Conflicting Flow All	1240	1247	630	1227	1260	562	647	0	0	565	0	0	0	
Stage 1	647	647	-	594	594	-	-	-	-	-	-	-	-	
Stage 2	593	600	-	633	666	-	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.11	-	-	4.12	-	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.218	-	-	-	
Pot Cap-1 Maneuver	153	175	485	119	130	498	943	-	-	1007	-	-	-	
Stage 1	463	469	-	433	435	-	-	-	-	-	-	-	-	
Stage 2	496	493	-	409	397	-	-	-	-	-	-	-	-	
Platoon blocked, %														
Mov Cap-1 Maneuver	138	167	484	102	124	496	941	-	-	1006	-	-	-	
Mov Cap-2 Maneuver	138	167	-	102	124	-	-	-	-	-	-	-	-	
Stage 1	455	462	-	421	422	-	-	-	-	-	-	-	-	
Stage 2	465	479	-	376	391	-	-	-	-	-	-	-	-	
Approach	EB	WB		NB		SB								
HCM Ctrl Dly, s/v	28.17	21.95		0.27		0.12								
HCM LOS	D	C												
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR							
Capacity (veh/h)	54	-	-	208	230	25	-	-						
HCM Lane V/C Ratio	0.019	-	-	0.257	0.076	0.009	-	-						
HCM Ctrl Dly (s/v)	8.9	0	-	28.2	21.9	8.6	0	-						
HCM Lane LOS	A	A	-	D	C	A	A	-						
HCM 95th %tile Q(veh)	0.1	-	-	1	0.2	0	-	-						

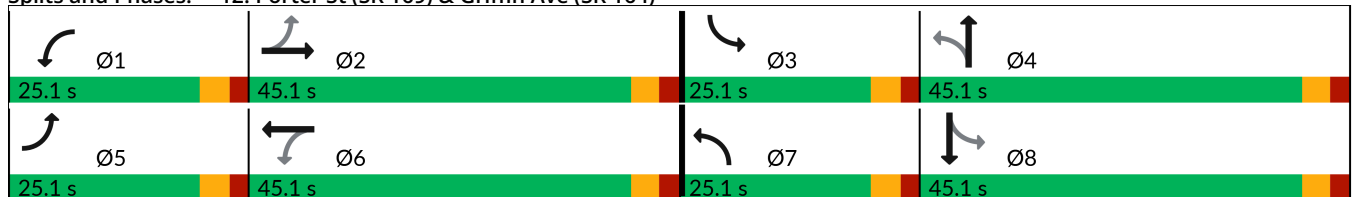


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	411	50	13	339	90	131	224	8	164	200	144
Future Volume (vph)	106	411	50	13	339	90	131	224	8	164	200	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	25.1	45.1		25.1	45.1		25.1	45.1		25.1	45.1	
Total Split (%)	17.9%	32.1%		17.9%	32.1%		17.9%	32.1%		17.9%	32.1%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 140.4
 Actuated Cycle Length: 106.6
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	411	50	13	339	90	131	224	8	164	200	144
Future Volume (veh/h)	106	411	50	13	339	90	131	224	8	164	200	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1776	1776	1776	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	115	447	54	14	368	98	142	243	9	178	217	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	277	630	76	238	444	118	310	453	17	422	273	197
Arrive On Green	0.06	0.38	0.38	0.01	0.33	0.33	0.08	0.25	0.25	0.10	0.27	0.27
Sat Flow, veh/h	1795	1650	199	1692	1351	360	1795	1806	67	1795	1017	736
Grp Volume(v), veh/h	115	0	501	14	0	466	142	0	252	178	0	374
Grp Sat Flow(s),veh/h/ln	1795	0	1849	1692	0	1711	1795	0	1873	1795	0	1753
Q Serve(g_s), s	3.2	0.0	18.2	0.4	0.0	19.9	4.5	0.0	9.2	5.7	0.0	15.7
Cycle Q Clear(g_c), s	3.2	0.0	18.2	0.4	0.0	19.9	4.5	0.0	9.2	5.7	0.0	15.7
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.04	1.00		0.42
Lane Grp Cap(c), veh/h	277	0	706	238	0	562	310	0	470	422	0	470
V/C Ratio(X)	0.42	0.00	0.71	0.06	0.00	0.83	0.46	0.00	0.54	0.42	0.00	0.80
Avail Cap(c_a), veh/h	617	0	934	648	0	864	615	0	946	697	0	885
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	20.7	18.7	0.0	24.5	20.6	0.0	25.7	19.2	0.0	27.0
Incr Delay (d2), s/veh	1.0	0.0	2.2	0.1	0.0	5.3	1.1	0.0	1.4	0.7	0.0	4.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	7.9	0.2	0.0	8.6	1.9	0.0	4.2	2.4	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.1	0.0	22.9	18.8	0.0	29.8	21.7	0.0	27.0	19.9	0.0	31.4
LnGrp LOS	B		C	B		C	C		C	B		C
Approach Vol, veh/h		616			480			394			552	
Approach Delay, s/veh		22.2			29.5			25.1			27.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	35.3	13.0	25.0	10.1	31.1	11.6	26.3				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	20.0	40.0				
Max Q Clear Time (g_c+I1), s	2.4	20.2	7.7	11.2	5.2	21.9	6.5	17.7				
Green Ext Time (p_c), s	0.0	4.6	0.4	2.3	0.2	4.1	0.3	3.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			25.9									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	445	71	21	360	76	59	115	34	119	134	19
Future Volume (vph)	26	445	71	21	360	76	59	115	34	119	134	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Confl. Peds. (#/hr)	6		2	2		6	3			6	6	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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 42.9
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	445	71	21	360	76	59	115	34	119	134	19
Future Volume (veh/h)	26	445	71	21	360	76	59	115	34	119	134	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	27	468	75	22	379	80	62	121	36	125	141	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	452	730	117	393	689	146	435	374	111	436	433	61
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	937	1584	254	861	1495	316	1230	1393	415	1234	1614	229
Grp Volume(v), veh/h	27	0	543	22	0	459	62	0	157	125	0	161
Grp Sat Flow(s),veh/h/ln	937	0	1838	861	0	1811	1230	0	1808	1234	0	1842
Q Serve(g_s), s	0.8	0.0	8.5	0.8	0.0	6.9	1.6	0.0	2.6	3.4	0.0	2.6
Cycle Q Clear(g_c), s	7.7	0.0	8.5	9.3	0.0	6.9	4.2	0.0	2.6	6.0	0.0	2.6
Prop In Lane	1.00		0.14	1.00		0.17	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	452	0	847	393	0	835	435	0	485	436	0	494
V/C Ratio(X)	0.06	0.00	0.64	0.06	0.00	0.55	0.14	0.00	0.32	0.29	0.00	0.33
Avail Cap(c_a), veh/h	1388	0	2683	1254	0	2644	921	0	1200	924	0	1223
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	7.8	11.3	0.0	7.3	12.8	0.0	11.0	13.5	0.0	11.1
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.1	0.0	0.8	0.2	0.0	0.5	0.5	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.6	0.1	0.0	2.0	0.4	0.0	0.9	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.2	0.0	8.9	11.4	0.0	8.1	13.0	0.0	11.6	14.0	0.0	11.6
LnGrp LOS	B		A	B		A	B		B	B		B
Approach Vol, veh/h		570			481			219			286	
Approach Delay, s/veh		9.0			8.3			12.0			12.6	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.2		22.5		15.2				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		55.0		25.0		55.0		25.0				
Max Q Clear Time (g_c+I1), s		10.5		8.0		11.3		6.2				
Green Ext Time (p_c), s		6.8		1.8		5.5		1.5				
Intersection Summary												
HCM 7th Control Delay, s/veh					9.9							
HCM 7th LOS					A							



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	634	65	21	522	47	17
Future Volume (vph)	634	65	21	522	47	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			0%	0%	
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	164			390	125	
Travel Time (s)	3.2			7.6	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	634	65	21	522	47	17
Future Vol, veh/h	634	65	21	522	47	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	-	-	-	0	1	-
Grade, %	4	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	0	0
Mvmt Flow	689	71	23	567	51	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	760
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	852
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	852
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.36	18.73
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	-	-	852	-
HCM Lane V/C Ratio	0.21	-	-	0.027	-
HCM Ctrl Dly (s/v)	18.7	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↓	
Traffic Volume (vph)	10	0	0	15	24	17
Future Volume (vph)	10	0	0	15	24	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	196			371	251	
Travel Time (s)	5.3			10.1	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	Y			4	1	
Traffic Vol, veh/h	10	0	0	15	24	17
Future Vol, veh/h	10	0	0	15	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	0	16	26	18

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	52	35	45	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	962	1043	1577	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	962	1043	1577	-	-	-
Mov Cap-2 Maneuver	962	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach EB NB SB

HCM Ctrl Dly, s/v	8.78	0	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBTEBLn1 SBT SBR

Capacity (veh/h)	1577	-	962	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Ctrl Dly (s/v)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings

C: Highpoint St & South Site Access

06/25/2025



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Volume (vph)	10	0	0	5	9	15
Future Volume (vph)	10	0	0	5	9	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	189			128	371	
Travel Time (s)	5.2			3.5	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	1	
Traffic Vol, veh/h	10	0	0	5	9	15
Future Vol, veh/h	10	0	0	5	9	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	0	5	10	16

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	23	18	26	0	0
Stage 1	18	-	-	-	-
Stage 2	5	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	998	1066	1601	-	-
Stage 1	1010	-	-	-	-
Stage 2	1023	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	998	1066	1601	-	-
Mov Cap-2 Maneuver	998	-	-	-	-
Stage 1	1010	-	-	-	-
Stage 2	1023	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	8.65	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBTEBLn1	SBT	SBR
Capacity (veh/h)	1601	-	998	-
HCM Lane V/C Ratio	-	-	0.011	-
HCM Ctrl Dly (s/v)	0	-	8.6	-
HCM Lane LOS	A	-	A	-
HCM 95th %tile Q(veh)	0	-	0	-



2030 With Project AM Peak Hour
Alternative Analysis (Without Highpoint Street Connection)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	3	3	2	3	4	9	2	238	3	1	204	5
Future Volume (vph)	3	3	2	3	4	9	2	238	3	1	204	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	8%	8%	8%	8%	8%	8%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	3	2	3	4	9	2	238	3	1	204	5
Future Vol, veh/h	3	3	2	3	4	9	2	238	3	1	204	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	8	8	8	8	8	8	7	7	7
Mvmt Flow	4	4	2	4	5	11	2	280	4	1	240	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	532	534	243	531	535	282	246	0	0	284	0	0
Stage 1	245	245	-	286	286	-	-	-	-	-	-	-
Stage 2	287	288	-	244	248	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	8.18	7.58	6.78	4.18	-	-	4.17	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.18	6.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.572	4.072	3.372	2.272	-	-	2.263	-	-
Pot Cap-1 Maneuver	461	455	801	388	382	715	1286	-	-	1251	-	-
Stage 1	763	707	-	654	613	-	-	-	-	-	-	-
Stage 2	725	677	-	697	644	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	447	454	801	383	381	715	1286	-	-	1251	-	-
Mov Cap-2 Maneuver	447	454	-	383	381	-	-	-	-	-	-	-
Stage 1	762	706	-	652	612	-	-	-	-	-	-	-
Stage 2	707	676	-	691	643	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.25	12.22	0.06	0.04
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	15	-	-	506	517	9	-
HCM Lane V/C Ratio	0.002	-	-	0.019	0.036	0.001	-
HCM Ctrl Dly (s/v)	7.8	0	-	12.3	12.2	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

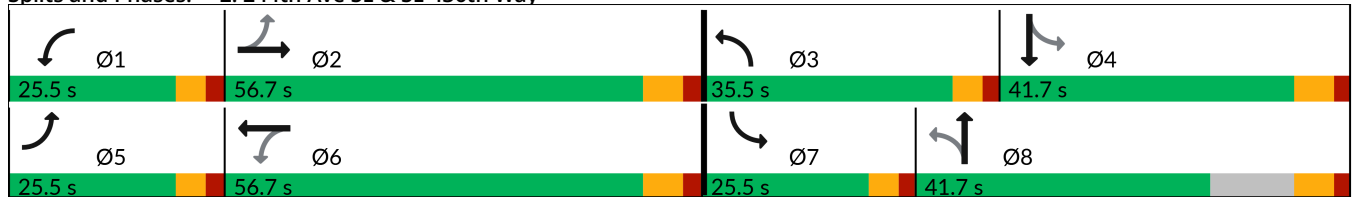


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	256	81	65	365	60	214	191	109	67	136	2
Future Volume (vph)	2	256	81	65	365	60	214	191	109	67	136	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	5%	5%	5%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		5.0	7.0		5.0	7.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	56.7		25.5	56.7		35.5	41.7		25.5	41.7	
Total Split (%)	16.0%	35.6%		16.0%	35.6%		22.3%	26.2%		16.0%	26.2%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 159.4
 Actuated Cycle Length: 97.9
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	2	256	81	65	365	60	214	191	109	67	136	2
Future Volume (veh/h)	2	256	81	65	365	60	214	191	109	67	136	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1811	1811	1811	1826	1826	1826	1826	1826	1826	1796	1796	1796
Adj Flow Rate, veh/h	2	291	92	74	415	68	243	217	124	76	155	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	6	6	6	5	5	5	5	5	5	7	7	7
Cap, veh/h	216	399	126	295	540	89	448	274	156	257	280	4
Arrive On Green	0.00	0.30	0.30	0.05	0.35	0.35	0.15	0.25	0.25	0.05	0.16	0.16
Sat Flow, veh/h	1725	1318	417	1739	1530	251	1739	1091	623	1711	1769	23
Grp Volume(v), veh/h	2	0	383	74	0	483	243	0	341	76	0	157
Grp Sat Flow(s),veh/h/ln	1725	0	1735	1739	0	1780	1739	0	1714	1711	0	1792
Q Serve(g_s), s	0.1	0.0	14.2	2.1	0.0	17.3	7.8	0.0	13.4	2.6	0.0	5.8
Cycle Q Clear(g_c), s	0.1	0.0	14.2	2.1	0.0	17.3	7.8	0.0	13.4	2.6	0.0	5.8
Prop In Lane	1.00		0.24	1.00		0.14	1.00		0.36	1.00		0.01
Lane Grp Cap(c), veh/h	216	0	524	295	0	629	448	0	430	257	0	284
V/C Ratio(X)	0.01	0.00	0.73	0.25	0.00	0.77	0.54	0.00	0.79	0.30	0.00	0.55
Avail Cap(c_a), veh/h	691	0	1205	685	0	1237	918	0	833	640	0	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	22.5	17.0	0.0	20.7	19.2	0.0	25.2	23.7	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.0	4.2	0.5	0.0	4.2	1.2	0.0	4.7	0.8	0.0	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	5.7	0.8	0.0	6.9	3.0	0.0	5.5	1.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.5	0.0	26.6	17.6	0.0	24.9	20.4	0.0	29.9	24.4	0.0	30.3
LnGrp LOS	B		C	B		C	C		C	C		C
Approach Vol, veh/h	385		557				584			233		
Approach Delay, s/veh	26.6		23.9				26.0			28.4		
Approach LOS	C		C				C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	28.5	16.1	18.1	5.7	32.1	9.4	24.8				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	50.0	50.0	30.0	35.0	20.0	50.0	20.0	35.0				
Max Q Clear Time (g_c+I1), s	4.1	16.2	9.8	7.8	3.1	19.3	4.6	15.4				
Green Ext Time (p_c), s	0.2	4.7	0.8	1.1	0.0	6.1	0.2	2.7				
Intersection Summary												
HCM 7th Control Delay, s/veh			25.8									
HCM 7th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	8	0	8	0	0	1	10	510	0	2	278	1
Future Volume (vph)	8	0	8	0	0	1	10	510	0	2	278	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			454			2645			319	
Travel Time (s)		4.8			12.4			45.1			5.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	8	0	0	1	10	510	0	2	278	1
Future Vol, veh/h	8	0	8	0	0	1	10	510	0	2	278	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0	5	5	5	3	3	3
Mvmt Flow	9	0	9	0	0	1	12	600	0	2	327	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	956	956	328	955	956	600	328	0	0	600	0	0
Stage 1	332	332	-	624	624	-	-	-	-	-	-	-
Stage 2	624	624	-	332	333	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.15	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.245	-	-	2.227	-	-
Pot Cap-1 Maneuver	240	260	718	240	260	505	1215	-	-	972	-	-
Stage 1	685	648	-	477	481	-	-	-	-	-	-	-
Stage 2	477	481	-	686	647	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	235	256	718	233	255	505	1215	-	-	972	-	-
Mov Cap-2 Maneuver	235	256	-	233	255	-	-	-	-	-	-	-
Stage 1	683	646	-	470	474	-	-	-	-	-	-	-
Stage 2	469	474	-	675	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.73	12.15	0.15	0.06
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	35	-	-	354	505	13	-
HCM Lane V/C Ratio	0.01	-	-	0.053	0.002	0.002	-
HCM Ctrl Dly (s/v)	8	0	-	15.7	12.2	8.7	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-

LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: [4-AM-WP-WB] 244th Ave SE / SE 448th St** (2030 With Project - AM Peak Hour (With Bollards on Highpoint))

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

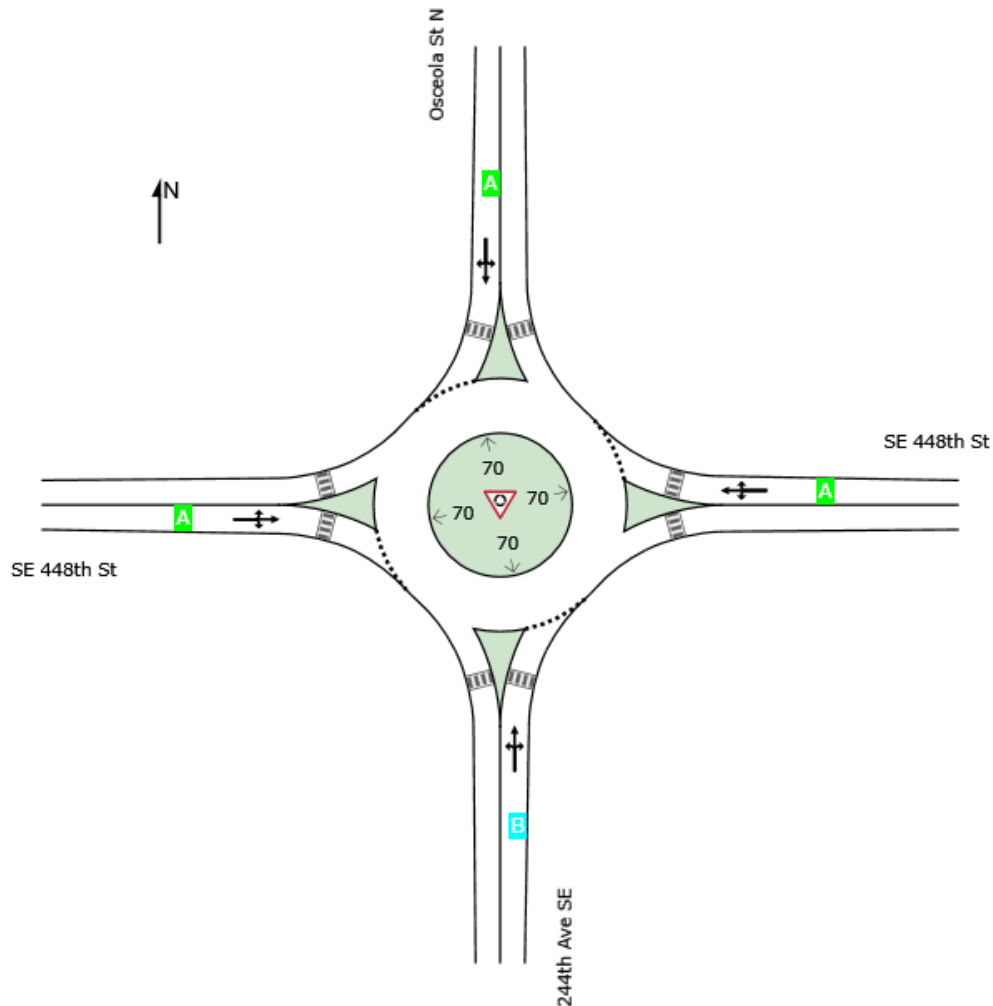
244th Ave SE / SE 448th St

Site Category: 2030 With Project - AM Peak Hour (With Bollards on Highpoint)

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.


Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 **Site: [4-AM-WP-WB] 244th Ave SE / SE 448th St (2030 With Project - AM Peak Hour (With Bollards on Highpoint))**
 Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 With Project - AM Peak Hour (With Bollards on Highpoint)
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh. veh	Dist]	ft			mph
South: 244th Ave SE															
3	L2	All MCs	13	10.0	13	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.4
8	T1	All MCs	695	10.0	695	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.9
18	R2	All MCs	46	10.0	46	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.7
Approach			754	10.0	754	10.0	0.659	11.5	LOS B	6.2	168.0	0.52	0.22	0.52	29.9
East: SE 448th St															
1	L2	All MCs	19	8.0	19	8.0	0.175	9.0	LOS A	0.6	16.3	0.65	0.60	0.65	21.4
6	T1	All MCs	12	8.0	12	8.0	0.175	9.0	LOS A	0.6	16.3	0.65	0.60	0.65	21.6
16	R2	All MCs	63	8.0	63	8.0	0.175	9.0	LOS A	0.6	16.3	0.65	0.60	0.65	21.5
Approach			94	8.0	94	8.0	0.175	9.0	LOS A	0.6	16.3	0.65	0.60	0.65	21.5
North: Osceola St N															
7	L2	All MCs	41	8.0	41	8.0	0.476	7.4	LOS A	3.4	89.6	0.26	0.09	0.26	26.6
4	T1	All MCs	531	8.0	531	8.0	0.476	7.4	LOS A	3.4	89.6	0.26	0.09	0.26	27.0
14	R2	All MCs	9	8.0	9	8.0	0.476	7.4	LOS A	3.4	89.6	0.26	0.09	0.26	26.8
Approach			581	8.0	581	8.0	0.476	7.4	LOS A	3.4	89.6	0.26	0.09	0.26	27.0
West: SE 448th St															
5	L2	All MCs	15	5.0	15	5.0	0.083	6.3	LOS A	0.3	7.9	0.58	0.50	0.58	27.6
2	T1	All MCs	28	5.0	28	5.0	0.083	6.3	LOS A	0.3	7.9	0.58	0.50	0.58	28.1
12	R2	All MCs	12	5.0	12	5.0	0.083	6.3	LOS A	0.3	7.9	0.58	0.50	0.58	27.9
Approach			55	5.0	55	5.0	0.083	6.3	LOS A	0.3	7.9	0.58	0.50	0.58	27.9
All Vehicles			1483	8.9	1483	8.9	0.659	9.6	LOS A	6.2	168.0	0.43	0.20	0.43	28.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	53	414	69	120	210
Future Volume (vph)	23	53	414	69	120	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↷		↶	↷
Traffic Vol, veh/h	23	53	414	69	120	210
Future Vol, veh/h	23	53	414	69	120	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	175	-
Veh in Median Storage, #		-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	30	69	538	90	156	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1167	582	0	0	627
Stage 1	582	-	-	-	-
Stage 2	584	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	214	513	-	-	955
Stage 1	558	-	-	-	-
Stage 2	557	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	179	513	-	-	955
Mov Cap-2 Maneuver	179	-	-	-	-
Stage 1	558	-	-	-	-
Stage 2	466	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.94	0	3.46
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	179	513	955	-
HCM Lane V/C Ratio	-	-	0.167	0.134	0.163	-
HCM Ctrl Dly (s/v)	-	-	29.1	13.1	9.5	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	0.6	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	435	3	8	427	15	10	0	21	30	0	5
Future Volume (vph)	3	435	3	8	427	15	10	0	21	30	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-4%			0%			0%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		400			1316			208			445	
Travel Time (s)		7.8			25.6			5.7			12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	2%	2%	2%	9%	9%	9%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	435	3	8	427	15	10	0	21	30	0	5
Future Vol, veh/h	3	435	3	8	427	15	10	0	21	30	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	4	-	-	-4	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	7	7	7	5	5	5	2	2	2	9	9	9
Mvmt Flow	3	483	3	9	474	17	11	0	23	33	0	6
Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	491	0	0	487	0	0	984	1001	485	991	994	483
Stage 1	-	-	-	-	-	-	492	492	-	501	501	-
Stage 2	-	-	-	-	-	-	492	509	-	490	493	-
Critical Hdwy	4.17	-	-	4.15	-	-	7.12	6.52	6.22	7.19	6.59	6.29
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.19	5.59	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.19	5.59	-
Follow-up Hdwy	2.263	-	-	2.245	-	-	3.518	4.018	3.318	3.581	4.081	3.381
Pot Cap-1 Maneuver	1047	-	-	1061	-	-	228	243	582	219	238	570
Stage 1	-	-	-	-	-	-	559	548	-	540	531	-
Stage 2	-	-	-	-	-	-	558	538	-	547	535	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1047	-	-	1061	-	-	223	240	582	207	236	570
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	355	-	334	348	-
Stage 1	-	-	-	-	-	-	557	546	-	535	527	-
Stage 2	-	-	-	-	-	-	548	534	-	523	534	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	0.06	0.15			13.06			16.38				
HCM LOS					B			C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	481	1047	-	-	1061	-	-	355				
HCM Lane V/C Ratio	0.072	0.003	-	-	0.008	-	-	0.11				
HCM Ctrl Dly (s/v)	13.1	8.4	-	-	8.4	-	-	16.4				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	408	75	105	365	2	71	3	96	3	4	4
Future Volume (vph)	1	408	75	105	365	2	71	3	96	3	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	7%	7%	5%	5%	5%	5%	5%	5%	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 5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	1	408	75	105	365	2	71	3	96	3	4	4
Future Vol, veh/h	1	408	75	105	365	2	71	3	96	3	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	7	7	7	5	5	5	5	5	5	0	0	0
Mvmt Flow	1	498	91	128	445	2	87	4	117	4	5	5

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	448	0	0	589
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.17	-	-	4.15
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.263	-	-	2.245
Pot Cap-1 Maneuver	1087	-	-	972
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %				
Mov Cap-1 Maneuver	1087	-	-	972
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.02	2.06	28.45	21.46
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	1087	-	-	972	-	-	232
HCM Lane V/C Ratio	0.584	0.001	-	-	0.132	-	-	0.058
HCM Ctrl Dly (s/v)	28.4	8.3	-	-	9.3	-	-	21.5
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	3.5	0	-	-	0.5	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	1	28	20	72	26	16	32	178	74	14	194	0
Future Volume (vph)	1	28	20	72	26	16	32	178	74	14	194	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	2		2	2		2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	9%	9%	9%	6%	6%	6%	5%	5%	5%	7%	7%	7%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 12.9
Intersection LOS B


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	28	20	72	26	16	32	178	74	14	194	0
Future Vol, veh/h	1	28	20	72	26	16	32	178	74	14	194	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	9	9	9	6	6	6	5	5	5	7	7	7
Mvmt Flow	1	40	29	103	37	23	46	254	106	20	277	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.8	11.2	14.4	12.5
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	2%	63%	7%
Vol Thru, %	63%	57%	23%	93%
Vol Right, %	26%	41%	14%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	284	49	114	208
LT Vol	32	1	72	14
Through Vol	178	28	26	194
RT Vol	74	20	16	0
Lane Flow Rate	406	70	163	297
Geometry Grp	1	1	1	1
Degree of Util (X)	0.564	0.116	0.27	0.439
Departure Headway (Hd)	5.004	5.959	5.971	5.314
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	722	600	601	677
Service Time	3.038	4.012	4.017	3.351
HCM Lane V/C Ratio	0.562	0.117	0.271	0.439
HCM Control Delay, s/veh	14.4	9.8	11.2	12.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	3.6	0.4	1.1	2.2

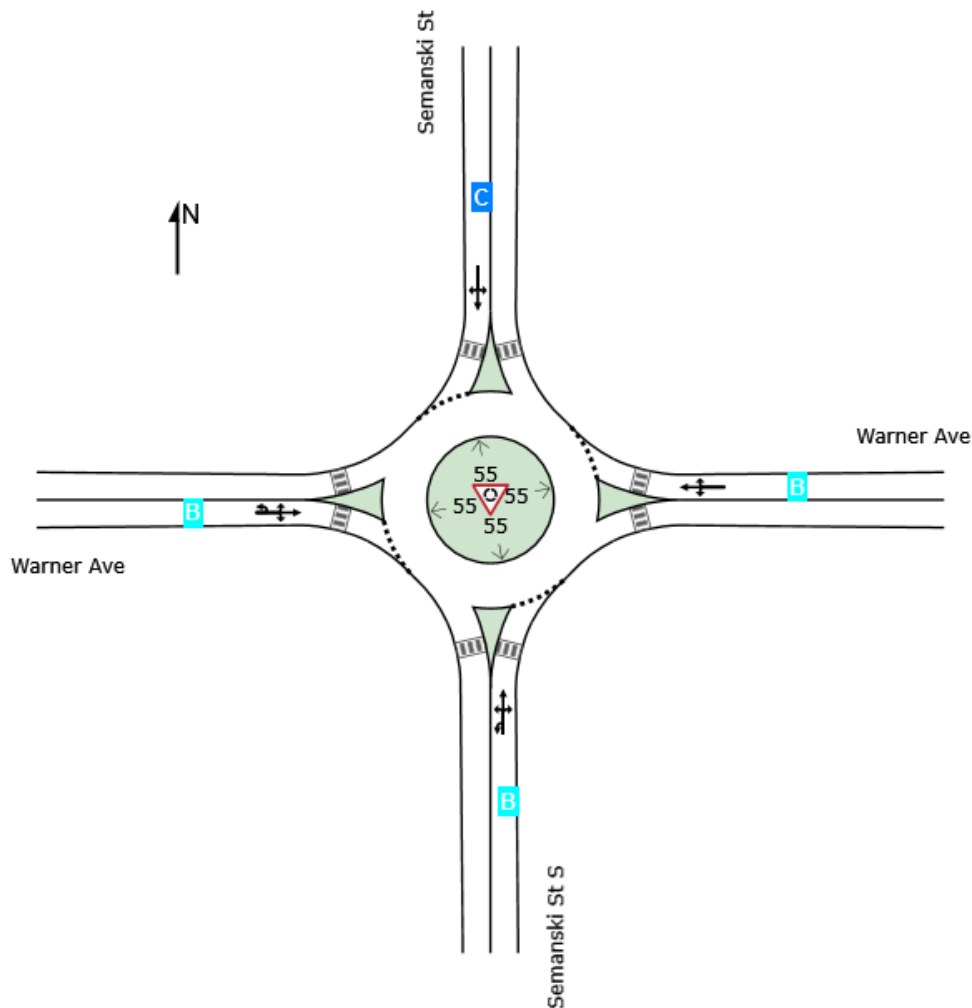
LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: [9-AM-WP-WB] Semanski St / Warner Ave (2030 With Project - AM Peak Hour (With Bollards on Highpoint))**
 Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 With Project - AM Peak Hour (With Bollards on Highpoint)
 Roundabout
Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	B	B	C	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.
 Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
 LOS F will result if $v/c > 1$ irrespective of lane delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
 Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

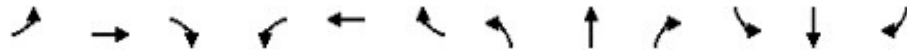
MOVEMENT SUMMARY

 **Site: [9-AM-WP-WB] Semanski St / Warner Ave (2030 With Project - AM Peak Hour (With Bollards on Highpoint))**
 Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 With Project - AM Peak Hour (With Bollards on Highpoint)
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV] veh/h	%	[Total HV] veh/h	%				[Veh.] veh	[Dist] ft				
South: Semanski St S															
3u	U	All MCs	2	9.0	2	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	25.2
3	L2	All MCs	43	9.0	43	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.8
8	T1	All MCs	309	9.0	309	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
18	R2	All MCs	205	9.0	205	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
Approach			559	9.0	559	9.0	0.577	11.3	LOS B	5.1	136.0	0.65	0.51	0.79	21.9
East: Warner Ave															
1	L2	All MCs	170	1.0	170	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	29.9
6	T1	All MCs	232	1.0	232	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.4
16	R2	All MCs	39	1.0	39	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.2
Approach			441	1.0	441	1.0	0.545	12.3	LOS B	4.3	107.2	0.75	0.72	1.06	30.2
North: Semanski St															
7	L2	All MCs	18	6.0	18	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.4
4	T1	All MCs	357	6.0	357	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	31.0
14	R2	All MCs	171	6.0	171	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.8
Approach			546	6.0	546	6.0	0.690	17.2	LOS C	7.6	199.3	0.85	0.90	1.47	30.9
West: Warner Ave															
5u	U	All MCs	9	3.0	9	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.7
5	L2	All MCs	109	3.0	109	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.7
2	T1	All MCs	102	3.0	102	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	30.1
12	R2	All MCs	84	3.0	84	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.9
Approach			304	3.0	304	3.0	0.413	10.3	LOS B	2.2	57.6	0.69	0.62	0.82	29.9
All Vehicles			1850	5.2	1850	5.2	0.690	13.1	LOS B	7.6	199.3	0.74	0.69	1.06	27.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.
 Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.
 Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (vph)	19	19	23	39	17	14	10	366	27	13	339	15
Future Volume (vph)	19	19	23	39	17	14	10	366	27	13	339	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)	1						1					
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	19	19	23	39	17	14	10	366	27	13	339	15
Future Vol, veh/h	19	19	23	39	17	14	10	366	27	13	339	15
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	5	5	5
Mvmt Flow	25	25	30	51	22	18	13	482	36	17	446	20
Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	1010	1034	456	1018	1026	500	466	0	0	517	0	0
Stage 1	490	490	-	526	526	-	-	-	-	-	-	-
Stage 2	520	543	-	493	500	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.15	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.245	-	-
Pot Cap-1 Maneuver	218	232	604	216	235	571	1090	-	-	1034	-	-
Stage 1	560	549	-	535	529	-	-	-	-	-	-	-
Stage 2	539	519	-	558	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	186	226	604	177	228	570	1090	-	-	1034	-	-
Mov Cap-2 Maneuver	186	226	-	177	228	-	-	-	-	-	-	-
Stage 1	551	540	-	529	523	-	-	-	-	-	-	-
Stage 2	493	513	-	497	534	-	-	-	-	-	-	-
Approach	EB	WB		NB		SB						
HCM Ctrl Dly, s/v	23.73	32.75		0.21		0.3						
HCM LOS	C	D										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1090	-	-	272	220	1034	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.296	0.42	0.017	-	-				
HCM Ctrl Dly (s/v)	8.3	-	-	23.7	32.8	8.5	-	-				
HCM Lane LOS	A	-	-	C	D	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	1.9	0.1	-	-				

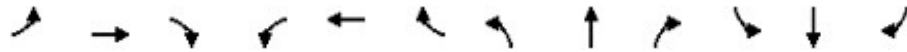


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	18	2	8	2	3	11	39	369	9	10	351	49
Future Volume (vph)	18	2	8	2	3	11	39	369	9	10	351	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	9		2	2		9	2		2	2		2
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	4%	4%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	2	8	2	3	11	39	369	9	10	351	49
Future Vol, veh/h	18	2	8	2	3	11	39	369	9	10	351	49
Conflicting Peds, #/hr	9	0	2	2	0	9	2	0	2	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	72	72	72	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	25	3	11	3	4	15	54	513	13	14	488	68
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1183	1187	526	1148	1214	530	558	0	0	527	0	0
Stage 1	551	551	-	629	629	-	-	-	-	-	-	-
Stage 2	632	635	-	519	585	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	168	190	556	138	140	521	1003	-	-	1030	-	-
Stage 1	522	518	-	412	416	-	-	-	-	-	-	-
Stage 2	472	475	-	485	440	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	142	171	554	120	126	516	1001	-	-	1028	-	-
Mov Cap-2 Maneuver	142	171	-	120	126	-	-	-	-	-	-	-
Stage 1	511	507	-	380	383	-	-	-	-	-	-	-
Stage 2	415	438	-	462	430	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Ctrl Dly, s/v	29.97		20.21			0.82			0.21			
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	168	-	-	183	259	43	-					
HCM Lane V/C Ratio	0.054	-	-	0.213	0.086	0.014	-					
HCM Ctrl Dly (s/v)	8.8	0	-	30	20.2	8.6	0					
HCM Lane LOS	A	A	-	D	C	A	A					
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.3	0	-					



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	296	36	0	240	81	43	165	3	75	124	76
Future Volume (vph)	122	296	36	0	240	81	43	165	3	75	124	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	20.1	35.1		20.1	35.1		20.1	35.1		20.1	35.1	
Total Split (%)	18.2%	31.8%		18.2%	31.8%		18.2%	31.8%		18.2%	31.8%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 110.4
 Actuated Cycle Length: 76.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)

Ø1	Ø2	Ø3	Ø4
20.1 s	35.1 s	20.1 s	35.1 s
Ø5	Ø6	Ø7	Ø8
20.1 s	35.1 s	20.1 s	35.1 s

HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	296	36	0	240	81	43	165	3	75	124	76
Future Volume (veh/h)	122	296	36	0	240	81	43	165	3	75	124	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1841	1841	1841	1687	1687	1687	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	144	348	42	0	282	95	51	194	4	88	146	89
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	8	8	8	2	2	2	3	3	3
Cap, veh/h	372	779	94	411	370	125	277	317	7	326	215	131
Arrive On Green	0.08	0.48	0.48	0.00	0.31	0.31	0.03	0.17	0.17	0.06	0.20	0.20
Sat Flow, veh/h	1753	1611	194	1607	1207	407	1781	1826	38	1767	1079	658
Grp Volume(v), veh/h	144	0	390	0	0	377	51	0	198	88	0	235
Grp Sat Flow(s),veh/h/ln	1753	0	1806	1607	0	1614	1781	0	1864	1767	0	1737
Q Serve(g_s), s	2.8	0.0	7.6	0.0	0.0	11.4	1.3	0.0	5.3	2.2	0.0	6.7
Cycle Q Clear(g_c), s	2.8	0.0	7.6	0.0	0.0	11.4	1.3	0.0	5.3	2.2	0.0	6.7
Prop In Lane	1.00		0.11	1.00		0.25	1.00		0.02	1.00		0.38
Lane Grp Cap(c), veh/h	372	0	873	411	0	494	277	0	323	326	0	346
V/C Ratio(X)	0.39	0.00	0.45	0.00	0.00	0.76	0.18	0.00	0.61	0.27	0.00	0.68
Avail Cap(c_a), veh/h	717	0	1008	857	0	901	715	0	1040	716	0	970
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(l)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	9.1	0.0	0.0	16.9	17.7	0.0	20.5	17.0	0.0	19.9
Incr Delay (d2), s/veh	0.7	0.0	0.5	0.0	0.0	3.5	0.3	0.0	2.7	0.4	0.0	3.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	2.6	0.0	0.0	4.3	0.5	0.0	2.4	0.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.3	0.0	9.7	0.0	0.0	20.4	18.0	0.0	23.2	17.4	0.0	23.3
LnGrp LOS	B		A		C		B		C		C	
Approach Vol, veh/h	534			377			249			323		
Approach Delay, s/veh	10.4			20.4			22.2			21.7		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.0	31.1	8.2	14.4	9.5	21.6	6.9	15.8				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	5.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	0.0	9.6	4.2	7.3	4.8	13.4	3.3	8.7				
Green Ext Time (p_c), s	0.0	3.5	0.1	1.6	0.3	3.1	0.1	2.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				17.3								
HCM 7th LOS				B								

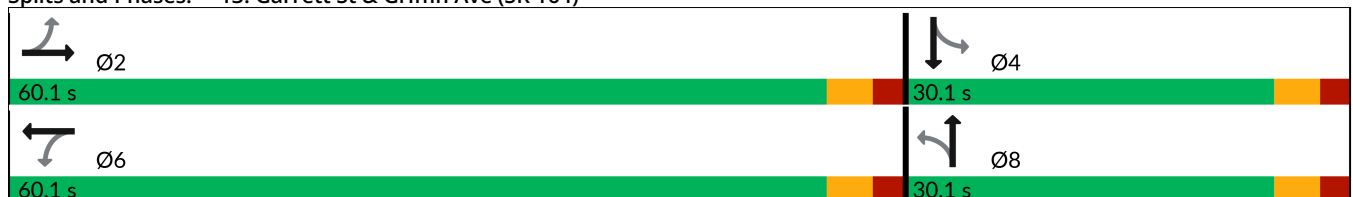


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	276	56	16	275	42	46	67	22	49	73	11
Future Volume (vph)	13	276	56	16	275	42	46	67	22	49	73	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	6%	6%	6%	7%	7%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 33.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	276	56	16	275	42	46	67	22	49	73	11
Future Volume (veh/h)	13	276	56	16	275	42	46	67	22	49	73	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1826	1826	1826	1826	1826	1826	1811	1811	1811	1796	1796	1796
Adj Flow Rate, veh/h	16	333	67	19	331	51	55	81	27	59	88	13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	5	5	5	5	5	5	6	6	6	7	7	7
Cap, veh/h	532	625	126	518	654	101	450	248	83	442	292	43
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	977	1476	297	961	1545	238	1253	1300	433	1235	1530	226
Grp Volume(v), veh/h	16	0	400	19	0	382	55	0	108	59	0	101
Grp Sat Flow(s),veh/h/ln	977	0	1772	961	0	1783	1253	0	1733	1235	0	1756
Q Serve(g_s), s	0.3	0.0	4.4	0.4	0.0	4.2	1.0	0.0	1.4	1.1	0.0	1.3
Cycle Q Clear(g_c), s	4.5	0.0	4.4	4.8	0.0	4.2	2.3	0.0	1.4	2.6	0.0	1.3
Prop In Lane	1.00		0.17	1.00		0.13	1.00		0.25	1.00		0.13
Lane Grp Cap(c), veh/h	532	0	750	518	0	755	450	0	331	442	0	335
V/C Ratio(X)	0.03	0.00	0.53	0.04	0.00	0.51	0.12	0.00	0.33	0.13	0.00	0.30
Avail Cap(c_a), veh/h	2152	0	3688	2111	0	3710	1395	0	1639	1374	0	1660
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	5.7	7.5	0.0	5.6	10.2	0.0	9.2	10.3	0.0	9.2
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.8	0.2	0.0	0.8	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.0	0.1	0.0	0.9	0.2	0.0	0.4	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.3	0.0	6.5	7.5	0.0	6.3	10.4	0.0	10.0	10.5	0.0	9.9
LnGrp LOS	A		A		A		B		B		A	
Approach Vol, veh/h	416			401			163			160		
Approach Delay, s/veh	6.5			6.4			10.1			10.1		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.3		10.1		16.3		10.1					
Change Period (Y+Rc), s	5.1		5.1		5.1		5.1					
Max Green Setting (Gmax), s	55.0		25.0		55.0		25.0					
Max Q Clear Time (g_c+I1), s	6.5		4.6		6.8		4.3					
Green Ext Time (p_c), s	4.6		1.0		4.3		1.0					
Intersection Summary												
HCM 7th Control Delay, s/veh			7.5									
HCM 7th LOS			A									



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (vph)	406	26	8	439	51	12
Future Volume (vph)	406	26	8	439	51	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			0%	0%	
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	154			400	139	
Travel Time (s)	3.0			7.8	3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	5%	5%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	406	26	8	439	51	12
Future Vol, veh/h	406	26	8	439	51	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	-	-	-	0	1	-
Grade, %	4	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	7	5	5	0	0
Mvmt Flow	441	28	9	477	55	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	470
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.15
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.245
Pot Cap-1 Maneuver	-	-	1077
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1077
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.15	14.57
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	444	-	-	1077	-
HCM Lane V/C Ratio	0.154	-	-	0.008	-
HCM Ctrl Dly (s/v)	14.6	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	0	0	17	5	6
Future Volume (vph)	14	0	0	17	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	174			438	208	
Travel Time (s)	4.7			11.9	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 2.9

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	1			1	1	
Traffic Vol, veh/h	14	0	0	17	5	6
Future Vol, veh/h	14	0	0	17	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	0	0	18	5	7

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	27	-	12	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	18	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	993	0	1620	-	-	-
Stage 1	1020	0	-	-	-	-
Stage 2	1009	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	993	-	1620	-	-	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1009	-	-	-	-	-

Approach EB NB SB

HCM Ctrl Dly, s/v	8.68	0	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBTEBLn1 SBT SBR

Capacity (veh/h)	1620	-	993	-	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Ctrl Dly (s/v)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	0	0	0	0	5
Future Volume (vph)	17	0	0	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	168			155	438	
Travel Time (s)	4.6			4.2	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗		↗
Traffic Vol, veh/h	17	0	0	0	0	5
Future Vol, veh/h	17	0	0	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	0	0	0	0	5

Major/Minor	Minor2	Major1	
Conflicting Flow All	0	-	0
Stage 1	0	-	-
Stage 2	0	-	-
Critical Hdwy	6.4	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB
HCM Ctrl Dly, s/v		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBTEBLn1
Capacity (veh/h)	-
HCM Lane V/C Ratio	-
HCM Ctrl Dly (s/v)	-
HCM Lane LOS	-
HCM 95th %tile Q(veh)	-



2030 With Project PM Peak Hour
Alternative Analysis (Without Highpoint Street Connection)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	3	4	1	3	8	4	188	7	15	492	7
Future Volume (vph)	9	3	4	1	3	8	4	188	7	15	492	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			5%			5%			-4%	
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		309			422			1006			480	
Travel Time (s)		6.0			8.2			15.2			7.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	10%	10%	10%	1%	1%	1%	4%	4%	4%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	3	4	1	3	8	4	188	7	15	492	7
Future Vol, veh/h	9	3	4	1	3	8	4	188	7	15	492	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	5	-	-	5	-	-	-4	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	7	7	7	10	10	10	1	1	1	4	4	4
Mvmt Flow	10	3	5	1	3	9	5	214	8	17	559	8

Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	822	828	563	822	828	218	567	0	0	222	0	0
Stage 1	597	597	-	227	227	-	-	-	-	-	-	-
Stage 2	224	231	-	595	601	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.57	6.27	8.2	7.6	6.8	4.11	-	-	4.14	-	-
Critical Hdwy Stg 1	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.57	-	7.2	6.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4.063	3.363	3.59	4.09	3.39	2.209	-	-	2.236	-	-
Pot Cap-1 Maneuver	287	301	516	226	237	779	1010	-	-	1336	-	-
Stage 1	481	483	-	712	659	-	-	-	-	-	-	-
Stage 2	767	704	-	405	404	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	273	294	516	216	231	779	1010	-	-	1336	-	-
Mov Cap-2 Maneuver	273	294	-	216	231	-	-	-	-	-	-	-
Stage 1	472	474	-	708	655	-	-	-	-	-	-	-
Stage 2	750	701	-	391	396	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.15	13.64	0.17	0.23
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	36	-	-	314	430	52	-
HCM Lane V/C Ratio	0.005	-	-	0.058	0.032	0.013	-
HCM Ctrl Dly (s/v)	8.6	0	-	17.2	13.6	7.7	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

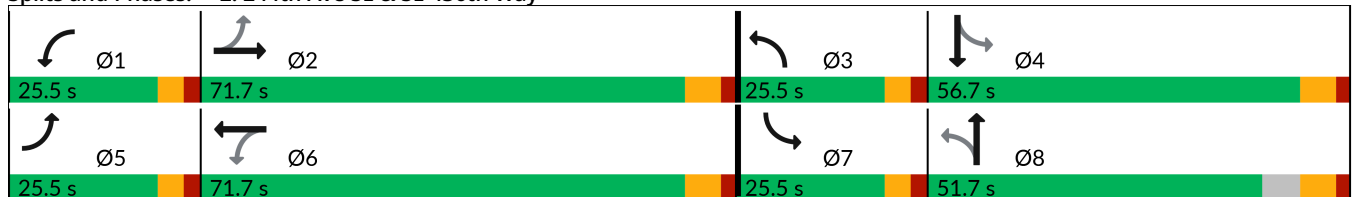


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	480	166	161	357	60	116	140	97	127	381	8
Future Volume (vph)	2	480	166	161	357	60	116	140	97	127	381	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	190		0	215		0	200		0	190		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		45			45			40			45	
Link Distance (ft)		840			855			319			1006	
Travel Time (s)		12.7			13.0			5.4			15.2	
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%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	7.0		5.0	7.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	10.5	27.7		10.5	27.7		10.5	30.7		10.5	30.7	
Total Split (s)	25.5	71.7		25.5	71.7		25.5	51.7		25.5	56.7	
Total Split (%)	14.2%	40.0%		14.2%	40.0%		14.2%	28.8%		14.2%	31.6%	
Yellow Time (s)	3.5	4.7		3.5	4.7		3.5	4.7		3.5	4.7	
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		0.0	0.0	
Total Lost Time (s)	5.5	6.7		5.5	6.7		5.5	6.7		5.5	6.7	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 179.4
 Actuated Cycle Length: 158.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: 244th Ave SE & SE 436th Way



HCM 7th Signalized Intersection Summary
 2: 244th Ave SE & SE 436th Way

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	2	480	166	161	357	60	116	140	97	127	381	8
Future Volume (veh/h)	2	480	166	161	357	60	116	140	97	127	381	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	2	500	173	168	372	63	121	146	101	132	397	8
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	2	2	2	1	1	1	2	2	2
Cap, veh/h	385	564	195	240	762	129	217	253	175	321	455	9
Arrive On Green	0.00	0.42	0.42	0.07	0.49	0.49	0.07	0.24	0.24	0.07	0.25	0.25
Sat Flow, veh/h	1795	1339	463	1781	1559	264	1795	1038	718	1781	1827	37
Grp Volume(v), veh/h	2	0	673	168	0	435	121	0	247	132	0	405
Grp Sat Flow(s),veh/h/ln	1795	0	1802	1781	0	1823	1795	0	1756	1781	0	1864
Q Serve(g_s), s	0.1	0.0	43.7	6.5	0.0	20.3	6.3	0.0	15.7	6.9	0.0	26.4
Cycle Q Clear(g_c), s	0.1	0.0	43.7	6.5	0.0	20.3	6.3	0.0	15.7	6.9	0.0	26.4
Prop In Lane	1.00		0.26	1.00		0.14	1.00		0.41	1.00		0.02
Lane Grp Cap(c), veh/h	385	0	759	240	0	891	217	0	428	321	0	464
V/C Ratio(X)	0.01	0.00	0.89	0.70	0.00	0.49	0.56	0.00	0.58	0.41	0.00	0.87
Avail Cap(c_a), veh/h	664	0	925	397	0	936	381	0	624	474	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	33.8	27.4	0.0	21.7	35.3	0.0	42.1	33.1	0.0	45.6
Incr Delay (d2), s/veh	0.0	0.0	10.8	4.4	0.0	0.9	2.7	0.0	1.7	1.0	0.0	8.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	20.3	2.8	0.0	8.4	2.9	0.0	6.9	3.0	0.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.5	0.0	44.7	31.8	0.0	22.6	37.9	0.0	43.9	34.1	0.0	54.3
LnGrp LOS	C		D	C		C	D		D	C		D
Approach Vol, veh/h		675			603			368			537	
Approach Delay, s/veh		44.6			25.2			41.9			49.3	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	60.1	13.9	38.3	5.8	68.6	14.6	37.6				
Change Period (Y+Rc), s	5.5	6.7	5.5	6.7	5.5	6.7	5.5	6.7				
Max Green Setting (Gmax), s	20.0	65.0	20.0	50.0	20.0	65.0	20.0	45.0				
Max Q Clear Time (g_c+I1), s	8.5	45.7	8.3	28.4	3.1	22.3	8.9	17.7				
Green Ext Time (p_c), s	0.4	7.7	0.3	3.2	0.0	5.7	0.3	2.0				
Intersection Summary												
HCM 7th Control Delay, s/veh												39.9
HCM 7th LOS												D



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	0	26	3	0	4	5	341	2	2	699	12
Future Volume (vph)	7	0	26	3	0	4	5	341	2	2	699	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		35			25			40			40	
Link Distance (ft)		248			454			2645			319	
Travel Time (s)		4.8			12.4			45.1			5.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EFT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	26	3	0	4	5	341	2	2	699	12
Future Vol, veh/h	7	0	26	3	0	4	5	341	2	2	699	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	0	0	0	1	1	1	1	1	1
Mvmt Flow	7	0	28	3	0	4	5	363	2	2	744	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1128	1130	750	1122	1135	364	756	0	0	365	0	0
Stage 1	754	754	-	374	374	-	-	-	-	-	-	-
Stage 2	373	376	-	748	761	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.5	4	3.3	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	181	203	410	185	204	686	859	-	-	1199	-	-
Stage 1	400	415	-	651	621	-	-	-	-	-	-	-
Stage 2	645	615	-	408	417	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	178	201	410	170	202	686	859	-	-	1199	-	-
Mov Cap-2 Maneuver	178	201	-	170	202	-	-	-	-	-	-	-
Stage 1	398	414	-	646	616	-	-	-	-	-	-	-
Stage 2	636	610	-	379	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.6	17.36	0.13	0.02
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	26	-	-	321	299	5	-
HCM Lane V/C Ratio	0.006	-	-	0.109	0.025	0.002	-
HCM Ctrl Dly (s/v)	9.2	0	-	17.6	17.4	8	0
HCM Lane LOS	A	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-

LANE LEVEL OF SERVICE

Lane Level of Service

 **Site:** [4-PM-WP-WB] 244th Ave SE / SE 448th St (2030 With Project- PM Peak Hour (With Bollards on Highpoint))

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

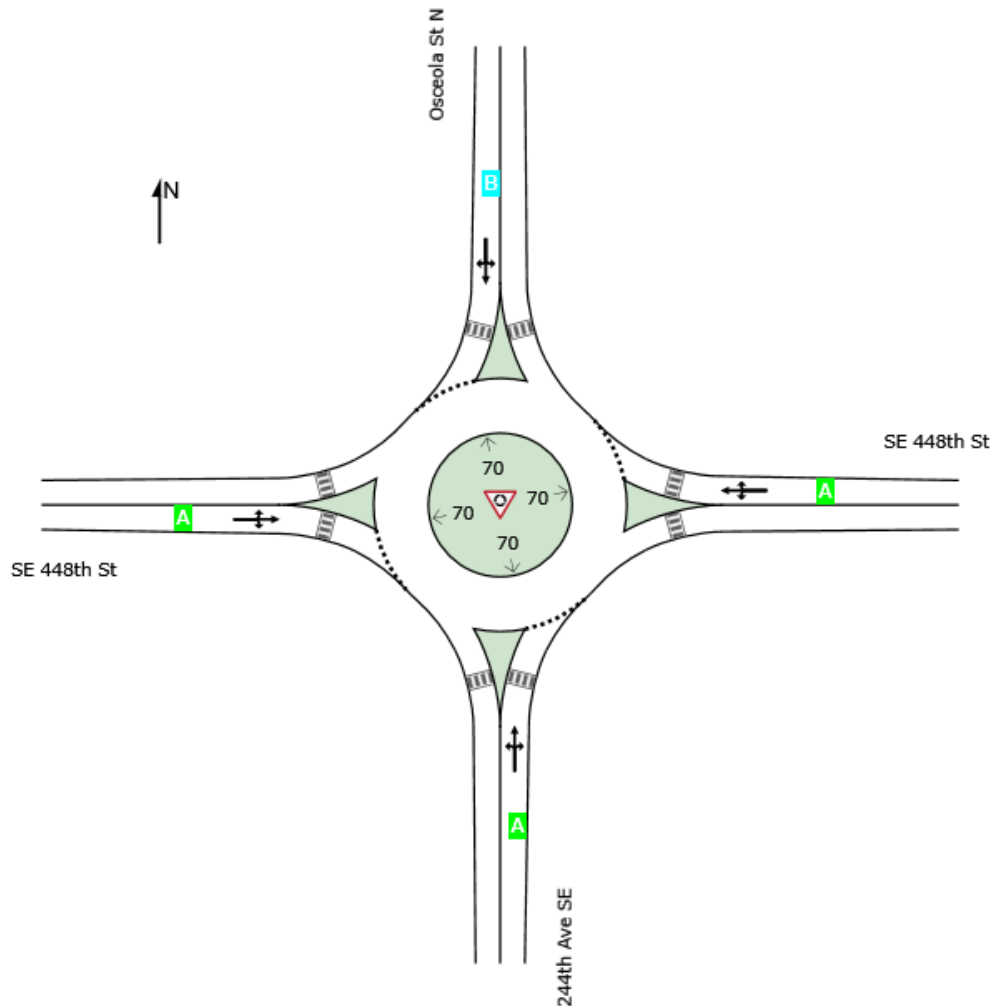
244th Ave SE / SE 448th St

Site Category: 2030 With Project - PM Peak Hour (With Bollards on Highpoint)

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.


Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptline Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 **Site: [4-PM-WP-WB] 244th Ave SE / SE 448th St** (2030 With Project- PM Peak Hour (With Bollards on Highpoint))
 Output produced by SIDRA INTERSECTION Version: 10.0.3.210

244th Ave SE / SE 448th St
 Site Category: 2030 With Project - PM Peak Hour (With Bollards on Highpoint)
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				mph
			veh/h		veh/h					veh	ft				
South: 244th Ave SE															
3	L2	All MCs	17	1.0	17	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.1
8	T1	All MCs	409	1.0	409	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.5
18	R2	All MCs	62	1.0	62	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.3
Approach			488	1.0	488	1.0	0.385	6.3	LOS A	2.5	62.1	0.29	0.11	0.29	28.4
East: SE 448th St															
1	L2	All MCs	68	4.0	68	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.7
6	T1	All MCs	47	4.0	47	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
16	R2	All MCs	26	4.0	26	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
Approach			142	4.0	142	4.0	0.171	6.0	LOS A	0.7	18.3	0.53	0.41	0.53	21.8
North: Osceola St N															
7	L2	All MCs	41	3.0	41	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	30.5
4	T1	All MCs	737	3.0	737	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	31.0
14	R2	All MCs	22	3.0	22	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	30.8
Approach			800	3.0	800	3.0	0.688	12.5	LOS B	6.8	174.7	0.65	0.33	0.65	31.0
West: SE 448th St															
5	L2	All MCs	11	0.0	11	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.6
2	T1	All MCs	21	0.0	21	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	28.0
12	R2	All MCs	8	0.0	8	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.8
Approach			40	0.0	40	0.0	0.071	7.2	LOS A	0.3	6.6	0.63	0.61	0.63	27.8
All Vehicles			1471	2.4	1471	2.4	0.688	9.7	LOS A	6.8	174.7	0.52	0.27	0.52	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
 LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
 Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
 Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).
 Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
 Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	151	71	293	66	57	619
Future Volume (vph)	151	71	293	66	57	619
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50	0		0	175	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Link Speed (mph)	25		35			35
Link Distance (ft)	2713		842			2658
Travel Time (s)	74.0		16.4			51.8
Confl. Peds. (#/hr)	1	1		1	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	8.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↖	↖		↖	↖
Traffic Vol, veh/h	151	71	293	66	57	619
Future Vol, veh/h	151	71	293	66	57	619
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	50	0	-	-	175	-
Veh in Median Storage, #		-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	162	76	315	71	61	666
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1141	353	0	0	387	0
Stage 1	352	-	-	-	-	-
Stage 2	789	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	222	691	-	-	1171	-
Stage 1	712	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	210	690	-	-	1170	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	46.8	0	0.7			
HCM LOS	E					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	210	690	1170	-
HCM Lane V/C Ratio	-	-	0.773	0.111	0.052	-
HCM Ctrl Dly (s/v)	-	-	63.7	10.9	8.2	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	5.4	0.4	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	647	9	23	538	39	6	0	14	28	0	13
Future Volume (vph)	10	647	9	23	538	39	6	0	14	28	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		4%			-4%			0%			0%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		390			1316			251			445	
Travel Time (s)		7.6			25.6			6.8			12.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection															
Int Delay, s/veh	1.1														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations	↖	↗		↖	↗			↕			↕				
Traffic Vol, veh/h	10	647	9	23	538	39	6	0	14	28	0	13			
Future Vol, veh/h	10	647	9	23	538	39	6	0	14	28	0	13			
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0			
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop			
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None			
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-			
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-			
Grade, %	-	4	-	-	-4	-	-	0	-	-	0	-			
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93			
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	5	5	5			
Mvmt Flow	11	696	10	25	578	42	6	0	15	30	0	14			
Major/Minor	Major1	Major2			Minor1			Minor2							
Conflicting Flow All	620	0	0	705	0	0	1350	1392	701	1366	1376	599			
Stage 1	-	-	-	-	-	-	722	722	-	649	649	-			
Stage 2	-	-	-	-	-	-	628	670	-	717	727	-			
Critical Hdwy	4.11	-	-	4.12	-	-	7.12	6.52	6.22	7.15	6.55	6.25			
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.55	-			
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.518	4.018	3.318	3.545	4.045	3.345			
Pot Cap-1 Maneuver	965	-	-	893	-	-	128	142	439	123	143	496			
Stage 1	-	-	-	-	-	-	418	431	-	454	461	-			
Stage 2	-	-	-	-	-	-	471	455	-	416	425	-			
Platoon blocked, %		-	-	-	-	-									
Mov Cap-1 Maneuver	965	-	-	893	-	-	119	136	439	114	138	496			
Mov Cap-2 Maneuver	-	-	-	-	-	-	248	258	-	236	254	-			
Stage 1	-	-	-	-	-	-	413	426	-	441	448	-			
Stage 2	-	-	-	-	-	-	445	443	-	397	420	-			
Approach	EB	WB			NB			SB							
HCM Ctrl Dly, s/v	0.13	0.35			15.75			20.07							
HCM LOS					C			C							
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR								
Capacity (veh/h)		356	965	-	-	893	-	-	283						
HCM Lane V/C Ratio		0.06	0.011	-	-	0.028	-	-	0.156						
HCM Ctrl Dly (s/v)		15.7	8.8	-	-	9.1	-	-	20.1						
HCM Lane LOS		C	A	-	-	A	-	-	C						
HCM 95th %tile Q(veh)		0.2	0	-	-	0.1	-	-	0.5						

Lanes, Volumes, Timings

7: Semanski St/Clovercrest St & Griffin Ave (SR 164)

06/25/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	590	107	74	548	13	42	2	68	7	4	7
Future Volume (vph)	7	590	107	74	548	13	42	2	68	7	4	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			5%	
Storage Length (ft)	50		0	50		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1316			2482			2645			242	
Travel Time (s)		25.6			48.4			72.1			6.6	
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 (%)	2%	2%	2%	2%	2%	2%	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	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	7	590	107	74	548	13	42	2	68	7	4	7
Future Vol, veh/h	7	590	107	74	548	13	42	2	68	7	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #		0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	5	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	615	111	77	571	14	44	2	71	7	4	7

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	584	0	0	726	0	0	1412	1423	670	1362	1472	578
Stage 1	-	-	-	-	-	-	685	685	-	732	732	-
Stage 2	-	-	-	-	-	-	727	739	-	630	741	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	8.1	7.5	6.7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	7.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	7.1	6.5	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	990	-	-	877	-	-	117	137	460	87	85	480
Stage 1	-	-	-	-	-	-	441	451	-	339	351	-
Stage 2	-	-	-	-	-	-	418	427	-	397	347	-
Platoon blocked, %												
Mov Cap-1 Maneuver	990	-	-	877	-	-	102	124	460	66	77	480
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	244	-	157	168	-
Stage 1	-	-	-	-	-	-	438	448	-	310	320	-
Stage 2	-	-	-	-	-	-	371	389	-	332	344	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.09	1.11	21.85	23.16
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		329	990	-	-	877	-	217
HCM Lane V/C Ratio		0.355	0.007	-	-	0.088	-	0.086
HCM Ctrl Dly (s/v)		21.9	8.7	-	-	9.5	-	23.2
HCM Lane LOS		C	A	-	-	A	-	C
HCM 95th %tile Q(veh)		1.6	0	-	-	0.3	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	46	17	119	95	17	20	88	75	31	147	4
Future Volume (vph)	4	46	17	119	95	17	20	88	75	31	147	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2667			2917			2661			2645	
Travel Time (s)		72.7			79.6			72.6			72.1	
Confl. Peds. (#/hr)	3					3	1					1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	7%	7%	7%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Intersection Delay, s/veh 10.9
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	46	17	119	95	17	20	88	75	31	147	4
Future Vol, veh/h	4	46	17	119	95	17	20	88	75	31	147	4
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	7	7	7	1	1	1	1	1	1	5	5	5
Mvmt Flow	5	55	20	143	114	20	24	106	90	37	177	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	11.9	10.3	10.9
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	6%	52%	17%
Vol Thru, %	48%	69%	41%	81%
Vol Right, %	41%	25%	7%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	67	231	182
LT Vol	20	4	119	31
Through Vol	88	46	95	147
RT Vol	75	17	17	4
Lane Flow Rate	220	81	278	219
Geometry Grp	1	1	1	1
Degree of Util (X)	0.308	0.123	0.407	0.324
Departure Headway (Hd)	5.026	5.502	5.267	5.324
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	651	685	675
Service Time	3.055	3.538	3.295	3.354
HCM Lane V/C Ratio	0.307	0.124	0.406	0.324
HCM Control Delay, s/veh	10.3	9.3	11.9	10.9
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.3	0.4	2	1.4

LANE LEVEL OF SERVICE

Lane Level of Service

 **Site: [9-PM-WP-WB] Semanski St / Warner Ave** (2030 With Project- PM Peak Hour (With Bollards on Highpoint))

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

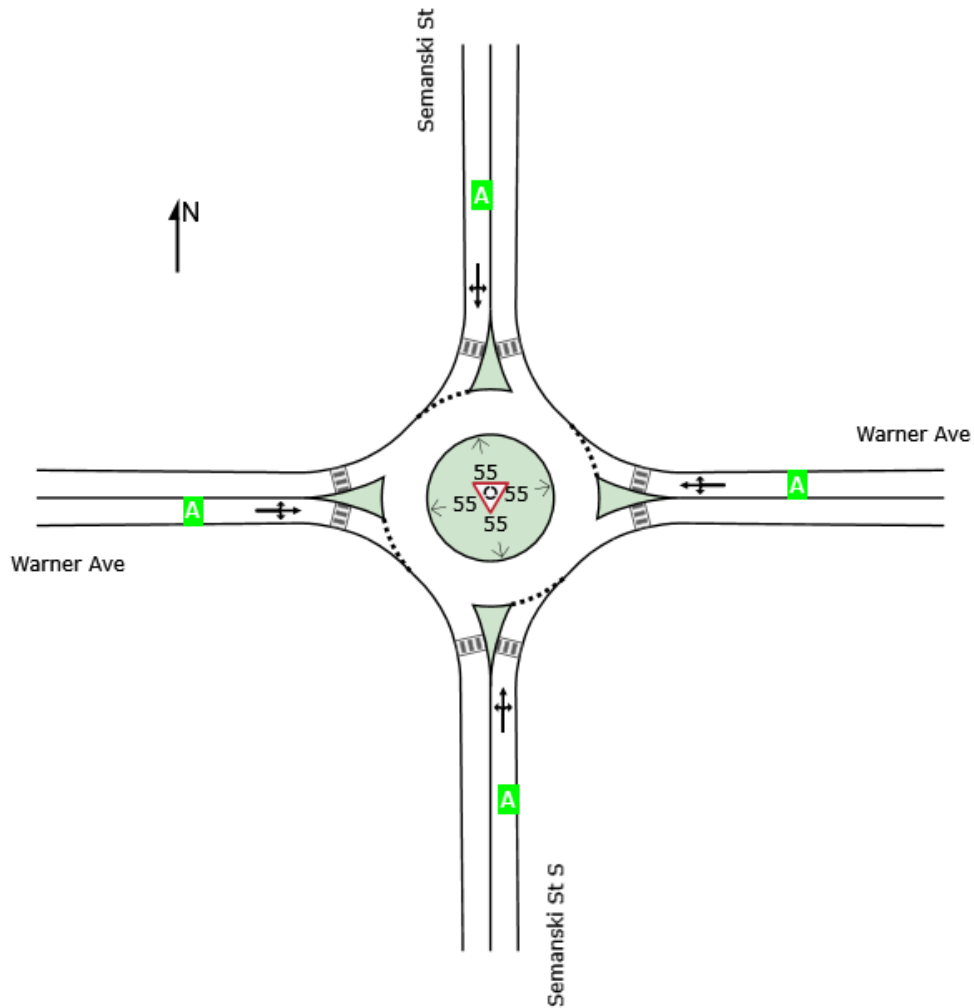
Semanski St S / Warner Ave

Site Category: 2030 With Project - PM Peak Hour (With Bollards on Highpoint)

Roundabout

Site Scenario: 1 | Local Volumes

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Delay Model: HCM Delay Formula (Stoptime Delay: Geometric Delay is not included).

MOVEMENT SUMMARY

 **Site: [9-PM-WP-WB] Semanski St / Warner Ave** (2030 With Project- PM Peak Hour (With Bollards on Highpoint))
 Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Semanski St S / Warner Ave
 Site Category: 2030 With Project - PM Peak Hour (With Bollards on Highpoint)
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				mph
			veh/h		veh/h					veh	ft				
South: Semanski St S															
3	L2	All MCs	39	1.0	39	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.4
8	T1	All MCs	146	1.0	146	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.6
18	R2	All MCs	117	1.0	117	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.5
Approach			302	1.0	302	1.0	0.266	5.6	LOS A	1.4	34.8	0.39	0.21	0.39	21.6
East: Warner Ave															
1	L2	All MCs	31	1.0	31	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	29.9
6	T1	All MCs	218	1.0	218	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.4
16	R2	All MCs	30	1.0	30	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.2
Approach			279	1.0	279	1.0	0.256	5.7	LOS A	1.3	32.5	0.42	0.25	0.42	30.3
North: Semanski St															
7	L2	All MCs	41	3.0	41	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.0
4	T1	All MCs	109	3.0	109	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.5
14	R2	All MCs	111	3.0	111	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.3
Approach			262	3.0	262	3.0	0.265	6.2	LOS A	1.3	32.7	0.48	0.32	0.48	30.3
West: Warner Ave															
5	L2	All MCs	31	0.0	31	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	29.7
2	T1	All MCs	106	0.0	106	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.2
12	R2	All MCs	39	0.0	39	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.0
Approach			176	0.0	176	0.0	0.154	4.5	LOS A	0.7	18.0	0.35	0.20	0.35	30.1
All Vehicles			1020	1.3	1020	1.3	0.266	5.6	LOS A	1.4	34.8	0.42	0.25	0.42	27.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stipline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	7	24	25	12	32	26	469	44	27	609	27
Future Volume (vph)	15	7	24	25	12	32	26	469	44	27	609	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	130		0	140		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		506			534			1319			360	
Travel Time (s)		13.8			14.6			25.7			7.0	
Confl. Peds. (#/hr)			1	1			1		2	2		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	15	7	24	25	12	32	26	469	44	27	609	27
Future Vol, veh/h	15	7	24	25	12	32	26	469	44	27	609	27
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	2	2	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	130	-	-	140	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	2	2	2
Mvmt Flow	16	7	26	27	13	34	28	499	47	29	648	29
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	1281	1324	664	1290	1315	524	678	0	0	548	0	0
Stage 1	721	721	-	580	580	-	-	-	-	-	-	-
Stage 2	561	603	-	710	735	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	144	157	464	140	158	553	919	-	-	1022	-	-
Stage 1	422	435	-	500	500	-	-	-	-	-	-	-
Stage 2	516	491	-	424	425	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	117	148	463	119	148	552	918	-	-	1020	-	-
Mov Cap-2 Maneuver	117	148	-	119	148	-	-	-	-	-	-	-
Stage 1	410	422	-	484	484	-	-	-	-	-	-	-
Stage 2	457	476	-	382	413	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Ctrl Dly, s/v	28.43	33.61			0.44			0.35				
HCM LOS	D	D										
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	918	-	-	202	198	1020	-	-				
HCM Lane V/C Ratio	0.03	-	-	0.242	0.372	0.028	-	-				
HCM Ctrl Dly (s/v)	9	-	-	28.4	33.6	8.6	-	-				
HCM Lane LOS	A	-	-	D	D	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	1.6	0.1	-	-				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	20	10	22	2	4	11	17	536	11	9	590	36
Future Volume (vph)	20	10	22	2	4	11	17	536	11	9	590	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		223			278			1388			1319	
Travel Time (s)		6.1			7.6			37.9			36.0	
Confl. Peds. (#/hr)	3		1	1		3	2		1	1		2
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 (%)	0%	0%	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection														
Int Delay, s/veh	1.6													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Vol, veh/h	20	10	22	2	4	11	17	536	11	9	590	36		
Future Vol, veh/h	20	10	22	2	4	11	17	536	11	9	590	36		
Conflicting Peds, #/hr	3	0	1	1	0	3	2	0	1	1	0	2		
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-		
Grade, %	-	0	-	-	4	-	-	0	-	-	0	-		
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97		
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	2	2	2		
Mvmt Flow	21	10	23	2	4	11	18	553	11	9	608	37		
Major/Minor	Minor2	Minor1		Major1		Major2								
Conflicting Flow All	1240	1247	630	1227	1260	562	647	0	0	565	0	0		
Stage 1	647	647	-	594	594	-	-	-	-	-	-	-		
Stage 2	593	600	-	633	666	-	-	-	-	-	-	-		
Critical Hdwy	7.1	6.5	6.2	7.9	7.3	6.6	4.11	-	-	4.12	-	-		
Critical Hdwy Stg 1	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-		
Critical Hdwy Stg 2	6.1	5.5	-	6.9	6.3	-	-	-	-	-	-	-		
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.209	-	-	2.218	-	-		
Pot Cap-1 Maneuver	153	175	485	119	130	498	943	-	-	1007	-	-		
Stage 1	463	469	-	433	435	-	-	-	-	-	-	-		
Stage 2	496	493	-	409	397	-	-	-	-	-	-	-		
Platoon blocked, %														
Mov Cap-1 Maneuver	138	167	484	102	124	496	941	-	-	1006	-	-		
Mov Cap-2 Maneuver	138	167	-	102	124	-	-	-	-	-	-	-		
Stage 1	455	462	-	421	422	-	-	-	-	-	-	-		
Stage 2	465	479	-	376	391	-	-	-	-	-	-	-		
Approach	EB	WB		NB		SB								
HCM Ctrl Dly, s/v	28.17	21.95		0.27		0.12								
HCM LOS	D	C												
Minor Lane/Major Mvmt	NBL	NBT	NBREBLn	WBLn1	SBL	SBT	SBR							
Capacity (veh/h)	54	-	-	208	230	25	-	-						
HCM Lane V/C Ratio	0.019	-	-	0.257	0.076	0.009	-	-						
HCM Ctrl Dly (s/v)	8.9	0	-	28.2	21.9	8.6	0	-						
HCM Lane LOS	A	A	-	D	C	A	A	-						
HCM 95th %tile Q(veh)	0.1	-	-	1	0.2	0	-	-						

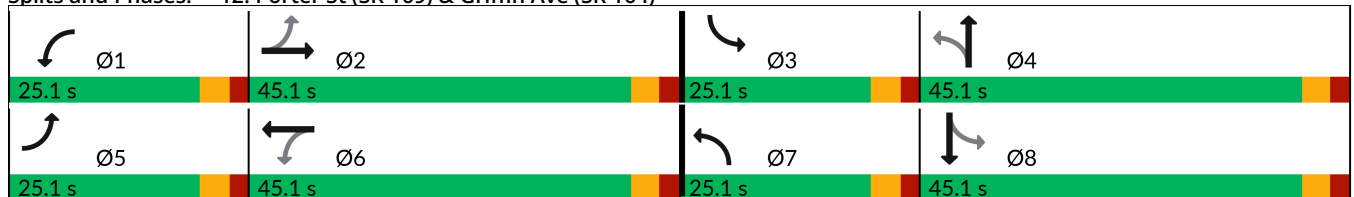


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	411	50	13	339	90	131	224	8	164	200	144
Future Volume (vph)	106	411	50	13	339	90	131	224	8	164	200	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Storage Length (ft)	140		0	125		0	115		0	105		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		791			1620			297			311	
Travel Time (s)		21.6			44.2			8.1			8.5	
Confl. Peds. (#/hr)	1		1	1		1						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	3.0	7.0		3.0	5.0		3.0	7.0		3.0	5.0	
Minimum Split (s)	8.1	28.1		8.1	25.1		8.1	30.1		8.1	26.1	
Total Split (s)	25.1	45.1		25.1	45.1		25.1	45.1		25.1	45.1	
Total Split (%)	17.9%	32.1%		17.9%	32.1%		17.9%	32.1%		17.9%	32.1%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 140.4
 Actuated Cycle Length: 106.6
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Porter St (SR 169) & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 12: Porter St (SR 169) & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	411	50	13	339	90	131	224	8	164	200	144
Future Volume (veh/h)	106	411	50	13	339	90	131	224	8	164	200	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1776	1776	1776	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	115	447	54	14	368	98	142	243	9	178	217	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	277	630	76	238	444	118	310	453	17	422	273	197
Arrive On Green	0.06	0.38	0.38	0.01	0.33	0.33	0.08	0.25	0.25	0.10	0.27	0.27
Sat Flow, veh/h	1795	1650	199	1692	1351	360	1795	1806	67	1795	1017	736
Grp Volume(v), veh/h	115	0	501	14	0	466	142	0	252	178	0	374
Grp Sat Flow(s),veh/h/ln	1795	0	1849	1692	0	1711	1795	0	1873	1795	0	1753
Q Serve(g_s), s	3.2	0.0	18.2	0.4	0.0	19.9	4.5	0.0	9.2	5.7	0.0	15.7
Cycle Q Clear(g_c), s	3.2	0.0	18.2	0.4	0.0	19.9	4.5	0.0	9.2	5.7	0.0	15.7
Prop In Lane	1.00		0.11	1.00		0.21	1.00		0.04	1.00		0.42
Lane Grp Cap(c), veh/h	277	0	706	238	0	562	310	0	470	422	0	470
V/C Ratio(X)	0.42	0.00	0.71	0.06	0.00	0.83	0.46	0.00	0.54	0.42	0.00	0.80
Avail Cap(c_a), veh/h	617	0	934	648	0	864	615	0	946	697	0	885
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	20.7	18.7	0.0	24.5	20.6	0.0	25.7	19.2	0.0	27.0
Incr Delay (d2), s/veh	1.0	0.0	2.2	0.1	0.0	5.3	1.1	0.0	1.4	0.7	0.0	4.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	7.9	0.2	0.0	8.6	1.9	0.0	4.2	2.4	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.1	0.0	22.9	18.8	0.0	29.8	21.7	0.0	27.0	19.9	0.0	31.4
LnGrp LOS	B		C	B		C	C		C	B		C
Approach Vol, veh/h		616			480			394			552	
Approach Delay, s/veh		22.2			29.5			25.1			27.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.9	35.3	13.0	25.0	10.1	31.1	11.6	26.3				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1				
Max Green Setting (Gmax), s	20.0	40.0	20.0	40.0	20.0	40.0	20.0	40.0				
Max Q Clear Time (g_c+I1), s	2.4	20.2	7.7	11.2	5.2	21.9	6.5	17.7				
Green Ext Time (p_c), s	0.0	4.6	0.4	2.3	0.2	4.1	0.3	3.5				
Intersection Summary												
HCM 7th Control Delay, s/veh											25.9	
HCM 7th LOS											C	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	445	71	21	360	76	59	115	34	119	134	19
Future Volume (vph)	26	445	71	21	360	76	59	115	34	119	134	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	180		0	170		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1620			924			248			379	
Travel Time (s)		44.2			25.2			6.8			10.3	
Confl. Peds. (#/hr)	6		2	2		6	3			6	6	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%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.1	24.1		24.1	24.1		26.1	26.1		26.1	26.1	
Total Split (s)	60.1	60.1		60.1	60.1		30.1	30.1		30.1	30.1	
Total Split (%)	66.6%	66.6%		66.6%	66.6%		33.4%	33.4%		33.4%	33.4%	
Yellow Time (s)	3.1	3.1		3.1	3.1		3.1	3.1		3.1	3.1	
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		0.0	0.0	
Total Lost Time (s)	5.1	5.1		5.1	5.1		5.1	5.1		5.1	5.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Min	Min		Min	Min		None	None		None	None	

Intersection Summary

Area Type: Other
 Cycle Length: 90.2
 Actuated Cycle Length: 42.9
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated

Splits and Phases: 13: Garrett St & Griffin Ave (SR 164)



HCM 7th Signalized Intersection Summary
 13: Garrett St & Griffin Ave (SR 164)

06/25/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	445	71	21	360	76	59	115	34	119	134	19
Future Volume (veh/h)	26	445	71	21	360	76	59	115	34	119	134	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	27	468	75	22	379	80	62	121	36	125	141	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	2	2	2	1	1	1	1	1	1
Cap, veh/h	452	730	117	393	689	146	435	374	111	436	433	61
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	937	1584	254	861	1495	316	1230	1393	415	1234	1614	229
Grp Volume(v), veh/h	27	0	543	22	0	459	62	0	157	125	0	161
Grp Sat Flow(s),veh/h/ln	937	0	1838	861	0	1811	1230	0	1808	1234	0	1842
Q Serve(g_s), s	0.8	0.0	8.5	0.8	0.0	6.9	1.6	0.0	2.6	3.4	0.0	2.6
Cycle Q Clear(g_c), s	7.7	0.0	8.5	9.3	0.0	6.9	4.2	0.0	2.6	6.0	0.0	2.6
Prop In Lane	1.00		0.14	1.00		0.17	1.00		0.23	1.00		0.12
Lane Grp Cap(c), veh/h	452	0	847	393	0	835	435	0	485	436	0	494
V/C Ratio(X)	0.06	0.00	0.64	0.06	0.00	0.55	0.14	0.00	0.32	0.29	0.00	0.33
Avail Cap(c_a), veh/h	1388	0	2683	1254	0	2644	921	0	1200	924	0	1223
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	7.8	11.3	0.0	7.3	12.8	0.0	11.0	13.5	0.0	11.1
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.1	0.0	0.8	0.2	0.0	0.5	0.5	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.6	0.1	0.0	2.0	0.4	0.0	0.9	0.9	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.2	0.0	8.9	11.4	0.0	8.1	13.0	0.0	11.6	14.0	0.0	11.6
LnGrp LOS	B		A	B		A	B		B	B		B
Approach Vol, veh/h		570			481			219			286	
Approach Delay, s/veh		9.0			8.3			12.0			12.6	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.5		15.2		22.5		15.2				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		55.0		25.0		55.0		25.0				
Max Q Clear Time (g_c+I1), s		10.5		8.0		11.3		6.2				
Green Ext Time (p_c), s		6.8		1.8		5.5		1.5				
Intersection Summary												
HCM 7th Control Delay, s/veh												9.9
HCM 7th LOS												A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↔	↔	
Traffic Volume (vph)	639	65	21	531	47	17
Future Volume (vph)	639	65	21	531	47	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			0%	0%	
Storage Length (ft)		0	50		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	35			35	25	
Link Distance (ft)	164			390	125	
Travel Time (s)	3.2			7.6	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↔		↔	↔	↔	
Traffic Vol, veh/h	639	65	21	531	47	17
Future Vol, veh/h	639	65	21	531	47	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	-	-	-	0	1	-
Grade, %	4	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	0	0
Mvmt Flow	695	71	23	577	51	18

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	765	0	1353	730
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	623	-
Critical Hdwy	-	-	4.12	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	848	-	167	426
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	848	-	162	426
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	524	-

Approach EB WB NB

HCM Ctrl Dly, s/v	0	0.36	18.91
HCM LOS			C

Minor Lane/Major MvmtNBLn1 EBT EBR WBL WBT

Capacity (veh/h)	328	-	-	848	-
HCM Lane V/C Ratio	0.212	-	-	0.027	-
HCM Ctrl Dly (s/v)	18.9	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑			↑	↑	
Traffic Volume (vph)	10	0	0	10	15	17
Future Volume (vph)	10	0	0	10	15	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	196			371	251	
Travel Time (s)	5.3			10.1	6.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.7

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	1			1	1	
Traffic Vol, veh/h	10	0	0	10	15	17
Future Vol, veh/h	10	0	0	10	15	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	0	11	16	18

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	36	-	35	0	-	0
Stage 1	26	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.4	-	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	-	2.2	-	-	-
Pot Cap-1 Maneuver	981	0	1590	-	-	-
Stage 1	1002	0	-	-	-	-
Stage 2	1017	0	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	981	-	1590	-	-	-
Mov Cap-2 Maneuver	981	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	1017	-	-	-	-	-

Approach EB NB SB

HCM Ctrl Dly, s/v	8.71	0	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBTEBLn1 SBT SBR

Capacity (veh/h)	1590	-	981	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Ctrl Dly (s/v)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	0	0	0	0	15
Future Volume (vph)	10	0	0	0	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	189			128	371	
Travel Time (s)	5.2			3.5	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗		↗
Traffic Vol, veh/h	10	0	0	0	0	15
Future Vol, veh/h	10	0	0	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	0	0	0	0	16

Major/Minor	Minor2	Major1
Conflicting Flow All	0	- - 0
Stage 1	0	- - -
Stage 2	0	- - -
Critical Hdwy	6.4	- - -
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	5.4	- - -
Follow-up Hdwy	3.5	- - -
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	EB	NB
HCM Ctrl Dly, s/v		0
HCM LOS	-	

Minor Lane/Major Mvmt	NBTEBLn1
Capacity (veh/h)	- -
HCM Lane V/C Ratio	- -
HCM Ctrl Dly (s/v)	- -
HCM Lane LOS	- -
HCM 95th %tile Q(veh)	- -

Appendix D

Crash Data

JURISDICTION	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	MILEPOST	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY	# INJ	# FAT	# VEH	# PEDS	# BIKES	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 3)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	
																	FROM	TO	FROM	TO			
City Street	244TH AVE SE	43499	SE 463TH ST		EC95000	10/19/2022	05:53	No Apparent Injury	0	0	2	0	0	0	From same direction - both going straight - both moving - rear-end	Overtaking and Passing	Slowing	South	North	South	North	Did Not Grant RW to Vehicle	Follow Too Closely
City Street	244TH AVE SE	0	SE 468TH ST		E939958	6/29/2019	20:18	No Apparent Injury	0	0	2	0	0	0	From same direction - both going straight - both moving - rear-end	Overtaking and Passing	Going Straight Ahead	South	North	South	North	Under Influence of Alcohol	Exceeding Reas. Safe Speed
City Street	244TH AVE SE	44799	SE 468TH ST		E939958	4/6/2022	09:29	Possible Injury	1	0	3	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	North	West	North	Did Not Grant RW to Vehicle	Follow Too Closely
City Street	244TH AVE SE	0	SE 468TH ST		E913716	4/15/2019	14:43	No Apparent Injury	0	0	2	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	North	South	Vehicle Stopped	Vehicle Stopped	None	None
City Street	244TH AVE SE	0	SE 468TH ST		E908316	4/3/2019	17:42	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Under Influence of Alcohol	Disregard Stop Sign - Flashing Red
City Street	244TH AVE SE	0	SE 468TH ST		E939953	7/10/2019	20:00	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Stop Sign - Flashing Red	None
City Street	244TH AVE SE	44799	SE 468TH ST		E008991	10/11/2023	16:45	Possible Injury	2	0	2	0	0	0	Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	East	West	South	North	Did Not Grant RW to Vehicle	None
City Street	244TH AVE SE	0	SE 468TH ST		E939958	7/28/2019	09:59	Suspected Minor Injury	1	0	1	0	0	1	Pedalcyclist Strikes Moving Vehicle	Making Left Turn		North	East				
City Street	ROOSEVELT AVE	2800	SEMANSKI ST		ED17745	13/20/2022	11:56	Possible Injury	1	0	2	0	0	0	Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	West	East	South	North	None	None
City Street	SE 436TH ST	0	244TH AVE SE		EA25474	3/20/2020	11:48	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Starting in Traffic Lane	Going Straight Ahead	North	South	West	East	None	None
City Street	SE 436TH ST	24400	244TH AVE SE		E834626	5/18/2021	15:00	No Apparent Injury	0	0	2	0	0	0	One parked - one moving	Making Left Turn	Illegally Parked, Unoccupied	East	South	None	None	Other Contributing Circ Not Listed	None
City Street	SE 436TH ST	24400	244TH AVE SE		EA42083	4/29/2022	13:03	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	None	None
City Street	SE 468TH ST	0	244TH AVE SE		E608972	9/1/2020	16:40	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Stopped for Traffic		East	West	South	North	None	Did Not Grant RW to Vehicle
City Street	SE 468TH ST	0	244TH AVE SE		E916799	5/3/2019	18:17	No Apparent Injury	0	0	2	0	0	0	From same direction - all others	Backing	Stopped for Traffic	Vehicle Backing	Vehicle Backing	Vehicle Stopped	Vehicle Stopped	Improper Backing	None
City Street	SE 456TH ST	0	244TH AVE SE		E884463	1/16/2019	14:42	No Apparent Injury	0	0	2	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	West	Vehicle Stopped	Vehicle Stopped	Driver Adjusting Audio or Entertainment	Follow Too Closely
City Street	SE 456TH WY	23972	244TH AVE SE		EC10477	4/27/2022	11:09	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Making Left Turn	Going Straight Ahead	West	North	South	North	Did Not Grant RW to Vehicle	None
City Street	SEMANSKI ST	999	ROOSEVELT AVE		EC72521	8/9/2021	14:37	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	South	North	West	East	Did Not Grant RW to Vehicle	None
City Street	SEMANSKI ST	0	WARNER AVE		E955381	8/24/2019	12:13	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Did Not Grant RW to Vehicle	None
City Street	SEMANSKI ST	0	WARNER AVE		E975045	10/24/2019	16:35	Suspected Minor Injury	1	0	1	0	0	1	Pedalcyclist Strikes Moving Vehicle	Starting in Traffic Lane		South	North	East	West	None	None
City Street	SEMANSKI ST	100	WARNER AVE		EC42081	4/29/2022	07:44	Suspected Minor Injury	1	0	1	0	1	1	Vehicle Strikes Pedalcyclist	Going Straight Ahead		South	North	South	North	Unknown Distraction	None
City Street	SEMANSKI ST	0	WARNER AVE		E951029	8/15/2019	15:20	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Unknown Distraction	None
City Street	SEMANSKI ST	197	WARNER AVE		E084501	9/20/2021	20:30	Possible Injury	1	0	2	0	0	0	Entering at angle	Merging (Entering Traffic)		West	North	South	North	Did Not Grant RW to Vehicle	None
City Street	SEMANSKI ST	5	WARNER AVE		ED040786	3/8/2021	17:25	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Did Not Grant RW to Vehicle	None
City Street	WARNER AVE	0	SEMANSKI ST		E964293	9/25/2019	05:57	No Apparent Injury	0	0	2	0	0	0	Entering at angle	Starting in Traffic Lane	Going Straight Ahead	East	West	North	South	Inattention	None
City Street	WARNER AVE	0	SEMANSKI ST		E893328	2/14/2019	10:02	No Apparent Injury	0	0	2	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	West	West	Vehicle Stopped	Vehicle Stopped	Operating Handheld Cell Phone	None
City Street	WARNER AVE	2799	SEMANSKI ST		EA40668	8/21/2022	13:43	Suspected Minor Injury	1	0	2	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Apparently Altered or Fatigued	None
State Route	164	13.28	EE25581	11/28/2023	15:30	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign	West	East	West	East	Operating Handheld Cell Phone	None
State Route	164	13.28	EA93027	12/22/2020	12:35	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	West	East	West	East	Unknown Distraction	None
State Route	164	13.29	EC15709	1/28/2022	17:40	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Lost in Thought / Day Dreaming	Follow Too Closely
State Route	164	13.30	ED026262	3/16/2023	18:41	Possible Injury	1	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	South	Northwest	North	South	Apparently Altered or Fatigued	None
State Route	164	13.30	E953380	8/23/2019	17:49	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Going Straight Ahead	West	East	West	East	Follow Too Closely	None
State Route	164	13.30	ED06378	9/30/2021	17:35	Possible Injury	1	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	West	East	West	East	Exceeding Reas. Safe Speed	None
State Route	164	13.30	EC22530	2/22/2022	10:31	Possible Injury	1	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	South	West	South	East	Did Not Grant RW to Vehicle	None
State Route	164	13.30	E972711	10/14/2019	07:00	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	South	North	Vehicle Stopped	Vehicle Stopped	Inattention	None
State Route	164	13.30	EE24577	11/28/2021	17:04	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Under Influence of Alcohol	None
State Route	164	13.30	EA40464	6/6/2020	10:03	Possible Injury	1	0	2	0	0	0	0	0	Entering at angle	Going Straight Ahead	Making Left Turn	East	West	North	East	Unknown Distraction	None
State Route	164	13.30	EB31115	5/14/2021	20:40	Possible Injury	1	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	North	East	South	North	Under Influence of Alcohol	None
State Route	164	13.30	EB24865	4/24/2021	13:19	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	Vehicle Stopped	Vehicle Stopped	Follow Too Closely	None
State Route	164	13.30	ED07498	10/1/2023	11:11	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Other Contributing Circ Not Listed	None
State Route	164	13.30	EC83145	9/8/2022	14:35	No Apparent Injury	0	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	West	Vehicle Stopped	Vehicle Stopped	Unknown Distraction	None
State Route	164	13.30	EA40463	6/1/2020	09:20	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Slowing	Stopped at Signal or Stop Sign	East	West	Vehicle Stopped	Vehicle Stopped	Unknown Distraction	None
State Route	164	13.30	EA40450	2/14/2023	10:20	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	Vehicle Stopped	Vehicle Stopped	Follow Too Closely	None
State Route	164	13.30	EA77652	10/3/2020	15:04	No Apparent Injury	0	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	North	South	West	West	Disregard Traffic Sign and Signals	None
State Route	164	13.30	EC06807	6/20/2022	16:46	Possible Injury	1	0	2	0	0	0	0	0	Entering at angle	Going Straight Ahead	Making Left Turn	Southwest	Northwest	South	Northwest	Other Contributing Circ Not Listed	None
State Route	164	13.30	ED05286	4/1/2023	10:30	No Apparent Injury	0	0	2	0	0	0	0	0	From opposite direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Under Influence of Alcohol	None
State Route	164	13.30	EC29467	3/14/2022	17:30	Unknown	0	0	2	0	0	0	0	0	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	North	East	South	North	Did Not Grant RW to Vehicle	None
State Route	164	13.30	E905049	3/15/2019	13:20	Possible Injury	1	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	None	None
State Route	164	13.30	EC83540	4/10/2022	11:45	No Apparent Injury	0	0	2	0	0	0	0	0	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	South	North	Lost in Thought / Day Dreaming	Disregard Traffic Sign and Signals
State Route	164	13.37	E955021	7/7/2022	18:46	No Apparent Injury	0	0	2	0	0	0	0	0	From opposite direction - all others	Going Straight Ahead	Stopped for Traffic	Northwest	Southwest	Vehicle Stopped	Vehicle Stopped	Oversteering /	None
State Route	164	13.40	EE10110	10/9/2021	16:41	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Slowing	Going Straight Ahead	East	West	East	West	None	None
State Route	164	13.50	E970024	10/10/2019	12:14	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	East	West	East	West	Follow Too Closely	None
State Route	164	13.51	EE11207	1/27/2022	14:00	No Apparent Injury	0	0	2	0	0	0	0	0	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	East	West	East	West	Unknown Distraction	None
State Route	164	13.51	EA41247	6/3/2020	14:40	Suspected Minor Injury	2	0	2	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	East	West	Vehicle Stopped	Vehicle Stopped	Follow Too Closely	None
State Route	164	13.53	EC65021	7/9/2022	11:25	Possible Injury	2	0	4	0	0	0	0	0	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped in Roadway	West	East	Vehicle Stopped	Vehicle Stopped	Other Distractions	None
State Route	164	13.56	EC72078	8/5/2022	09:47	No Apparent Injury	0	0	2	0	0	0	0										

Appendix E

Trip Generation Calculations

**Quarterra Enumclaw
Weekday Trip Generation Summary**

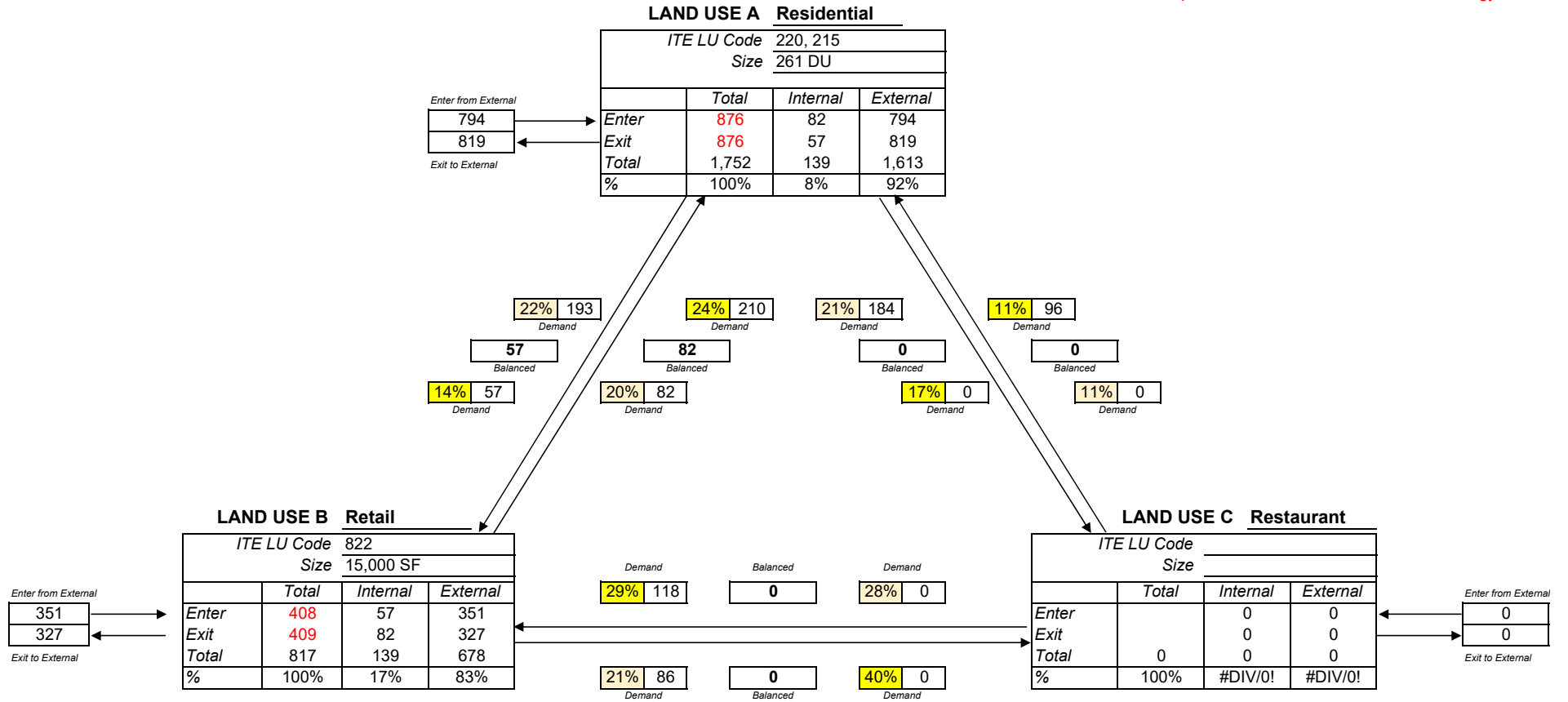
Land Use	Units ¹	ITE LUC ²	Trip Rate or Equation ²	Directional Distribution		Trips Generated		
				In	Out	In	Out	Total
DAILY								
Proposed Use:								
Strip Retail Plaza (<40k)	15,000 GFA	822	54.45	50%	50%	408	409	817
	<i>Internal Trips⁴</i>					-57	-82	-139
	<i>Passby Trips³</i>	40%				-135	-136	-271
						Subtotal (less internal and passby) =		
						216	191	407
Multifamily Housing (Low-Rise) - Not Close to Rail Transit	216 DU	220	T = 6.41(X) + 75.31	50%	50%	730	730	1,460
	<i>Internal Trips⁴</i>					-68	-48	-116
						Subtotal (less internal) =		
						662	683	1,344
Single Family Attached Housing	45 DU	215	T = 7.62(X) - 50.48	50%	50%	146	146	292
	<i>Internal Trips⁴</i>					-14	-10	-23
						Subtotal (less internal) =		
						132	137	269
Existing Use:								
Day Care Center	16 Students	565	4.09	50%	50%	32	33	65
	<i>Passby Trips³</i>	44%				-14	-15	-29
						Subtotal (less passby) =		
						18	18	36
Single Family Detached Housing	2 DU	210	Ln(T) = 0.92 Ln(X) + 2.68	50%	50%	14	14	28
						Subtotal (less internal and passby) =		
						14	14	28
						Subtotal (less internal) =		
						14	14	28
						Subtotal (less internal and passby) =		
						14	14	28
						Subtotal (less internal) =		
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						Subtotal (less internal and passby) =		
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						Subtotal (less internal) =		
						14	14	28
						Subtotal (less internal and passby) =		
						14		

Analyst TENW
 Date 6/28/2024

Multi-Use Development Trip Generation and Internal Capture Summary - Daily

Project Name Quarterra Enumclaw
 Time Period Weekday Daily

Assumed Average of AM and PM internal capture rates from NCHRP 8-51 Methodology



NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Quarterra Enumclaw			Organization:	TENW
Project Location:				Performed By:	CIT
Scenario Description:				Date:	6/13/2024
Analysis Year:	2024			Checked By:	
Analysis Period:	AM Street Peak Hour			Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	15,000	GFA	35	21	14
Restaurant				0		
Cinema/Entertainment				0		
Residential	220, 215	261	DU	108	26	82
Hotel				0		
All Other Land Uses ²				0		
Total				143	47	96

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	143	47	96
Internal Capture Percentage	3%	4%	2%
External Vehicle-Trips ³	139	45	94
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	5%	7%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	4%	1%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Quarterra Enumclaw
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	21	21	1.00	14	14
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	26	26	1.00	82	82
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	4		2	0	2	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	1	16	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	2		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	0	0		0
Hotel	0	1	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	1	20	21	20	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	25	26	25	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	1	13	14	13	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	81	82	81	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool					
Project Name:	Quarterra Enumclaw			Organization:	TENW
Project Location:				Performed By:	CIT
Scenario Description:				Date:	6/13/2024
Analysis Year:	2024			Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	15,000	GFA	104	52	52
Restaurant				0		
Cinema/Entertainment				0		
Residential	220, 215	261	DU	136	85	51
Hotel				0		
All Other Land Uses ²				0		
Total				240	137	103

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	14	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	5	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	240	137	103
Internal Capture Percentage	16%	14%	18%
External Vehicle-Trips ³	202	118	84
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	10%	27%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	16%	10%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Quarterra Enumclaw
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	52	52	1.00	52	52
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	85	85	1.00	51	51
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		15	2	14	3
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	21	11	0		2
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	0	0	3	0
Retail	0		0	0	39	0
Restaurant	0	26		0	14	0
Cinema/Entertainment	0	2	0		3	0
Residential	0	5	0	0		0
Hotel	0	1	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	5	47	52	47	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	14	71	85	71	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	14	38	52	38	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	5	46	51	46	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
²Person-Trips
³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

Appendix F

Sight Distance Triangles

