

# Transportation Impact Analysis

## HERZL-NER TAMID JEWISH DAY SCHOOL

May 2024

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# Introduction

The purpose of this transportation impact analysis (TIA) is to identify potential traffic-related impacts associated with the proposed private school development on the Herzl (HNT) property in Mercer Island, Washington. As necessary, mitigation measures are identified that would offset or reduce significant impacts.

## Project Description

The proposed project location is at 3700 E Mercer Way, located east of E Mercer Way near the I-90 ramps on Mercer Island as shown in Figure 1. The proposed project includes a private school with approximately 34,618 gross square and 12,300 gross square feet of general office. The private school will enroll up to 150 students in the PK-8 grade levels. The private school space would be occupied by the Jewish Day School (JDS), which is currently located in Bellevue and intends to move to the proposed site. Vehicular access to the project site would be provided along the northern site limits where a driveway would be provided onto Frontage Road, as illustrated in Figure 1. A preliminary site plan is shown in Figure 2. The school is projected to be open in 2026.

## Study Area

The analysis focuses on the school AM and PM peak hours (7:00 to 9:00 a.m. and 3:00 to 4:00 p.m., respectively) as well as the weekday PM peak period (4:00 to 6:00 p.m.) operations at six intersections. These periods represent the highest cumulative total traffic for the adjacent street system as well as the highest time periods for the school providing a conservative timeframe for level of service (LOS) analysis. The study intersections include (see also Figure 1):

1. E Mercer Way/SE 40th Street
2. E Mercer Way/Frontage Road
3. E Mercer Way/SE 36th Street/I-90 EB On Ramp
4. E Mercer Way/I-90 EB Off Ramp
5. E Mercer Way/I-90 WB Ramps

In addition to the above study intersections, the proposed site access along Frontage Road was analyzed for purposes of future trip generation calculations.





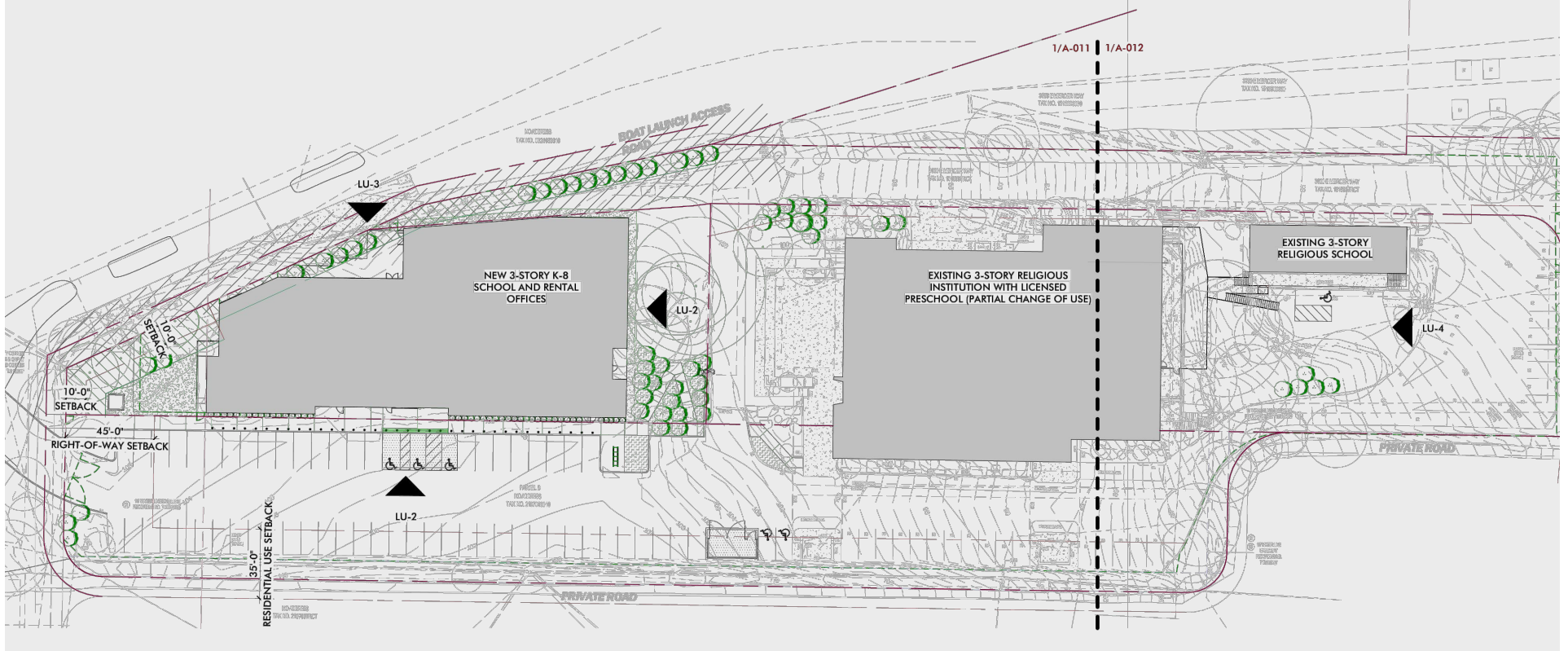
# Site Vicinity and Study Intersections

Herzl Private School

FIGURE

1





# Site Plan

Herzl Private School

FIGURE

2



## Existing Conditions

This section describes existing condition within the identified study area. Characteristics are provided for the roadway network, non-motorized facilities, transit service, existing traffic volumes, traffic operations, and traffic safety.

### Roadway Network

The project site is located in northeast Mercer Island, and is bounded by E Mercer Way to the west, Frontage Road to the north, and SE 40th Street to the south. The major roadways within the study area include:

**SE 36th Street** is a two-lane roadway classified as a secondary arterial. This roadway provides east-west access with sidewalks located on the south side and a center two-way left-turn lane. SE 36th Street serves as a connection to eastbound and westbound Interstate 90 (I-90) with freeway access at the N Mercer Way and E Mercer Way intersections. The posted speed limit is 30 miles per hour (mph) in the vicinity of the project.

**E Mercer Way** is a two-lane roadway classified as a collector arterial with sidewalks. This roadway provides north-south access and a connection to I-90 with a freeway connection at the SE 36th Street intersection. The posted speed limit is 30 mph in the vicinity of the project.

**SE 40th Street** is an east-west residential roadway located south of the project site area. The road provides one lane in each direction and no sidewalks. The posted speed limit is 25 mph in the vicinity of the project.

**Frontage Road** is an east-west city facility roadway located north of the project site area. The road provides one lane in each direction and no sidewalks. Access to the project site is provided via a driveway along the south side of Frontage Road.

### Non-Motorized Facilities

Sidewalks are provided along SE 36th Street and E Mercer Way with crosswalks located at major intersections allowing safe pedestrian mobility throughout the area. Signalized crossings are provided at the SE 36th Street/E Mercer Way intersection, as well as the E Mercer Way/I-90 WB ramps intersection. Unsignalized crossings are located along E Mercer Way at the north and south legs of the Jewish Community Center Access Road intersection. Additional pedestrian circulation near the site is discussed below.

No marked bicycle facilities are provided along roadways in the project vicinity, but E Mercer Way and SE 36th Street are considered bicycle-friendly roadways.

### Transit Service

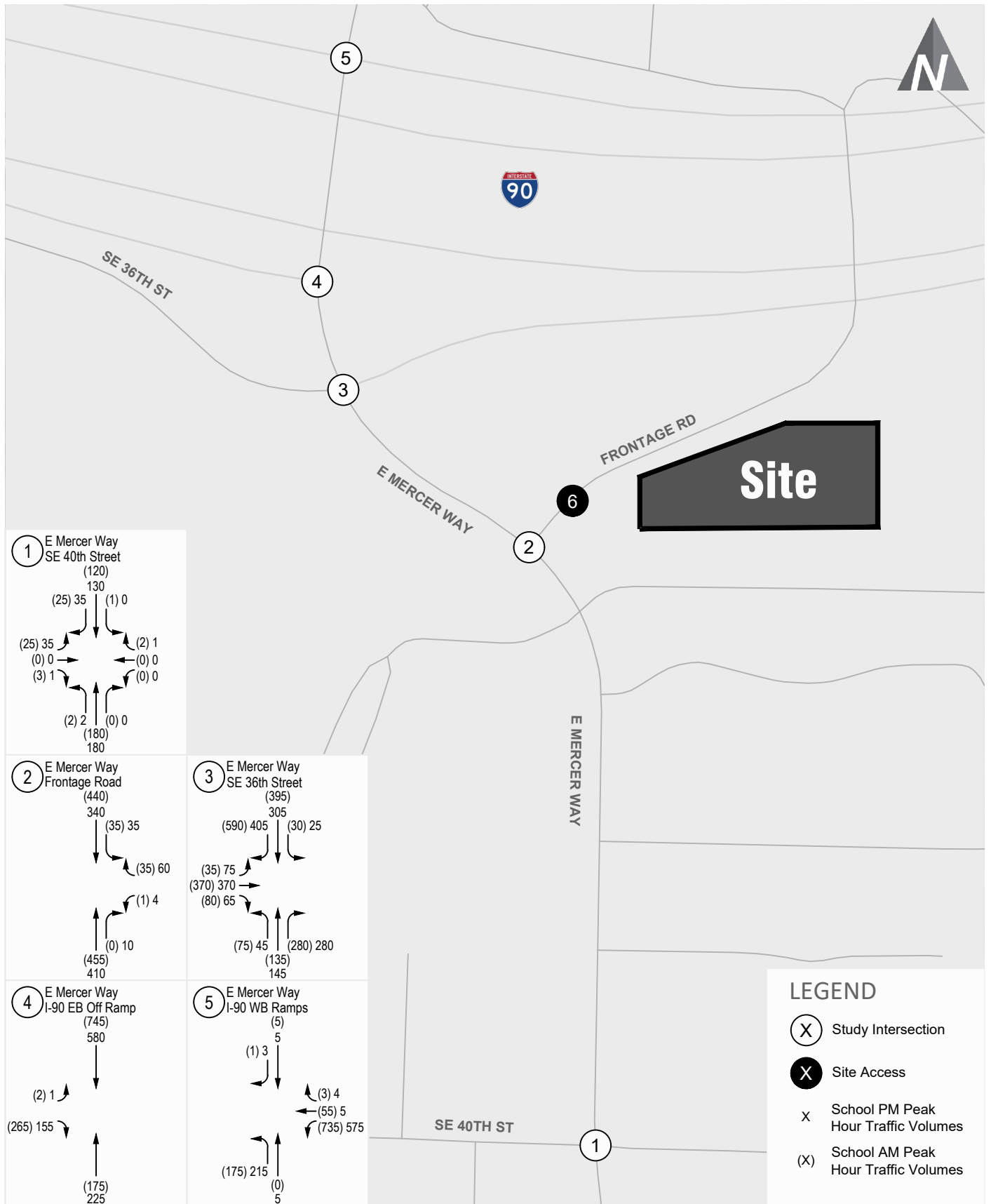
No public transit routes utilize study area roadways, including E Mercer Way, SE 36th Street, and SE 40th Street. The nearest transit stop to the project site is located at the N Mercer Way/Fortuna Drive intersection approximately 0.6 miles northwest of the project site which is served by King County Metro Route 204 Dial-a-Ride Transit (DART) service providing service between North Mercer Island and the Mercer Village Shopping Center. DART service offers both fixed and variable routing on N Mercer Way between the hours of 9 am and 3 pm on weekdays, and 9 am to 7 pm on Saturdays.

The East Link is a planned Sound Transit Link Light Rail extension that would provide service from Downtown Seattle to Mercer Island to Redmond. The segment of the East Link between Bellevue and Redmond is expected to open in April 2024, with the remainder of the link extension, including the segment running through Mercer Island, being scheduled to open in 2025.

Although limited public service is available under existing conditions, the JDS does provide bus service for families of the school. During the 2023-2024 school year, the JDS provided four buses, with a total of 25 students using the bus.

## **Existing Volumes**

Traffic counts were collected at each study intersection including the site access in March 2024 for the school AM and PM peaks and the weekday PM peak hours and are summarized in Figure 3 and Figure 4, respectively. These counts included both traffic and pedestrian volumes. Detailed intersection traffic and pedestrian counts are provided in Appendix A.

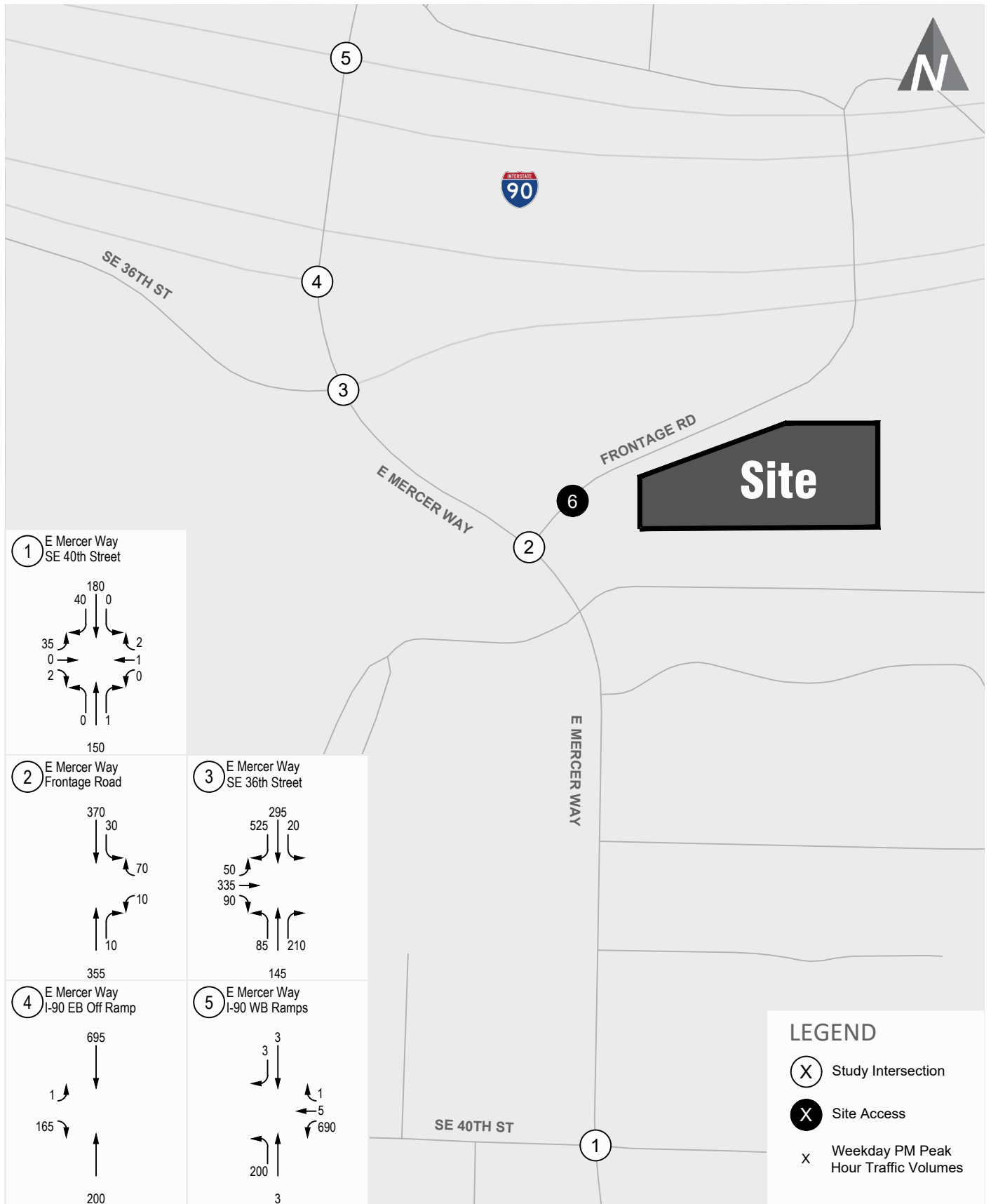


# Existing (2024) School Peak Hour Traffic Volumes

Herzl Private School

FIGURE

3



# Existing (2024) PM Peak Hour Traffic Volumes

Herzl Private School

FIGURE

## Existing Traffic Operations

The operational characteristics of an intersection are determined by calculating the intersection’s level of service (LOS). The intersection as a whole and its individual turning movements can be described alphabetically with a range of levels of service (A through F), with LOS A indicating free-flow traffic and LOS F indicating extreme congestion and long vehicle delays. LOS is measured in average control delay per vehicle and is typically reported for the intersection as a whole at signalized intersections and for the approach or turning movement that experiences the most delay at two-way stop-controlled intersections. Control delay is defined as the combination of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Appendix B provides a more detailed explanation of intersection LOS criteria.

Existing levels of service and delays were calculated using the *Highway Capacity Manual (HCM) 7th Edition* methodology. *Synchro* (version 12) was used for these calculations. For the operations analysis of existing conditions at the signalized study intersections, signal timing and phasing information was obtained from the Washington State Department of Transportation (WSDOT) and input into *Synchro*. Existing peak hour factors and heavy vehicle percentages were used for the operations analysis. The City of Mercer Island has adopted a standard of LOS D or better for City intersections.

Table 1 shows the school AM and PM peak hour and weekday PM peak hour existing traffic operations. Detailed intersection LOS worksheets are contained in Appendix C.

**Table 1. Existing Weekday AM and PM Peak Hour Intersection Operations**

| Intersection  | School AM Peak Hour |                    |                 | School PM Peak Hour |       |    | Weekday PM Peak Hour |       |    |
|---|---------------------|--------------------|-----------------|---------------------|-------|----|----------------------|-------|----|
|   | LOS <sup>1</sup>    | Delay <sup>2</sup> | WM <sup>3</sup> | LOS                 | Delay | WM | LOS                  | Delay | WM |
| 1. E Mercer Way/SE 40th Street                              | B                   | 11                 | EB              | B                   | 12    | EB | B                    | 12    | EB |
| 2. E Mercer Way/Frontage Rd                                 | B                   | 13                 | WB              | B                   | 12    | WB | B                    | 13    | WB |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | B                   | 20                 | -               | C                   | 21    | -  | B                    | 19    | -  |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | B                   | 11                 | -               | A                   | 8     | -  | A                    | 8     | -  |
| 5. E Mercer Way/I-90 WB Ramps                               | B                   | 16                 | -               | B                   | 13    | -  | B                    | 13    | -  |

1. Level of Service (A – F) as defined by the Highway Capacity Manual (TRB, 7th Edition).
2. Average delay per vehicle in seconds.
3. Worst movement (WM) reported for stop controlled intersections. EB = eastbound approach; and WB = westbound approach.
4. Traffic operations ran in HCM 2000 due to clustered intersection

As shown in Table 1, all study intersections currently operate at LOS D or better during the peak periods, meeting the City of Mercer Island’s LOS D standard.

## Traffic Safety

Washington State Department of Transportation (WSDOT) provided the collision data for the most recent three-year period for intersections and roadway segments within the City of Mercer Island. Specifically, the data was summarized between January 1, 2020 and December 31, 2022. Table 2 provides a summary of collision history within the study area.

**Table 2. Three-Year Collision Summary (2020-2022)**

| Location                                   | Number of Collisions |      |      | Total | Annual Average | Collisions per MEV <sup>1</sup> |
|--|----------------------|------|------|-------|----------------|---------------------------------|
|  | 2020                 | 2021 | 2022 |       |                |                                 |
| 1. E Mercer Way/SE 40th St                 | 0                    | 1    | 0    | 1     | 0.33           | 0.22                            |
| 2. E Mercer Way/Frontage Rd                | 0                    | 0    | 1    | 1     | 0.33           | 0.11                            |
| 3. E Mercer Way/SE 36th St/I-90 EB On Ramp | 1                    | 0    | 1    | 2     | 0.67           | 0.10                            |
| 4. E Mercer Way/I-90 EB Off Ramp           | 0                    | 0    | 0    | 0     | 0              | 0.00                            |
| 5. E Mercer Way/I-90 WB Ramps              | 0                    | 2    | 0    | 2     | 0.67           | 0.20                            |

Source: WSDOT, 2023

*Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.*

1. Million Entering Vehicles

Within the analysis time period, the highest number of collisions occurred at the E Mercer Way/SE 36th Street/I-90 EB On-Ramp intersection and the E Mercer Way/I-90 WB Ramps intersection, with an average of less than one collision per year. Of the 6 collisions that occurred in the study area, 4 resulted in property damage only, and 2 resulted in some form of injury. Both injuries occurred at the E Mercer Way/SE 36th Street/I-90 EB On Ramp intersection, with one collision being an approach turn collision and one collision involving a cyclist. Both collisions resulted in only minor injuries, and do not represent enough of a pattern to establish a safety concern at the intersection.

By incorporating the traffic volume at the intersection, the rate of collisions per million entering vehicles (MEV) allows a uniform standard for evaluating accident history. Generally, a collision rate at intersections greater than 1.0 collisions per MEV is considered higher than normal. Based on this threshold, there were no safety issues identified at the study intersections.



## **Future Without-Project Conditions**

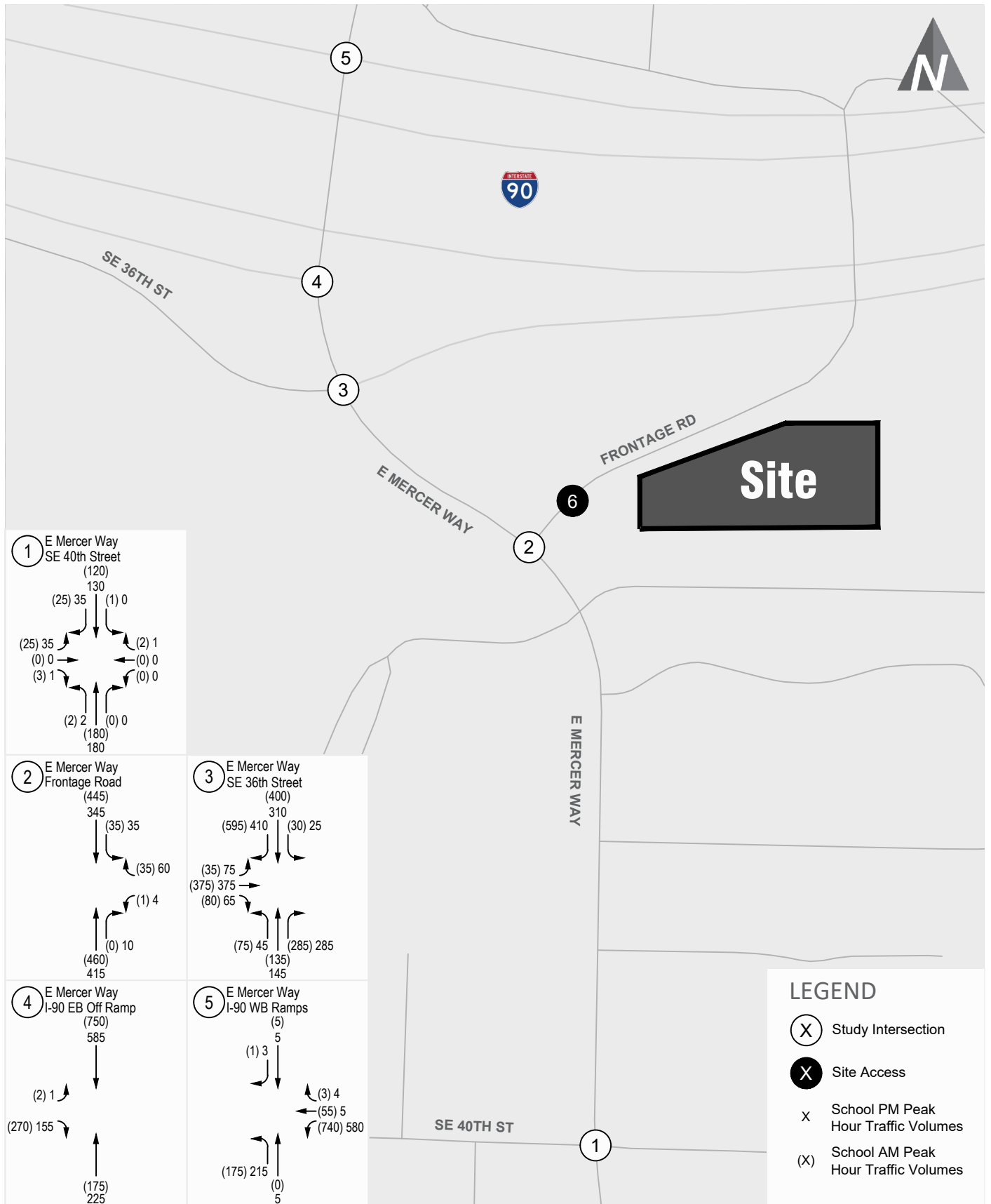
This section describes the future (2026) traffic conditions during school AM and PM peaks and the weekday PM peak hours without the addition of project traffic. The following describes planned transportation improvements, traffic volume forecasts, and traffic operations.

### **Planned Transportation Improvements**

Based on a review of the City of Mercer Island's 2024-2029 Six-Year Transportation Improvement Program (TIP), there are no planned improvements in the study area that are anticipated to change intersection or roadway capacities by altering intersection traffic control or geometrics. Repaving of sections of SE 36th Street and East Mercer Way within the study area are anticipated to take place in 2025 and 2027, respectively. Neither of these projects are expected to change the existing roadway conditions within the study area.

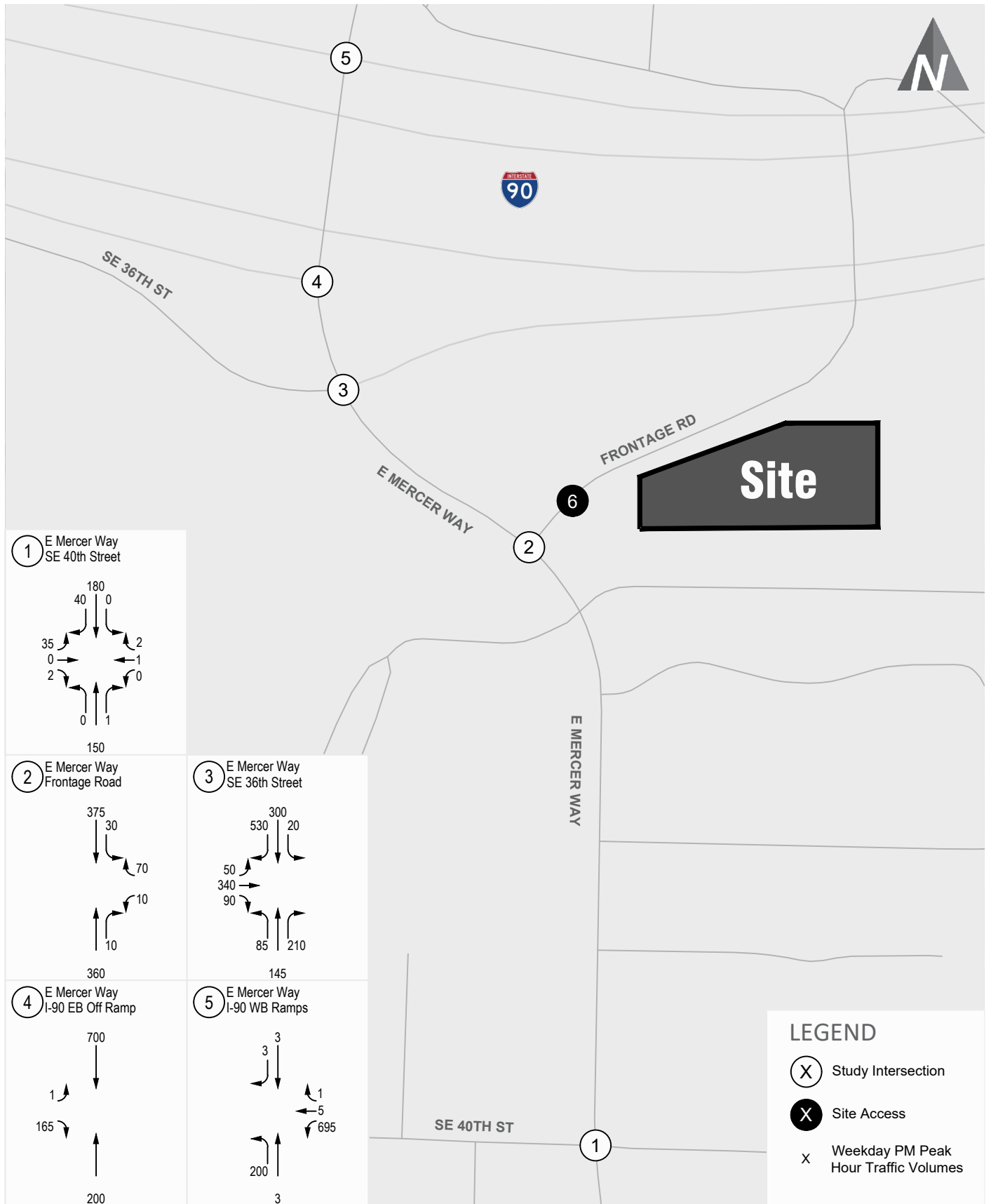
### **Future Traffic Volume Forecasts**

Future (2026) without-project traffic volumes were forecasted using an annual background growth rate of 0.5 percent. These volumes were forecasted using the information from the City of Mercer Island's background growth rate for areas outside the Town Center boundary, as defined by the City of Mercer Island Comprehensive Plan. Future (2026) without-project traffic volumes are shown in Figure 5 and Figure 6 for the School AM and PM peak hours and the weekday PM peak hour, respectively.



Future (2026) Without-Project School Peak Hour Traffic Volumes **FIGURE**

Herzl Private School



Future (2026) Without-Project PM Peak Hour Traffic Volumes **FIGURE**

Herzl Private School

## Future Traffic Operations

Future intersection operations were evaluated for the future (2026) without-project conditions. Intersection LOS was calculated at the study intersections using the LOS method described previously. Table 3 summarizes 2026 school AM and PM peaks and the weekday PM peak hours LOS. The detailed LOS worksheets are included in Appendix C.

**Table 3. Future Without-Project Peak Hour Intersection Operations**

| Intersection  | Existing (2024)  |                    |                 | Future (2026) Without-Project |       |    |
|---|------------------|--------------------|-----------------|-------------------------------|-------|----|
|   | LOS <sup>1</sup> | Delay <sup>2</sup> | WM <sup>3</sup> | LOS                           | Delay | WM |
| <b>School AM Peak Hour</b>                                  |                  |                    |                 |                               |       |    |
| 1. E Mercer Way/SE 40th Street                              | B                | 11                 | EB              | B                             | 11    | EB |
| 2. E Mercer Way/Frontage Rd                                 | B                | 13                 | WB              | B                             | 12    | WB |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | B                | 20                 | -               | C                             | 20    | -  |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | B                | 11                 | -               | B                             | 11    | -  |
| 5. E Mercer Way/I-90 WB Ramps                               | B                | 16                 | -               | B                             | 16    | -  |
| <b>School PM Peak Hour</b>                                  |                  |                    |                 |                               |       |    |
| 1. E Mercer Way/SE 40th Street                              | B                | 12                 | EB              | B                             | 12    | EB |
| 2. E Mercer Way/Frontage Rd                                 | B                | 12                 | WB              | B                             | 12    | WB |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | C                | 21                 | -               | C                             | 21    | -  |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | A                | 8                  | -               | A                             | 8     | -  |
| 5. E Mercer Way/I-90 WB Ramps                               | B                | 13                 | -               | B                             | 13    | -  |
| <b>Weekday PM Peak Hour</b>                                 |                  |                    |                 |                               |       |    |
| 1. E Mercer Way/SE 40th Street                              | B                | 12                 | EB              | B                             | 12    | EB |
| 2. E Mercer Way/Frontage Rd                                 | B                | 13                 | WB              | B                             | 13    | WB |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | B                | 19                 | -               | B                             | 19    | -  |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | A                | 8                  | -               | A                             | 8     | -  |
| 5. E Mercer Way/I-90 WB Ramps                               | B                | 13                 | -               | B                             | 13    | -  |

1. Level of Service (A – F) as defined by the Highway Capacity Manual (TRB, 7th Edition).

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for side-street stop controlled intersections. EB = eastbound approach; and WB = westbound approach.

4. Traffic operations ran in HCM 2000 due to clustered intersection

As shown in Table 3, all study intersections currently operate at LOS C or better during the peak periods, meeting the City of Mercer Island's LOS D standard with 1 second or less additional delay being added in without-project conditions relative to existing conditions.

## Project Impacts

This section of the analysis documents project-generated impacts on the surrounding roadway network and at the study intersections. First, peak hour traffic volumes are estimated, distributed, and assigned to adjacent roadways and intersection within the study area. Next, 2026 volumes are projected and potential impact to traffic volumes, traffic operations and non-motorized facilities are identified.

### Trip Generation

Project trip generation estimates were developed for the project based on information contained in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021). Trip Generation is a nationally recognized and locally accepted method for determining trip generation for private and public developments. Trips were calculated using the Private School (K-8) (LU #530) and General Office (ITE LU #710) land uses. The following paragraphs summarize the preliminary trip generation estimate for the remaining proposed uses.

Table 4 summarizes the project’s estimated trip generation for weekday AM peak hour, PM peak hour, and school peak hour time periods. School peak hour trip generation is based on the PM peak hour of generator for the private school land use. Detailed trip generation calculation worksheets are provided in Appendix D.

**Table 4. Estimated Trip Generation**

| Land Use                 | Size         | School AM Peak Hour |           |            | School PM Peak Hour |           |            | Weekday PM Peak Hour |           |           |
|--------------------------|--------------|---------------------|-----------|------------|---------------------|-----------|------------|----------------------|-----------|-----------|
|                          |              | In                  | Out       | Total      | In                  | Out       | Total      | In                   | Out       | Total     |
| <b>Proposed Uses</b>     |              |                     |           |            |                     |           |            |                      |           |           |
| Private School (LU #530) | 150 students | 71                  | 55        | 126        | 44                  | 50        | 94         | 18                   | 21        | 39        |
| General Office (LU #710) | 12,300 sf    | 25                  | 3         | 28         | 7                   | 8         | 15         | 5                    | 24        | 29        |
| <b>Total</b>             |              | <b>96</b>           | <b>58</b> | <b>154</b> | <b>51</b>           | <b>58</b> | <b>109</b> | <b>23</b>            | <b>45</b> | <b>68</b> |

### Trip Distribution and Assignment

Vehicular trip distribution for the private school land use is based on information provided by the JDS regarding the ZIP code locations where students currently attending the school lived. It is assumed that the trip distribution of the proposed private school will match the current trip distribution at JDS. A separate primary vehicular trip distribution was determined for office trips consistent with Mercer Island General Traffic Impact Analysis Requirements. Vehicular trip distribution for the office land use is based on the U.S. Census Bureau’s *OnTheMap* tool. *OnTheMap* is a web-based mapping and reporting application, which shows where workers are employed and where they live based on census data. The school and office trip distributions are provided in Attachment B. Table 5 summarizes the general primary trip distribution patterns assumed by land use.

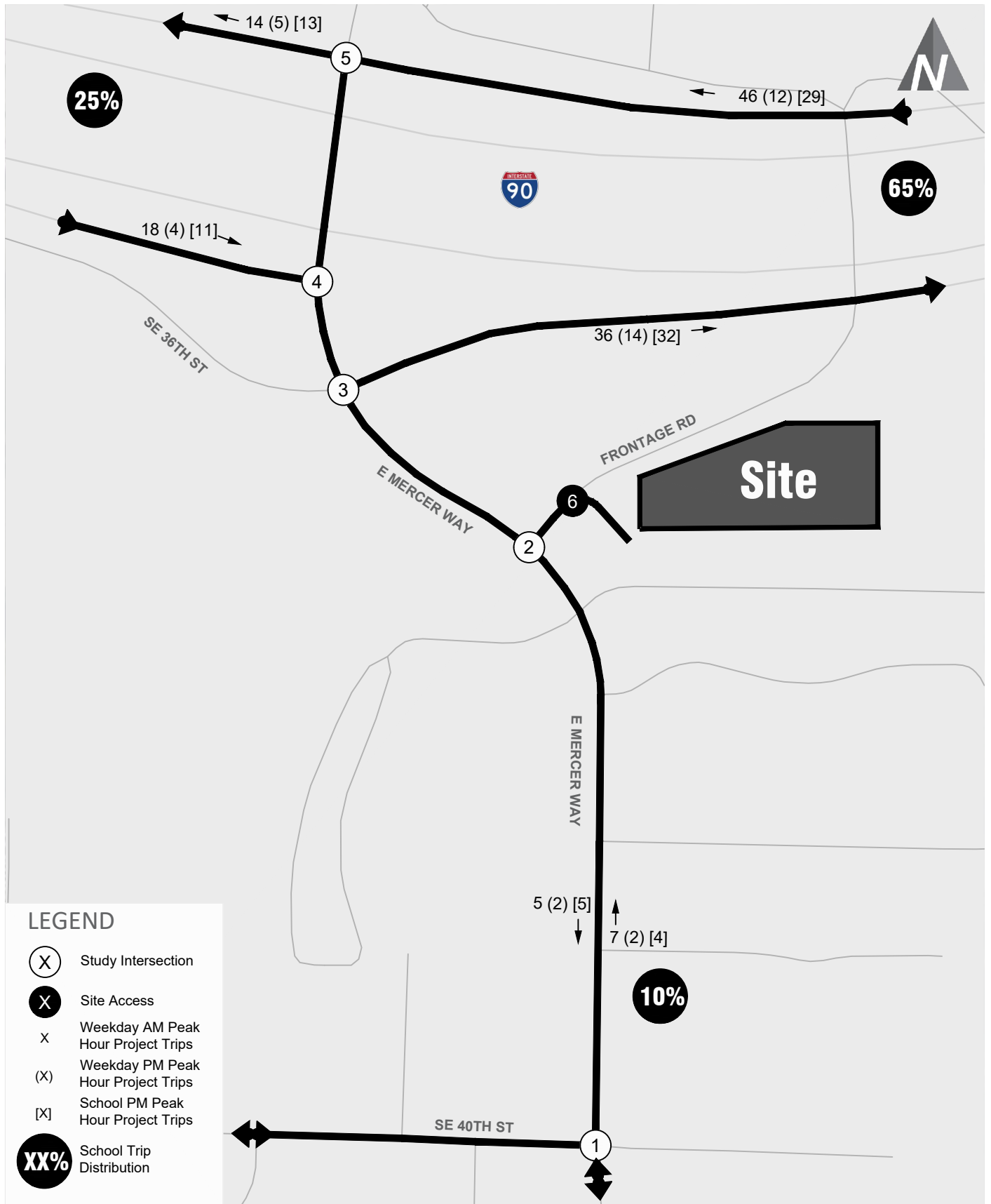
**Table 5. Weekday AM & PM Peak Hour Trip Distribution by Land Use**

| <b>Location</b>       | <b>School Trips</b> | <b>Office Trips</b> |
|-----------------------|---------------------|---------------------|
| East of Mercer Island | 65%                 | 45%                 |
| West of Mercer Island | 25%                 | 40%                 |
| Within Mercer Island  | 10%                 | 15%                 |

Primary project trips for each site use were assigned to the study intersections based on these general travel patterns. The resulting distribution and assignment for the school and office land uses are shown in Figure 7 and Figure 8, respectively. The combined trip assignment for the two land uses is shown in Figure 9.

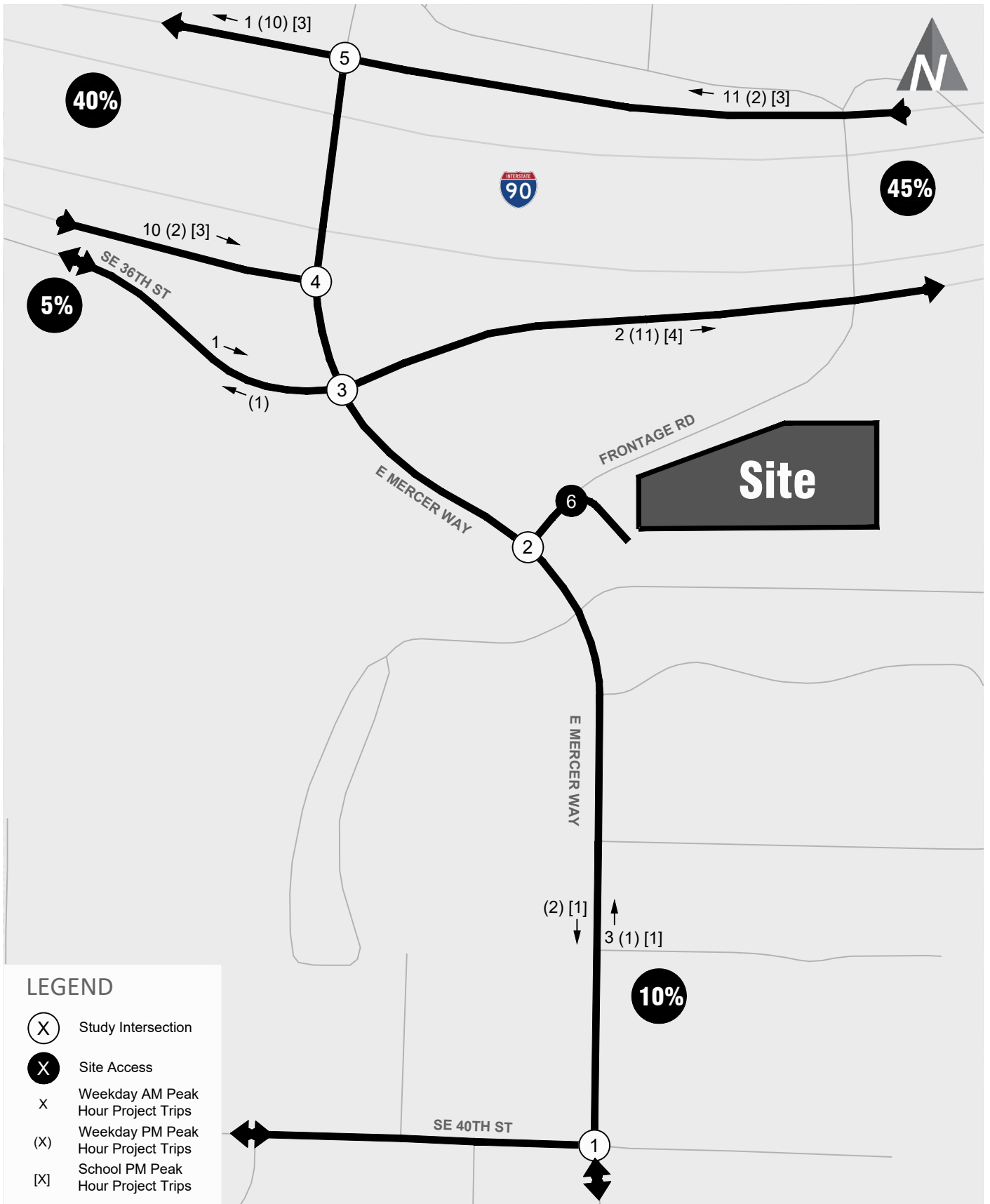
## **Future With-Project Traffic Volumes**

The project traffic volumes were added to the future baseline 2026 traffic volumes to form the basis of the with-project analysis. Figure 10 and Figure 11 show the school AM and PM peak and the weekday PM peak hour traffic volumes at the study intersections.



# School Trip Distribution and Assignment

Herzl Private School



# Office Trip Distribution and Assignment

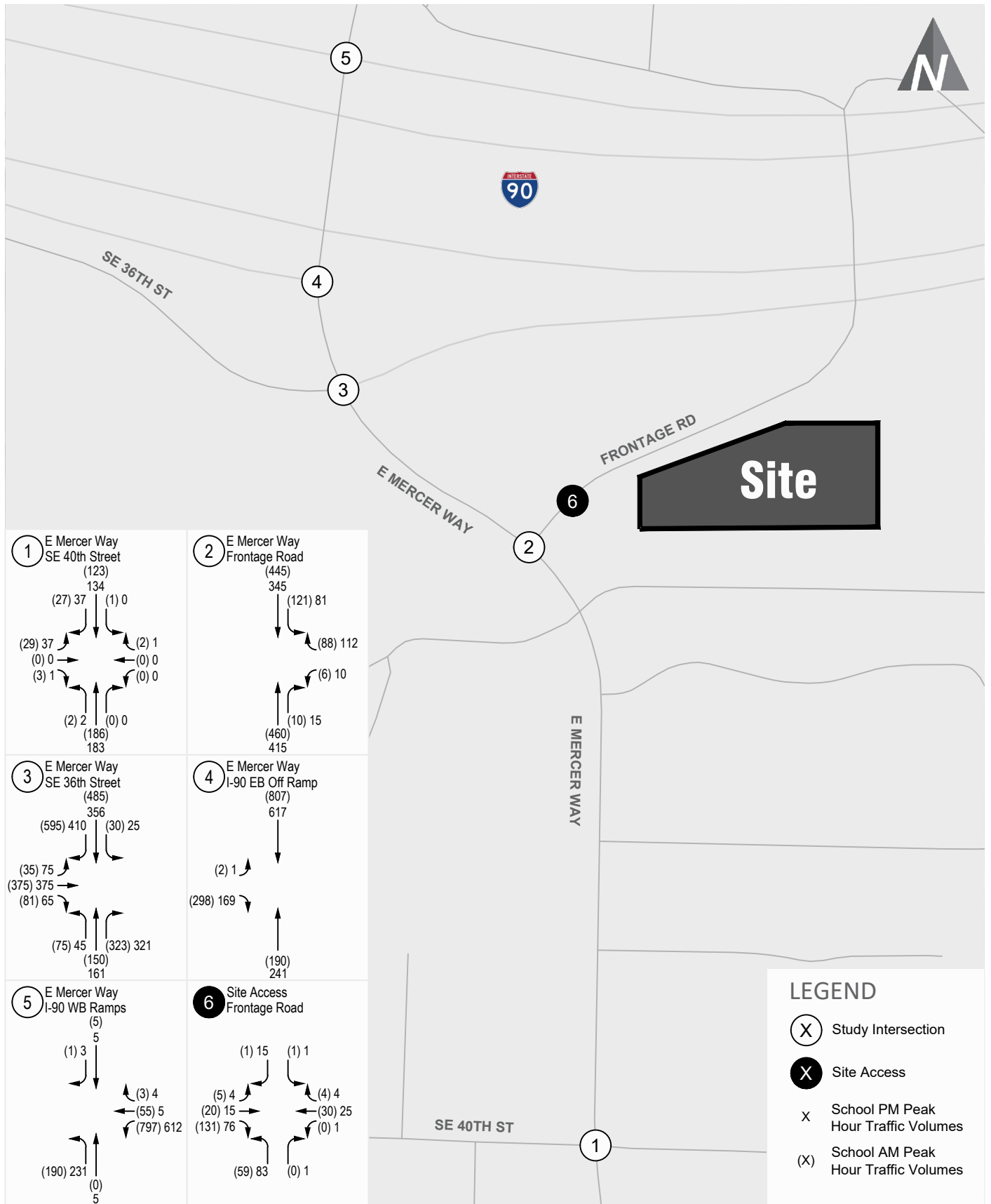
Herzl Private School





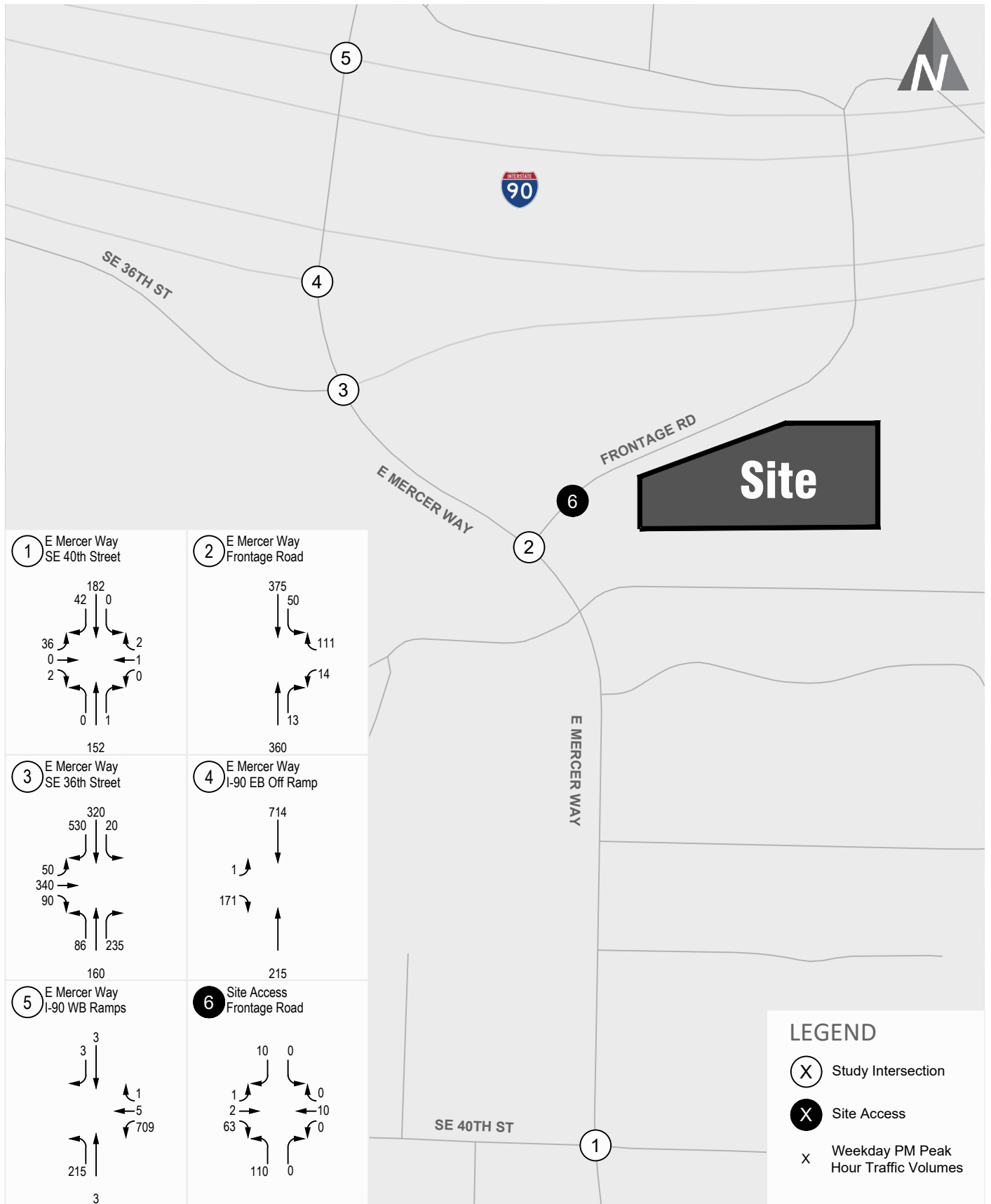
# Total Trip Distribution and Assignment

Herzl Private School



Future (2026) With-Project School Peak Hour Traffic Volumes **FIGURE**

Herzl Private School



Future (2026) With-Project PM Peak Hour Traffic Volumes **FIGURE**

Herzl Private School

## Future With-Project Traffic Operations

Intersection operations analysis was conducted in the study area to evaluate the future 2026 conditions with the development of the project. Intersection LOS were calculated at the study intersections using the LOS methodology described previously.

Table 6 provides a comparison between the 2026 with and without project conditions. The detailed LOS worksheets are included in Appendix C.

**Table 6. Future Without-Project and With-Project Peak Hour LOS Summary**

| Intersection  | 2026 Without-Project |                    |                 | 2026 With-Project |       |     |
|---|----------------------|--------------------|-----------------|-------------------|-------|-----|
|   | LOS <sup>1</sup>     | Delay <sup>2</sup> | WM <sup>3</sup> | LOS               | Delay | WM  |
| <b>School AM Peak Hour</b>                                  |                      |                    |                 |                   |       |     |
| 1. E Mercer Way/SE 40th Street                              | B                    | 11                 | EB              | B                 | 11    | EB  |
| 2. E Mercer Way/Frontage Rd                                 | B                    | 12                 | WB              | C                 | 16    | WB  |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | C                    | 20                 | -               | C                 | 22    | -   |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | B                    | 11                 | -               | B                 | 13    | -   |
| 5. E Mercer Way/I-90 WB Ramps                               | B                    | 16                 | -               | C                 | 20    | -   |
| 6. Site Access/Frontage Road                                | -                    | -                  | -               | A                 | 10    | NBL |
| <b>School PM Peak Hour</b>                                  |                      |                    |                 |                   |       |     |
| 1. E Mercer Way/SE 40th Street                              | B                    | 12                 | EB              | B                 | 12    | EB  |
| 2. E Mercer Way/Frontage Rd                                 | B                    | 12                 | WB              | B                 | 14    | WB  |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | C                    | 21                 | -               | C                 | 22    | -   |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | A                    | 8                  | -               | A                 | 8     | -   |
| 5. E Mercer Way/I-90 WB Ramps                               | B                    | 13                 | -               | B                 | 14    | -   |
| 6. Site Access/Frontage Road                                | -                    | -                  | -               | A                 | 9     | NBL |
| <b>Weekday PM Peak Hour</b>                                 |                      |                    |                 |                   |       |     |
| 1. E Mercer Way/SE 40th Street                              | B                    | 12                 | EB              | B                 | 12    | EB  |
| 2. E Mercer Way/Frontage Rd                                 | B                    | 13                 | WB              | B                 | 14    | WB  |
| 3. E Mercer Way/SE 36th Street/I-90 EB On Ramp <sup>4</sup> | B                    | 19                 | -               | B                 | 20    | -   |
| 4. E Mercer Way/I-90 EB Off Ramp <sup>4</sup>               | A                    | 8                  | -               | A                 | 8     | -   |
| 5. E Mercer Way/I-90 WB Ramps                               | B                    | 13                 | -               | B                 | 14    | -   |
| 6. Site Access/Frontage Road                                | -                    | -                  | -               | B                 | 11    | NBL |

1. Level Of Service (A – F) as defined by the Highway Capacity Manual (TRB, 7th Edition)
2. Average delay per vehicle in seconds.
3. Worst movement (WM) reported for side-street stop controlled intersections. EB = eastbound approach; WB = westbound approach; and NBL = northbound left-turn movement.
4. Traffic operations ran in HCM 2000 due to clustered intersection

As shown in Table 6, all study intersections currently operate at LOS C or better during the peak periods, meeting the City of Mercer Island’s LOS D standard with 4 seconds or less additional delay relative to without-project conditions. The site access along Frontage Road functions at LOS B or better under future with-project conditions, with 11 seconds of delay or less in all scenarios. Based on the acceptable LOS forecasts at the study intersections and the site accesses, there are no mitigations required for this project.

## Parking Demand

ITE's Parking Generation Manual (6th Edition) was used to estimate the peak parking demand for the proposed uses. It is estimated that the peak parking demand for the school use will be 21 vehicles, while the peak parking demand for the office use is 23 vehicles. Hourly breakdown of the parking demand is shown in Table 7 below.

**Table 7. Parking Demand by Hour**

| Time            | Elementary School (LU 520) <sup>1</sup> |                | General Office (LU 710)          |                | Total Parking Demand |
|-----------------|---|----------------|----------------------------------|----------------|----------------------|
|                 | % of weekday peak parking demand        | Parking Demand | % of weekday peak parking demand | Parking Demand |                      |
| 8:00 AM         | 100%                                    | 21             | 47%                              | 11             | 32                   |
| 9:00 AM         | 96%                                     | 20             | 87%                              | 20             | 40                   |
| <b>10:00 AM</b> | <b>95%</b>                              | <b>20</b>      | <b>99%</b>                       | <b>23</b>      | <b>43</b>            |
| <b>11:00 AM</b> | <b>97%</b>                              | <b>20</b>      | <b>100%</b>                      | <b>23</b>      | <b>43</b>            |
| 12:00 PM        | 94%                                     | 20             | 86%                              | 20             | 40                   |
| 1:00 PM         | 96%                                     | 20             | 84%                              | 19             | 39                   |
| 2:00 PM         | 96%                                     | 20             | 93%                              | 21             | 41                   |
| 3:00 PM         | 75%                                     | 16             | 93%                              | 21             | 37                   |
| 4:00 PM         | 53%                                     | 11             | 85%                              | 20             | 31                   |
| 5:00 PM         | 28%                                     | 6              | 57%                              | 13             | 19                   |

1. K-8 Private School (LU 530) has no data in ITE Parking Generation Manual (6th Edition), data from LU 520 used as closest matching LU.

As shown in Table 7, the peak overall parking demand for the proposed site is estimated to be 43 vehicles between the hours of 10 AM and 11 AM. The proposed site plan for the JDS site currently provides 100 parking spaces, which is shared with the neighboring Herzl-Ner Tamid Conservative Congregation. This is a very compatible use as the synagogue would only require parking for between 10-12 staff during the weekday given religious services primarily occur on the weekends. School hours and days will not overlap or coincide with either religious service or Jewish holidays; therefore, the proposed parking supply of 100 spaces should meet the peak parking demand of 43 vehicles expected from the proposed JDS site.

## Findings and Recommendations

This transportation impact study summarizes the project traffic impacts of the FASPS enrollment increase. General findings and recommendations include:

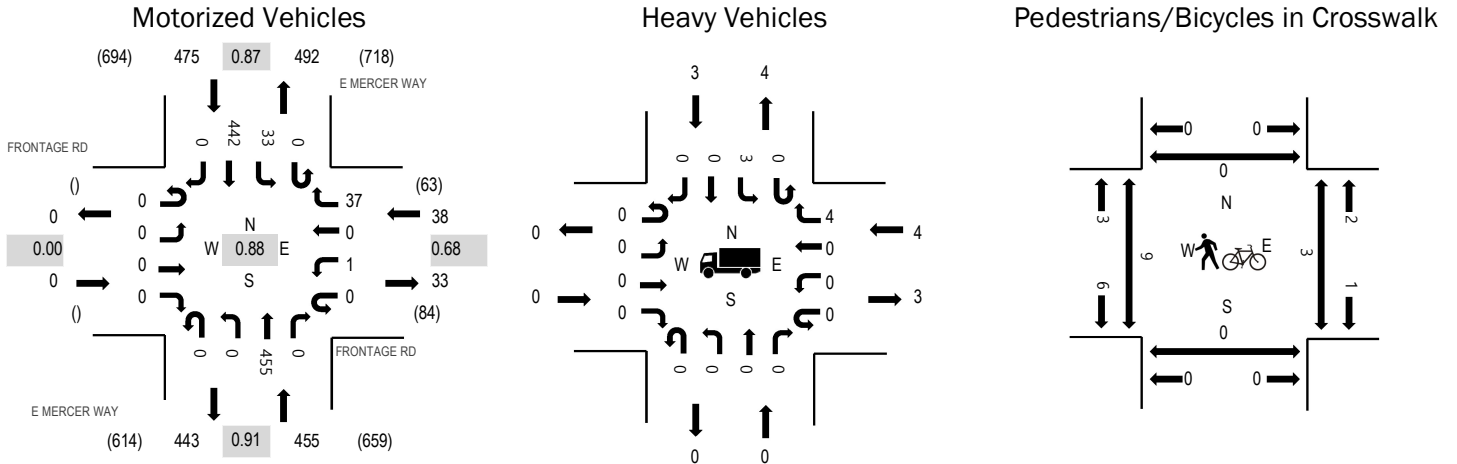
- **Proposed Project:** The proposed project would create a 12,300 square foot office space and a private school enrolling up to 150 students in the K-8 grade level
- **Trip Generation:** The proposed project would generate approximately 154 new school AM peak hour trips, 109 new school PM peak hour trips, and 68 new weekday PM peak hour trips.
- **Traffic Operations:** Under existing and future conditions, all study intersections are anticipated to operate at LOS D or better during the school AM and PM and weekday PM peak hours. The site access intersection with-project is forecast to operate at LOS B or better, with 10 seconds of delay or less during all 3 time periods.
- **Future Parking Demand:** The proposed site would generate a peak parking demand of 43 vehicles. The proposed parking supply of 100 parking spaces can accommodate future with-project parking demand estimates.

## Appendix A: Traffic Counts





**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%   | PHF  |
|-----|-------|------|
| EB  | 0.0%  | 0.00 |
| WB  | 10.5% | 0.68 |
| NB  | 0.0%  | 0.91 |
| SB  | 0.6%  | 0.87 |
| All | 0.7%  | 0.88 |

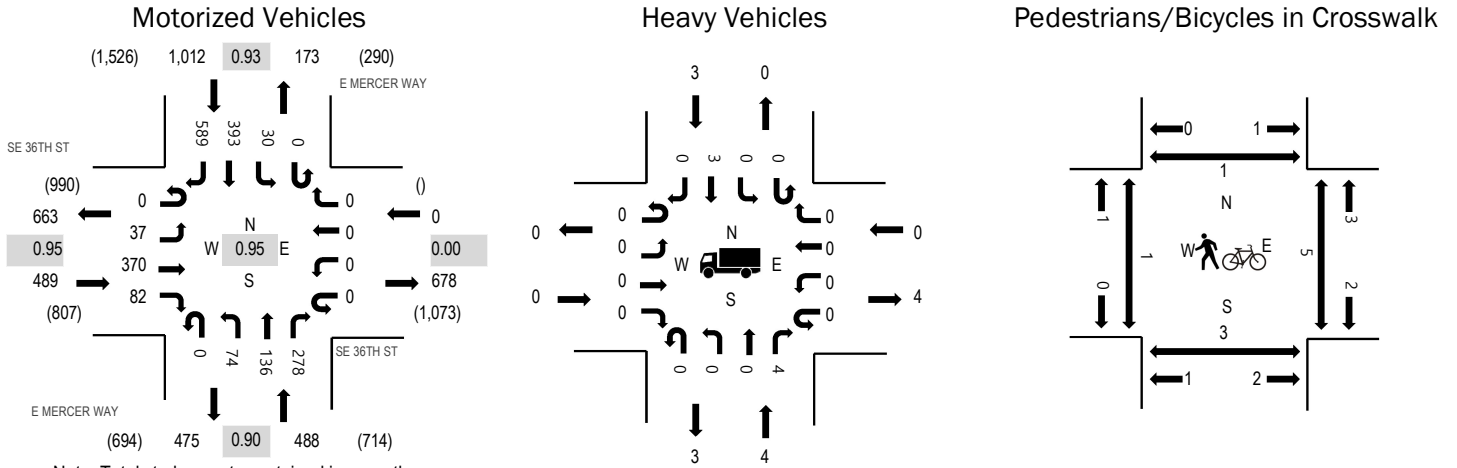
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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                     | 0    | 0    | 6     | 0                       | 0    | 36   | 1     | 0                       | 6    | 24   | 0     | 73    | 448          |
| 7:15 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 11    | 0                       | 0    | 47   | 1     | 1                       | 12   | 31   | 0     | 103   | 650          |
| 7:30 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 6     | 0                       | 0    | 57   | 1     | 0                       | 12   | 40   | 0     | 116   | 791          |
| 7:45 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 2     | 0                       | 0    | 60   | 1     | 0                       | 17   | 76   | 0     | 156   | 917          |
| 8:00 AM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 12    | 0                       | 0    | 125  | 0     | 0                       | 14   | 123  | 0     | 275   | 968          |
| 8:15 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 6     | 0                       | 0    | 105  | 0     | 0                       | 7    | 126  | 0     | 244   |              |
| 8:30 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 5     | 0                       | 0    | 122  | 0     | 0                       | 7    | 108  | 0     | 242   |              |
| 8:45 AM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 14    | 0                       | 0    | 103  | 0     | 0                       | 5    | 85   | 0     | 207   |              |
| Count Total         | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 62    | 0                       | 0    | 655  | 4     | 1                       | 80   | 613  | 0     | 1,416 |              |
| Peak Hour           | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 37    | 0                       | 0    | 455  | 0     | 0                       | 33   | 442  | 0     | 968   |              |

**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  | 0  | 0  | 0     | 7:00 AM             | 0                   | 0  | 0  | 0  | 0     | 7:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:15 AM             | 0              | 0  | 0  | 1  | 1     | 7:15 AM             | 0                   | 0  | 0  | 0  | 0     | 7:15 AM             | 1                                 | 0  | 3  | 0  | 4     |
| 7:30 AM             | 0              | 0  | 0  | 0  | 0     | 7:30 AM             | 0                   | 2  | 0  | 1  | 3     | 7:30 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:45 AM             | 0              | 0  | 0  | 0  | 0     | 7:45 AM             | 0                   | 1  | 0  | 0  | 1     | 7:45 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:00 AM             | 0              | 0  | 1  | 1  | 2     | 8:00 AM             | 0                   | 1  | 0  | 0  | 1     | 8:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:15 AM             | 0              | 0  | 1  | 2  | 3     | 8:15 AM             | 0                   | 0  | 0  | 0  | 0     | 8:15 AM             | 4                                 | 0  | 0  | 0  | 4     |
| 8:30 AM             | 0              | 0  | 1  | 0  | 1     | 8:30 AM             | 0                   | 1  | 0  | 2  | 3     | 8:30 AM             | 2                                 | 0  | 0  | 0  | 2     |
| 8:45 AM             | 0              | 0  | 1  | 0  | 1     | 8:45 AM             | 0                   | 0  | 0  | 1  | 1     | 8:45 AM             | 3                                 | 0  | 3  | 0  | 6     |
| Count Total         | 0              | 0  | 4  | 4  | 8     | Count Total         | 0                   | 5  | 0  | 4  | 9     | Count Total         | 10                                | 0  | 7  | 0  | 17    |
| Peak Hour           | 0              | 0  | 4  | 3  | 7     | Peak Hour           | 0                   | 2  | 0  | 3  | 5     | Peak Hour           | 9                                 | 0  | 3  | 0  | 12    |

### Peak Hour



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.95 |
| WB  | 0.0% | 0.00 |
| NB  | 0.8% | 0.90 |
| SB  | 0.3% | 0.93 |
| All | 0.4% | 0.95 |

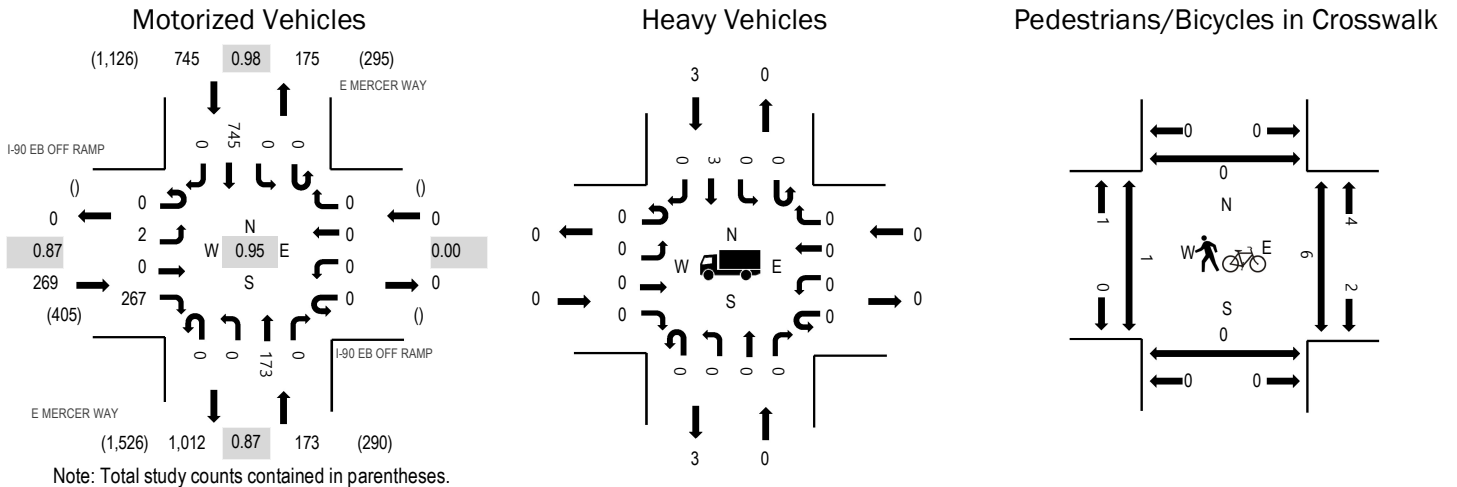
### Traffic Counts - Motorized Vehicles

| Interval Start Time | SE 36TH ST Eastbound |      |      |       | SE 36TH ST Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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    | 50   | 2     | 0                    | 0    | 0    | 0     | 0                       | 3    | 18   | 21    | 0                       | 3    | 28   | 58    | 185   | 1,058        |
| 7:15 AM             | 0                    | 9    | 56   | 7     | 0                    | 0    | 0    | 0     | 0                       | 4    | 22   | 32    | 0                       | 4    | 38   | 52    | 224   | 1,397        |
| 7:30 AM             | 0                    | 8    | 82   | 6     | 0                    | 0    | 0    | 0     | 0                       | 7    | 26   | 31    | 0                       | 2    | 45   | 82    | 289   | 1,684        |
| 7:45 AM             | 0                    | 11   | 73   | 12    | 0                    | 0    | 0    | 0     | 0                       | 9    | 21   | 32    | 0                       | 9    | 81   | 112   | 360   | 1,890        |
| 8:00 AM             | 0                    | 13   | 98   | 18    | 0                    | 0    | 0    | 0     | 0                       | 15   | 37   | 83    | 0                       | 4    | 119  | 137   | 524   | 1,989        |
| 8:15 AM             | 0                    | 10   | 98   | 19    | 0                    | 0    | 0    | 0     | 0                       | 19   | 27   | 67    | 0                       | 11   | 115  | 145   | 511   |              |
| 8:30 AM             | 0                    | 10   | 86   | 30    | 0                    | 0    | 0    | 0     | 0                       | 20   | 36   | 71    | 0                       | 6    | 91   | 145   | 495   |              |
| 8:45 AM             | 0                    | 4    | 88   | 15    | 0                    | 0    | 0    | 0     | 0                       | 20   | 36   | 57    | 0                       | 9    | 68   | 162   | 459   |              |
| Count Total         | 0                    | 67   | 631  | 109   | 0                    | 0    | 0    | 0     | 0                       | 97   | 223  | 394   | 0                       | 48   | 585  | 893   | 3,047 |              |
| Peak Hour           | 0                    | 37   | 370  | 82    | 0                    | 0    | 0    | 0     | 0                       | 74   | 136  | 278   | 0                       | 30   | 393  | 589   | 1,989 |              |

### 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  | 0  | 1  | 1     | 7:00 AM             | 5                   | 0  | 0  | 0  | 5     | 7:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:15 AM             | 0              | 0  | 0  | 1  | 1     | 7:15 AM             | 3                   | 0  | 0  | 1  | 4     | 7:15 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 7:30 AM             | 0              | 0  | 0  | 0  | 0     | 7:30 AM             | 1                   | 2  | 0  | 2  | 5     | 7:30 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 7:45 AM             | 0              | 0  | 0  | 0  | 0     | 7:45 AM             | 2                   | 1  | 0  | 1  | 4     | 7:45 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:00 AM             | 0              | 1  | 0  | 1  | 2     | 8:00 AM             | 1                   | 1  | 0  | 1  | 3     | 8:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:15 AM             | 0              | 1  | 0  | 2  | 3     | 8:15 AM             | 0                   | 0  | 0  | 2  | 2     | 8:15 AM             | 0                                 | 2  | 2  | 0  | 4     |
| 8:30 AM             | 0              | 1  | 0  | 0  | 1     | 8:30 AM             | 2                   | 1  | 0  | 3  | 6     | 8:30 AM             | 1                                 | 0  | 1  | 1  | 3     |
| 8:45 AM             | 0              | 1  | 0  | 0  | 1     | 8:45 AM             | 1                   | 0  | 0  | 1  | 1     | 8:45 AM             | 0                                 | 1  | 2  | 0  | 3     |
| Count Total         | 0              | 4  | 0  | 5  | 9     | Count Total         | 15                  | 5  | 0  | 10 | 30    | Count Total         | 1                                 | 3  | 8  | 1  | 13    |
| Peak Hour           | 0              | 4  | 0  | 3  | 7     | Peak Hour           | 4                   | 2  | 0  | 6  | 12    | Peak Hour           | 1                                 | 3  | 5  | 1  | 10    |

**Peak Hour**



|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.87 |
| WB  | 0.0% | 0.00 |
| NB  | 0.0% | 0.87 |
| SB  | 0.4% | 0.98 |
| All | 0.3% | 0.95 |

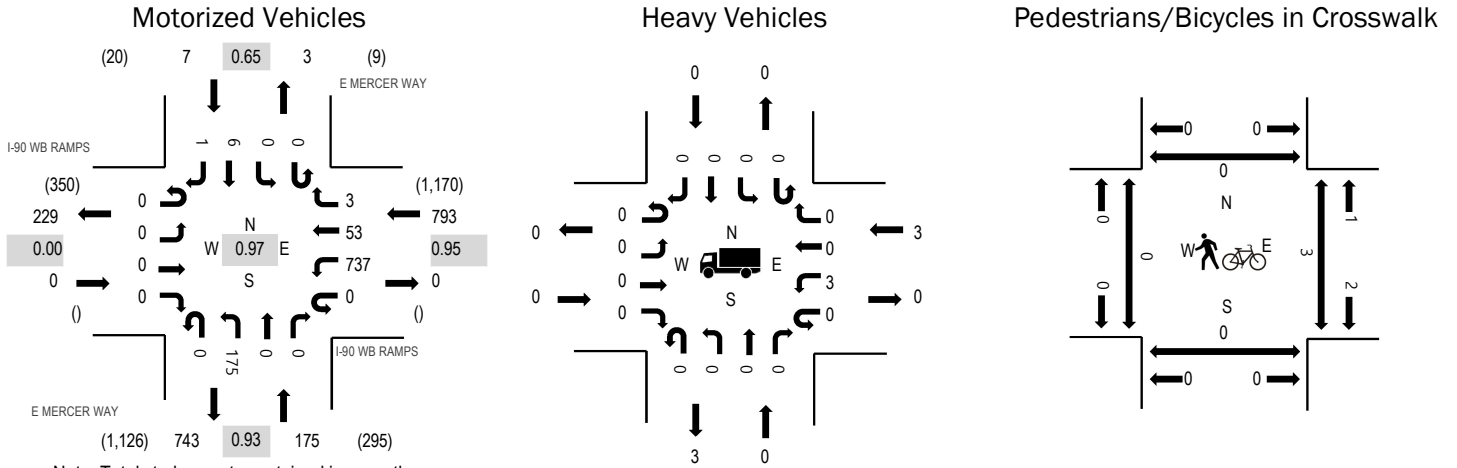
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | I-90 EB OFF RAMP Eastbound |      |      |       | I-90 EB OFF RAMP Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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    | 0    | 20    | 0                          | 0    | 0    | 0     | 0                       | 0    | 19   | 0     | 0                       | 0    | 69    | 0     | 109   | 634          |
| 7:15 AM             | 0                          | 0    | 0    | 16    | 0                          | 0    | 0    | 0     | 0                       | 0    | 32   | 0     | 0                       | 0    | 78    | 0     | 126   | 836          |
| 7:30 AM             | 0                          | 1    | 0    | 36    | 0                          | 0    | 0    | 0     | 0                       | 0    | 34   | 0     | 0                       | 0    | 93    | 0     | 164   | 1,018        |
| 7:45 AM             | 0                          | 1    | 0    | 61    | 0                          | 0    | 0    | 0     | 0                       | 0    | 32   | 0     | 0                       | 0    | 141   | 0     | 235   | 1,143        |
| 8:00 AM             | 0                          | 1    | 0    | 80    | 0                          | 0    | 0    | 0     | 0                       | 0    | 50   | 0     | 0                       | 0    | 180   | 0     | 311   | 1,187        |
| 8:15 AM             | 0                          | 0    | 0    | 80    | 0                          | 0    | 0    | 0     | 0                       | 0    | 37   | 0     | 0                       | 0    | 191   | 0     | 308   |              |
| 8:30 AM             | 0                          | 1    | 0    | 57    | 0                          | 0    | 0    | 0     | 0                       | 0    | 46   | 0     | 0                       | 0    | 185   | 0     | 289   |              |
| 8:45 AM             | 0                          | 0    | 0    | 50    | 0                          | 0    | 0    | 0     | 0                       | 0    | 40   | 0     | 0                       | 0    | 189   | 0     | 279   |              |
| Count Total         | 0                          | 5    | 0    | 400   | 0                          | 0    | 0    | 0     | 0                       | 0    | 290  | 0     | 0                       | 0    | 1,126 | 0     | 1,821 |              |
| Peak Hour           | 0                          | 2    | 0    | 267   | 0                          | 0    | 0    | 0     | 0                       | 0    | 173  | 0     | 0                       | 0    | 745   | 0     | 1,187 |              |

**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  | 0  | 1  | 1     | 7:00 AM             | 0                   | 5  | 0  | 0  | 5     | 7:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:15 AM             | 0              | 0  | 0  | 1  | 1     | 7:15 AM             | 0                   | 3  | 0  | 1  | 4     | 7:15 AM             | 0                                 | 0  | 3  | 0  | 3     |
| 7:30 AM             | 0              | 0  | 0  | 0  | 0     | 7:30 AM             | 0                   | 2  | 0  | 2  | 4     | 7:30 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:45 AM             | 0              | 0  | 0  | 0  | 0     | 7:45 AM             | 0                   | 2  | 0  | 1  | 3     | 7:45 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:00 AM             | 0              | 0  | 0  | 1  | 1     | 8:00 AM             | 0                   | 2  | 0  | 3  | 5     | 8:00 AM             | 1                                 | 0  | 0  | 0  | 1     |
| 8:15 AM             | 0              | 0  | 0  | 2  | 2     | 8:15 AM             | 0                   | 0  | 0  | 0  | 0     | 8:15 AM             | 0                                 | 0  | 2  | 0  | 2     |
| 8:30 AM             | 0              | 0  | 0  | 0  | 0     | 8:30 AM             | 0                   | 1  | 0  | 3  | 4     | 8:30 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:45 AM             | 0              | 0  | 0  | 0  | 0     | 8:45 AM             | 0                   | 0  | 0  | 0  | 0     | 8:45 AM             | 0                                 | 0  | 3  | 0  | 3     |
| Count Total         | 0              | 0  | 0  | 5  | 5     | Count Total         | 0                   | 15 | 0  | 10 | 25    | Count Total         | 1                                 | 0  | 10 | 0  | 11    |
| Peak Hour           | 0              | 0  | 0  | 3  | 3     | Peak Hour           | 0                   | 3  | 0  | 6  | 9     | Peak Hour           | 1                                 | 0  | 6  | 0  | 7     |

Peak Hour



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.00 |
| WB  | 0.4% | 0.95 |
| NB  | 0.0% | 0.93 |
| SB  | 0.0% | 0.65 |
| All | 0.3% | 0.97 |

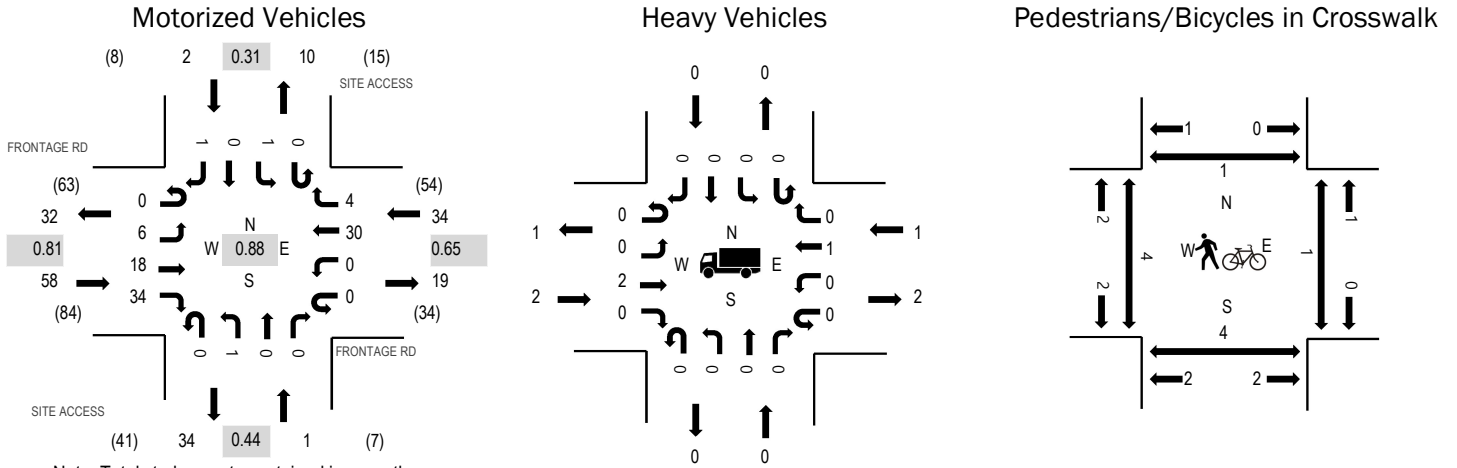
Traffic Counts - Motorized Vehicles

| Interval Start Time | I-90 WB RAMPS Eastbound |      |      |       | I-90 WB RAMPS Westbound |       |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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                       | 68    | 0    | 1     | 0                       | 19   | 1    | 0     | 0                       | 0    | 1    | 1     | 91    | 510          |
| 7:15 AM             | 0                       | 0    | 0    | 0     | 0                       | 76    | 1    | 2     | 0                       | 31   | 0    | 0     | 0                       | 0    | 2    | 0     | 112   | 646          |
| 7:30 AM             | 0                       | 0    | 0    | 0     | 0                       | 96    | 0    | 1     | 0                       | 35   | 1    | 0     | 0                       | 0    | 3    | 1     | 137   | 786          |
| 7:45 AM             | 0                       | 0    | 0    | 0     | 0                       | 132   | 0    | 0     | 1                       | 32   | 0    | 0     | 0                       | 0    | 4    | 1     | 170   | 899          |
| 8:00 AM             | 0                       | 0    | 0    | 0     | 0                       | 177   | 1    | 1     | 0                       | 47   | 0    | 0     | 0                       | 0    | 1    | 0     | 227   | 975          |
| 8:15 AM             | 0                       | 0    | 0    | 0     | 0                       | 195   | 13   | 0     | 0                       | 41   | 0    | 0     | 0                       | 0    | 2    | 1     | 252   |              |
| 8:30 AM             | 0                       | 0    | 0    | 0     | 0                       | 185   | 19   | 1     | 0                       | 43   | 0    | 0     | 0                       | 0    | 2    | 0     | 250   |              |
| 8:45 AM             | 0                       | 0    | 0    | 0     | 0                       | 180   | 20   | 1     | 0                       | 44   | 0    | 0     | 0                       | 0    | 1    | 0     | 246   |              |
| Count Total         | 0                       | 0    | 0    | 0     | 0                       | 1,109 | 54   | 7     | 1                       | 292  | 2    | 0     | 0                       | 0    | 16   | 4     | 1,485 |              |
| Peak Hour           | 0                       | 0    | 0    | 0     | 0                       | 737   | 53   | 3     | 0                       | 175  | 0    | 0     | 0                       | 0    | 6    | 1     | 975   |              |

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  | 1  | 0  | 1     | 7:00 AM             | 0                   | 5  | 0  | 0  | 5     | 7:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:15 AM             | 0              | 0  | 1  | 0  | 1     | 7:15 AM             | 0                   | 3  | 0  | 1  | 4     | 7:15 AM             | 0                                 | 0  | 2  | 0  | 2     |
| 7:30 AM             | 0              | 0  | 0  | 0  | 0     | 7:30 AM             | 0                   | 2  | 0  | 2  | 4     | 7:30 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 7:45 AM             | 0              | 0  | 0  | 0  | 0     | 7:45 AM             | 0                   | 1  | 0  | 1  | 2     | 7:45 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:00 AM             | 0              | 0  | 1  | 0  | 1     | 8:00 AM             | 0                   | 1  | 0  | 3  | 4     | 8:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:15 AM             | 0              | 0  | 2  | 0  | 2     | 8:15 AM             | 0                   | 1  | 0  | 0  | 1     | 8:15 AM             | 0                                 | 0  | 1  | 0  | 1     |
| 8:30 AM             | 0              | 0  | 0  | 0  | 0     | 8:30 AM             | 0                   | 2  | 0  | 3  | 5     | 8:30 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:45 AM             | 0              | 0  | 0  | 0  | 0     | 8:45 AM             | 0                   | 0  | 0  | 0  | 0     | 8:45 AM             | 0                                 | 0  | 2  | 0  | 2     |
| Count Total         | 0              | 0  | 5  | 0  | 5     | Count Total         | 0                   | 15 | 0  | 10 | 25    | Count Total         | 0                                 | 0  | 7  | 0  | 7     |
| Peak Hour           | 0              | 0  | 3  | 0  | 3     | Peak Hour           | 0                   | 4  | 0  | 6  | 10    | Peak Hour           | 0                                 | 0  | 3  | 0  | 3     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 3.4% | 0.81 |
| WB  | 2.9% | 0.65 |
| NB  | 0.0% | 0.44 |
| SB  | 0.0% | 0.31 |
| All | 3.2% | 0.88 |

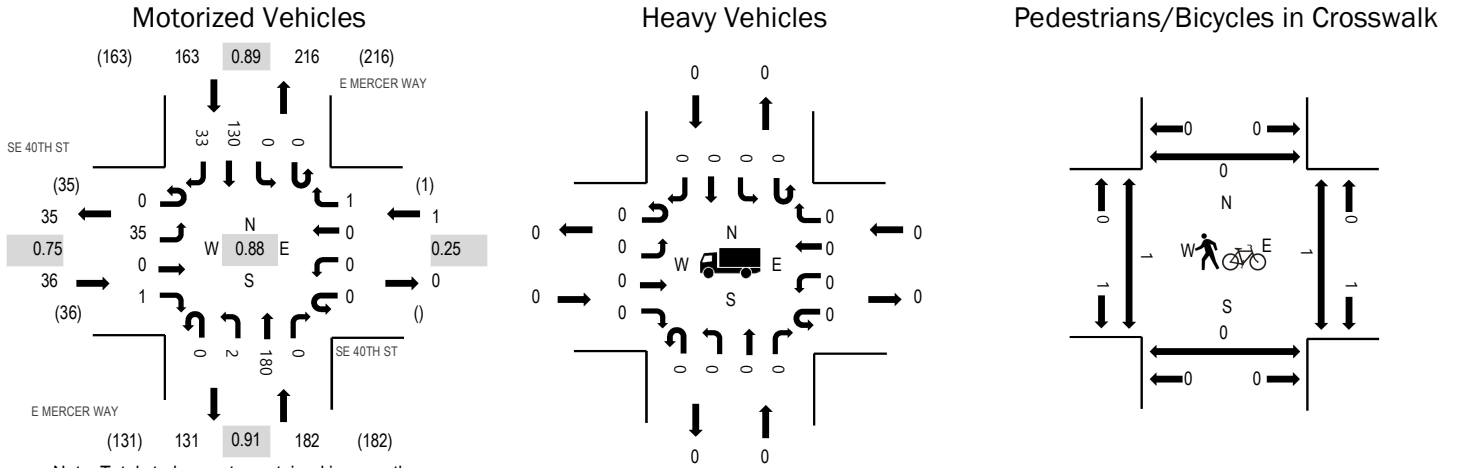
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | SITE ACCESS Northbound |      |      |       | SITE ACCESS 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    | 3    | 3     | 0                     | 0    | 4    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 2     | 13    | 81           |
| 7:15 AM             | 0                     | 0    | 5    | 7     | 0                     | 0    | 11   | 2     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 0     | 25    | 95           |
| 7:30 AM             | 0                     | 2    | 5    | 7     | 0                     | 0    | 6    | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 0     | 20    | 84           |
| 7:45 AM             | 0                     | 3    | 3    | 12    | 0                     | 0    | 2    | 2     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 1     | 23    | 76           |
| 8:00 AM             | 0                     | 1    | 5    | 8     | 0                     | 0    | 11   | 0     | 0                      | 1    | 0    | 0     | 0                      | 1    | 0    | 0     | 27    | 72           |
| 8:15 AM             | 0                     | 1    | 5    | 1     | 0                     | 0    | 4    | 1     | 0                      | 2    | 0    | 0     | 0                      | 0    | 0    | 0     | 14    |              |
| 8:30 AM             | 0                     | 1    | 5    | 1     | 0                     | 0    | 1    | 0     | 0                      | 4    | 0    | 0     | 0                      | 0    | 0    | 0     | 12    |              |
| 8:45 AM             | 0                     | 1    | 2    | 2     | 0                     | 0    | 10   | 0     | 0                      | 0    | 0    | 0     | 0                      | 0    | 0    | 4     | 19    |              |
| Count Total         | 0                     | 10   | 33   | 41    | 0                     | 0    | 49   | 5     | 0                      | 7    | 0    | 0     | 0                      | 1    | 0    | 7     | 153   |              |
| Peak Hour           | 0                     | 6    | 18   | 34    | 0                     | 0    | 30   | 4     | 0                      | 1    | 0    | 0     | 0                      | 1    | 0    | 1     | 95    |              |

**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  | 0  | 0  | 0     | 7:00 AM             | 0                   | 0  | 0  | 0  | 0     | 7:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 7:15 AM             | 1              | 0  | 0  | 0  | 1     | 7:15 AM             | 0                   | 0  | 0  | 0  | 0     | 7:15 AM             | 3                                 | 2  | 0  | 0  | 5     |
| 7:30 AM             | 0              | 0  | 0  | 0  | 0     | 7:30 AM             | 0                   | 0  | 0  | 0  | 0     | 7:30 AM             | 0                                 | 1  | 0  | 0  | 1     |
| 7:45 AM             | 0              | 0  | 1  | 0  | 1     | 7:45 AM             | 0                   | 0  | 0  | 0  | 0     | 7:45 AM             | 1                                 | 1  | 1  | 1  | 4     |
| 8:00 AM             | 1              | 0  | 0  | 0  | 1     | 8:00 AM             | 0                   | 0  | 0  | 0  | 0     | 8:00 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:15 AM             | 2              | 0  | 1  | 0  | 3     | 8:15 AM             | 0                   | 0  | 0  | 0  | 0     | 8:15 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:30 AM             | 0              | 0  | 1  | 0  | 1     | 8:30 AM             | 0                   | 0  | 0  | 0  | 0     | 8:30 AM             | 0                                 | 0  | 0  | 0  | 0     |
| 8:45 AM             | 0              | 0  | 1  | 0  | 1     | 8:45 AM             | 0                   | 0  | 0  | 0  | 0     | 8:45 AM             | 3                                 | 1  | 1  | 0  | 5     |
| Count Total         | 4              | 0  | 4  | 0  | 8     | Count Total         | 0                   | 0  | 0  | 0  | 0     | Count Total         | 7                                 | 5  | 2  | 1  | 15    |
| Peak Hour           | 2              | 0  | 1  | 0  | 3     | Peak Hour           | 0                   | 0  | 0  | 0  | 0     | Peak Hour           | 4                                 | 4  | 1  | 1  | 10    |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.75 |
| WB  | 0.0% | 0.25 |
| NB  | 0.0% | 0.91 |
| SB  | 0.0% | 0.89 |
| All | 0.0% | 0.88 |

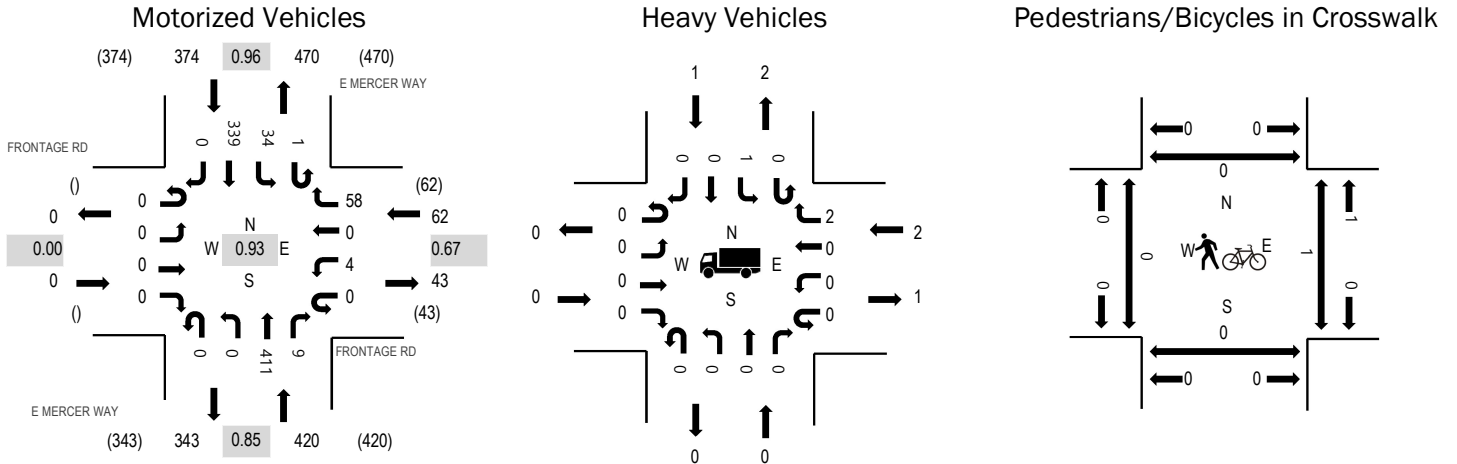
**Traffic Counts - Motorized Vehicles**

| Interval<br>Start Time | SE 40TH ST<br>Eastbound |      |      |       | SE 40TH ST<br>Westbound |      |      |       | E MERCER WAY<br>Northbound |      |      | E MERCER WAY<br>Southbound |        |      |      | Total | Rolling<br>Hour |       |
|------------------------|-------------------------|------|------|-------|-------------------------|------|------|-------|----------------------------|------|------|----------------------------|--------|------|------|-------|-----------------|-------|
|                        | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right | U-Turn                     | Left | Thru | Right                      | U-Turn | Left | Thru |       |                 | Right |
| 3:00 PM                | 0                       | 9    | 0    | 0     | 0                       | 0    | 0    | 0     | 0                          | 0    | 46   | 0                          | 0      | 0    | 31   | 9     | 95              | 382   |
| 3:15 PM                | 0                       | 11   | 0    | 1     | 0                       | 0    | 0    | 0     | 0                          | 0    | 50   | 0                          | 0      | 0    | 38   | 8     | 108             |       |
| 3:30 PM                | 0                       | 5    | 0    | 0     | 0                       | 0    | 0    | 1     | 0                          | 0    | 47   | 0                          | 0      | 0    | 27   | 5     | 85              |       |
| 3:45 PM                | 0                       | 10   | 0    | 0     | 0                       | 0    | 0    | 0     | 0                          | 2    | 37   | 0                          | 0      | 0    | 34   | 11    | 94              |       |
| Count Total            | 0                       | 35   | 0    | 1     | 0                       | 0    | 0    | 1     | 0                          | 2    | 180  | 0                          | 0      | 0    | 130  | 33    | 382             |       |
| Peak Hour              | 0                       | 35   | 0    | 1     | 0                       | 0    | 0    | 1     | 0                          | 2    | 180  | 0                          | 0      | 0    | 130  | 33    | 382             |       |

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

| Interval<br>Start Time | Heavy Vehicles |    |    |    |       | Interval<br>Start Time | Bicycles on Roadway |    |    |    |       | Interval<br>Start Time | Pedestrians/Bicycles on Crosswalk |    |    |    |       |
|------------------------|----------------|----|----|----|-------|------------------------|---------------------|----|----|----|-------|------------------------|-----------------------------------|----|----|----|-------|
|                        | EB             | NB | WB | SB | Total |                        | EB                  | NB | WB | SB | Total |                        | EB                                | NB | WB | SB | Total |
| 3:00 PM                | 0              | 0  | 0  | 0  | 0     | 3:00 PM                | 0                   | 1  | 0  | 2  | 3     | 3:00 PM                | 1                                 | 0  | 0  | 0  | 1     |
| 3:15 PM                | 0              | 0  | 0  | 0  | 0     | 3:15 PM                | 0                   | 1  | 0  | 0  | 1     | 3:15 PM                | 0                                 | 0  | 0  | 0  | 0     |
| 3:30 PM                | 0              | 0  | 0  | 0  | 0     | 3:30 PM                | 0                   | 0  | 0  | 0  | 0     | 3:30 PM                | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM                | 0              | 0  | 0  | 0  | 0     | 3:45 PM                | 0                   | 1  | 0  | 0  | 1     | 3:45 PM                | 0                                 | 0  | 1  | 0  | 1     |
| Count Total            | 0              | 0  | 0  | 0  | 0     | Count Total            | 0                   | 3  | 0  | 2  | 5     | Count Total            | 1                                 | 0  | 1  | 0  | 2     |
| Peak Hour              | 0              | 0  | 0  | 0  | 0     | Peak Hour              | 0                   | 3  | 0  | 2  | 5     | Peak Hour              | 1                                 | 0  | 1  | 0  | 2     |

Peak Hour



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.00 |
| WB  | 3.2% | 0.67 |
| NB  | 0.0% | 0.85 |
| SB  | 0.3% | 0.96 |
| All | 0.4% | 0.93 |

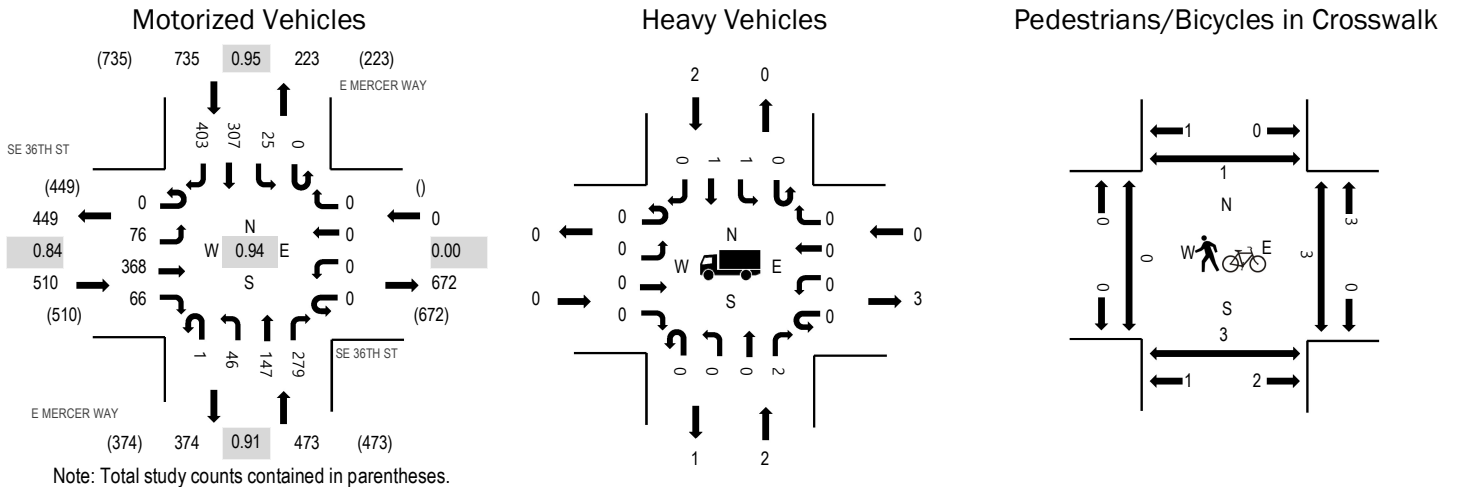
Traffic Counts - Motorized Vehicles

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY Southbound |      |      |       | Total | Rolling Hour |
|---------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|--------------|
|                     | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                  | Left | Thru | Right | U-Turn                  | Left | Thru | Right |       |              |
| 3:00 PM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 12    | 0                       | 0    | 85   | 2     | 1                       | 11   | 78   | 0     | 189   | 856          |
| 3:15 PM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 10    | 0                       | 0    | 122  | 2     | 0                       | 4    | 90   | 0     | 229   |              |
| 3:30 PM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 22    | 0                       | 0    | 102  | 1     | 0                       | 7    | 90   | 0     | 223   |              |
| 3:45 PM             | 0                     | 0    | 0    | 0     | 0                     | 2    | 0    | 14    | 0                       | 0    | 102  | 4     | 0                       | 12   | 81   | 0     | 215   |              |
| Count Total         | 0                     | 0    | 0    | 0     | 0                     | 4    | 0    | 58    | 0                       | 0    | 411  | 9     | 1                       | 34   | 339  | 0     | 856   |              |
| Peak Hour           | 0                     | 0    | 0    | 0     | 0                     | 4    | 0    | 58    | 0                       | 0    | 411  | 9     | 1                       | 34   | 339  | 0     | 856   |              |

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 |
| 3:00 PM             | 0              | 0  | 1  | 1  | 2     | 3:00 PM             | 0                   | 1  | 0  | 1  | 2     | 3:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:15 PM             | 0              | 0  | 1  | 0  | 1     | 3:15 PM             | 0                   | 1  | 0  | 1  | 2     | 3:15 PM             | 0                                 | 0  | 1  | 0  | 1     |
| 3:30 PM             | 0              | 0  | 0  | 0  | 0     | 3:30 PM             | 0                   | 0  | 0  | 0  | 0     | 3:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM             | 0              | 0  | 0  | 0  | 0     | 3:45 PM             | 0                   | 1  | 0  | 0  | 1     | 3:45 PM             | 0                                 | 0  | 0  | 0  | 0     |
| Count Total         | 0              | 0  | 2  | 1  | 3     | Count Total         | 0                   | 3  | 0  | 2  | 5     | Count Total         | 0                                 | 0  | 1  | 0  | 1     |
| Peak Hour           | 0              | 0  | 2  | 1  | 3     | Peak Hour           | 0                   | 3  | 0  | 2  | 5     | Peak Hour           | 0                                 | 0  | 1  | 0  | 1     |

**Peak Hour**



|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.84 |
| WB  | 0.0% | 0.00 |
| NB  | 0.4% | 0.91 |
| SB  | 0.3% | 0.95 |
| All | 0.2% | 0.94 |

**Traffic Counts - Motorized Vehicles**

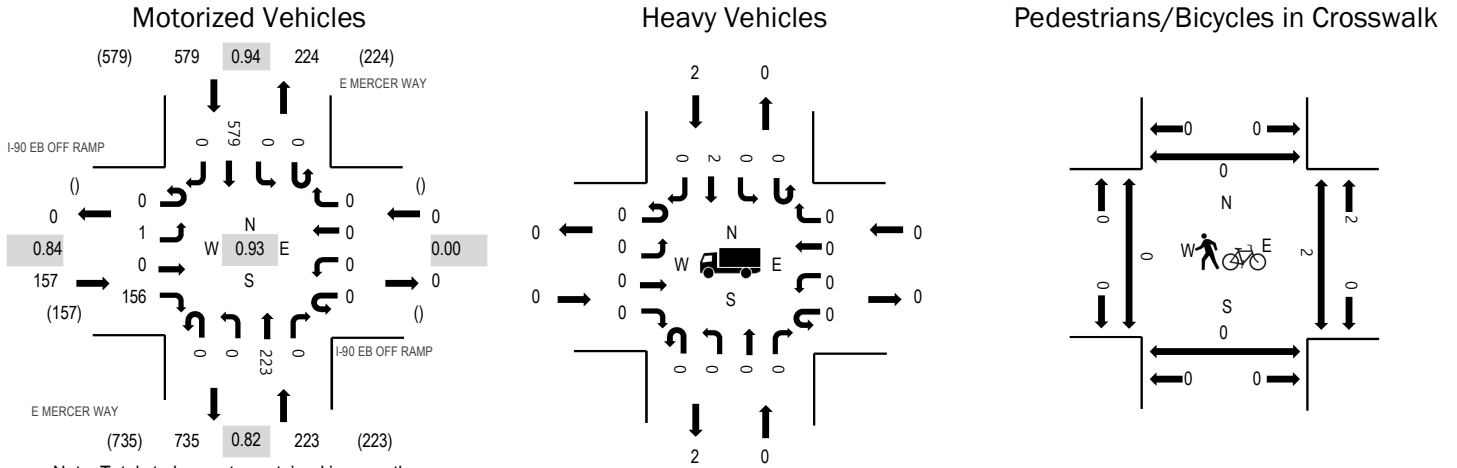
| Interval Start Time | SE 36TH ST Eastbound |      |      |       | SE 36TH ST Westbound |      |      |       | E MERCER WAY Northbound |      |      | E MERCER WAY Southbound |        |      |      | Total | Rolling Hour |       |
|---------------------|----------------------|------|------|-------|----------------------|------|------|-------|-------------------------|------|------|-------------------------|--------|------|------|-------|--------------|-------|
|                     | U-Turn               | Left | Thru | Right | U-Turn               | Left | Thru | Right | U-Turn                  | Left | Thru | Right                   | U-Turn | Left | Thru |       |              | Right |
| 3:00 PM             | 0                    | 20   | 108  | 23    | 0                    | 0    | 0    | 0     | 0                       | 11   | 31   | 59                      | 0      | 7    | 68   | 89    | 416          | 1,718 |
| 3:15 PM             | 0                    | 20   | 98   | 13    | 0                    | 0    | 0    | 0     | 0                       | 14   | 45   | 71                      | 0      | 4    | 84   | 105   | 454          |       |
| 3:30 PM             | 0                    | 31   | 96   | 13    | 0                    | 0    | 0    | 0     | 0                       | 12   | 37   | 77                      | 0      | 8    | 80   | 103   | 457          |       |
| 3:45 PM             | 0                    | 5    | 66   | 17    | 0                    | 0    | 0    | 0     | 1                       | 9    | 34   | 72                      | 0      | 6    | 75   | 106   | 391          |       |
| Count Total         | 0                    | 76   | 368  | 66    | 0                    | 0    | 0    | 0     | 1                       | 46   | 147  | 279                     | 0      | 25   | 307  | 403   | 1,718        |       |
| Peak Hour           | 0                    | 76   | 368  | 66    | 0                    | 0    | 0    | 0     | 1                       | 46   | 147  | 279                     | 0      | 25   | 307  | 403   | 1,718        |       |

**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 |
| 3:00 PM             | 0              | 1  | 0  | 1  | 2     | 3:00 PM             | 0                   | 1  | 0  | 1  | 2     | 3:00 PM             | 0                                 | 2  | 1  | 0  | 3     |
| 3:15 PM             | 0              | 1  | 0  | 0  | 1     | 3:15 PM             | 1                   | 1  | 0  | 2  | 4     | 3:15 PM             | 0                                 | 0  | 1  | 1  | 2     |
| 3:30 PM             | 0              | 0  | 0  | 0  | 0     | 3:30 PM             | 0                   | 0  | 0  | 1  | 1     | 3:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM             | 0              | 0  | 0  | 1  | 1     | 3:45 PM             | 0                   | 1  | 0  | 0  | 1     | 3:45 PM             | 0                                 | 1  | 1  | 0  | 2     |
| Count Total         | 0              | 2  | 0  | 2  | 4     | Count Total         | 1                   | 3  | 0  | 4  | 8     | Count Total         | 0                                 | 3  | 3  | 1  | 7     |
| Peak Hour           | 0              | 2  | 0  | 2  | 4     | Peak Hour           | 1                   | 3  | 0  | 4  | 8     | Peak Hour           | 0                                 | 3  | 3  | 1  | 7     |



**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.84 |
| WB  | 0.0% | 0.00 |
| NB  | 0.0% | 0.82 |
| SB  | 0.3% | 0.94 |
| All | 0.2% | 0.93 |

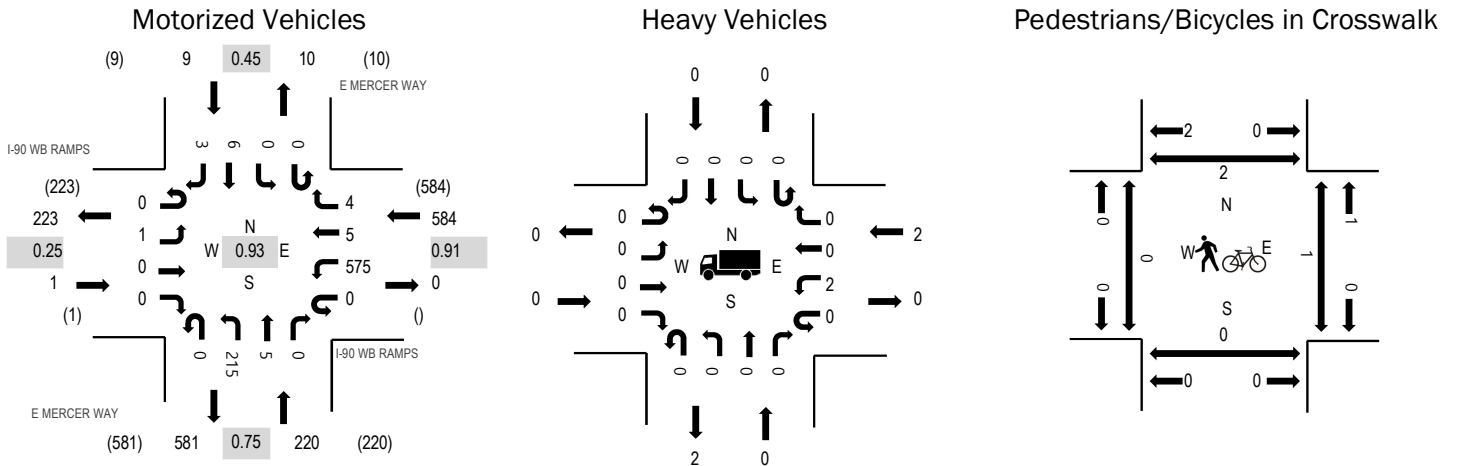
**Traffic Counts - Motorized Vehicles**

| Interval<br>Start Time | I-90 EB OFF RAMP<br>Eastbound |      |      |       | I-90 EB OFF RAMP<br>Westbound |      |      |       | E MERCER WAY<br>Northbound |      |      |       | E MERCER WAY<br>Southbound |      |      |       | Total | Rolling<br>Hour |
|------------------------|-------------------------------|------|------|-------|-------------------------------|------|------|-------|----------------------------|------|------|-------|----------------------------|------|------|-------|-------|-----------------|
|                        | U-Turn                        | Left | Thru | Right | U-Turn                        | Left | Thru | Right | U-Turn                     | Left | Thru | Right | U-Turn                     | Left | Thru | Right |       |                 |
| 3:00 PM                | 0                             | 0    | 0    | 36    | 0                             | 0    | 0    | 0     | 0                          | 0    | 51   | 0     | 0                          | 0    | 128  | 0     | 215   | 959             |
| 3:15 PM                | 0                             | 1    | 0    | 40    | 0                             | 0    | 0    | 0     | 0                          | 0    | 65   | 0     | 0                          | 0    | 153  | 0     | 259   |                 |
| 3:30 PM                | 0                             | 0    | 0    | 47    | 0                             | 0    | 0    | 0     | 0                          | 0    | 68   | 0     | 0                          | 0    | 144  | 0     | 259   |                 |
| 3:45 PM                | 0                             | 0    | 0    | 33    | 0                             | 0    | 0    | 0     | 0                          | 0    | 39   | 0     | 0                          | 0    | 154  | 0     | 226   |                 |
| Count Total            | 0                             | 1    | 0    | 156   | 0                             | 0    | 0    | 0     | 0                          | 0    | 223  | 0     | 0                          | 0    | 579  | 0     | 959   |                 |
| Peak Hour              | 0                             | 1    | 0    | 156   | 0                             | 0    | 0    | 0     | 0                          | 0    | 223  | 0     | 0                          | 0    | 579  | 0     | 959   |                 |

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

| Interval<br>Start Time | Heavy Vehicles |    |    |    |       | Interval<br>Start Time | Bicycles on Roadway |    |    |    |       | Interval<br>Start Time | Pedestrians/Bicycles on Crosswalk |    |    |    |       |
|------------------------|----------------|----|----|----|-------|------------------------|---------------------|----|----|----|-------|------------------------|-----------------------------------|----|----|----|-------|
|                        | EB             | NB | WB | SB | Total |                        | EB                  | NB | WB | SB | Total |                        | EB                                | NB | WB | SB | Total |
| 3:00 PM                | 0              | 0  | 0  | 1  | 1     | 3:00 PM                | 0                   | 0  | 0  | 1  | 1     | 3:00 PM                | 0                                 | 0  | 1  | 0  | 1     |
| 3:15 PM                | 0              | 0  | 0  | 0  | 0     | 3:15 PM                | 0                   | 0  | 0  | 2  | 2     | 3:15 PM                | 0                                 | 0  | 0  | 0  | 0     |
| 3:30 PM                | 0              | 0  | 0  | 0  | 0     | 3:30 PM                | 0                   | 0  | 0  | 1  | 1     | 3:30 PM                | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM                | 0              | 0  | 0  | 1  | 1     | 3:45 PM                | 0                   | 0  | 0  | 0  | 0     | 3:45 PM                | 0                                 | 0  | 1  | 0  | 1     |
| Count Total            | 0              | 0  | 0  | 2  | 2     | Count Total            | 0                   | 0  | 0  | 4  | 4     | Count Total            | 0                                 | 0  | 2  | 0  | 2     |
| Peak Hour              | 0              | 0  | 0  | 2  | 2     | Peak Hour              | 0                   | 0  | 0  | 4  | 4     | Peak Hour              | 0                                 | 0  | 2  | 0  | 2     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.25 |
| WB  | 0.3% | 0.91 |
| NB  | 0.0% | 0.75 |
| SB  | 0.0% | 0.45 |
| All | 0.2% | 0.93 |

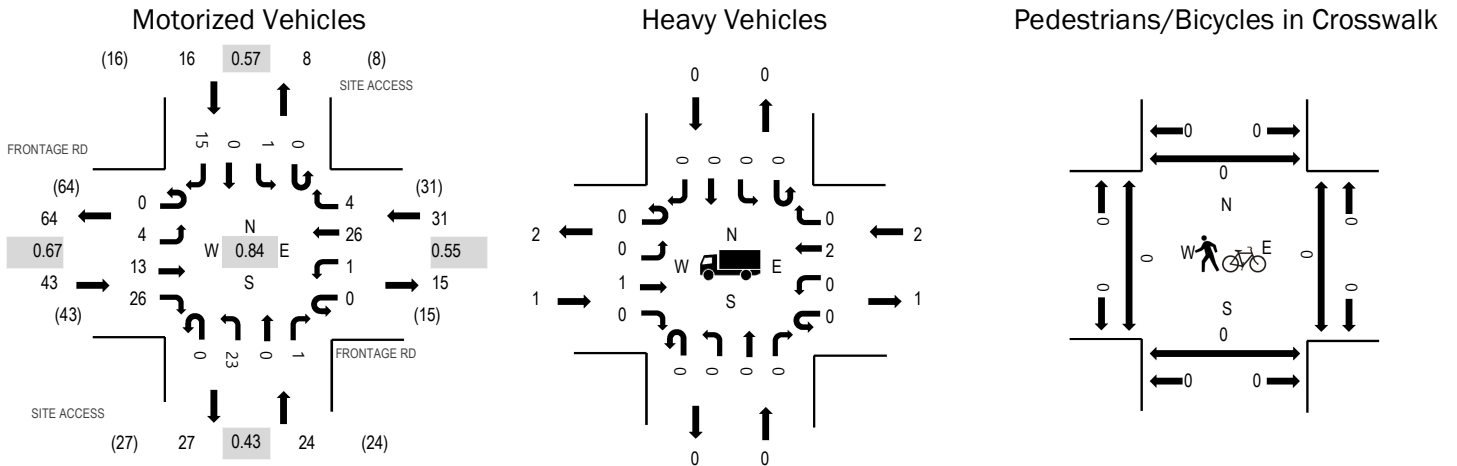
**Traffic Counts - Motorized Vehicles**

| Interval<br>Start Time | I-90 WB RAMPS<br>Eastbound |      |      |       | I-90 WB RAMPS<br>Westbound |      |      |       | E MERCER WAY<br>Northbound |      |      |       | E MERCER WAY<br>Southbound |      |      |       | Total | Rolling<br>Hour |
|------------------------|----------------------------|------|------|-------|----------------------------|------|------|-------|----------------------------|------|------|-------|----------------------------|------|------|-------|-------|-----------------|
|                        | U-Turn                     | Left | Thru | Right | U-Turn                     | Left | Thru | Right | U-Turn                     | Left | Thru | Right | U-Turn                     | Left | Thru | Right |       |                 |
| 3:00 PM                | 0                          | 0    | 0    | 0     | 0                          | 124  | 1    | 1     | 0                          | 47   | 2    | 0     | 0                          | 0    | 3    | 2     | 180   | 814             |
| 3:15 PM                | 0                          | 0    | 0    | 0     | 0                          | 153  | 2    | 1     | 0                          | 62   | 1    | 0     | 0                          | 0    | 1    | 0     | 220   |                 |
| 3:30 PM                | 0                          | 1    | 0    | 0     | 0                          | 141  | 1    | 0     | 0                          | 71   | 2    | 0     | 0                          | 0    | 2    | 1     | 219   |                 |
| 3:45 PM                | 0                          | 0    | 0    | 0     | 0                          | 157  | 1    | 2     | 0                          | 35   | 0    | 0     | 0                          | 0    | 0    | 0     | 195   |                 |
| Count Total            | 0                          | 1    | 0    | 0     | 0                          | 575  | 5    | 4     | 0                          | 215  | 5    | 0     | 0                          | 0    | 6    | 3     | 814   |                 |
| Peak Hour              | 0                          | 1    | 0    | 0     | 0                          | 575  | 5    | 4     | 0                          | 215  | 5    | 0     | 0                          | 0    | 6    | 3     | 814   |                 |

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

| Interval<br>Start Time | Heavy Vehicles |    |    |    |       | Interval<br>Start Time | Bicycles on Roadway |    |    |    |       | Interval<br>Start Time | Pedestrians/Bicycles on Crosswalk |    |    |    |       |
|------------------------|----------------|----|----|----|-------|------------------------|---------------------|----|----|----|-------|------------------------|-----------------------------------|----|----|----|-------|
|                        | EB             | NB | WB | SB | Total |                        | EB                  | NB | WB | SB | Total |                        | EB                                | NB | WB | SB | Total |
| 3:00 PM                | 0              | 0  | 1  | 0  | 1     | 3:00 PM                | 0                   | 0  | 0  | 1  | 1     | 3:00 PM                | 0                                 | 0  | 1  | 0  | 1     |
| 3:15 PM                | 0              | 0  | 0  | 0  | 0     | 3:15 PM                | 0                   | 0  | 0  | 2  | 2     | 3:15 PM                | 0                                 | 0  | 0  | 2  | 2     |
| 3:30 PM                | 0              | 0  | 0  | 0  | 0     | 3:30 PM                | 0                   | 0  | 0  | 1  | 1     | 3:30 PM                | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM                | 0              | 0  | 1  | 0  | 1     | 3:45 PM                | 0                   | 0  | 0  | 0  | 0     | 3:45 PM                | 0                                 | 0  | 0  | 0  | 0     |
| Count Total            | 0              | 0  | 2  | 0  | 2     | Count Total            | 0                   | 0  | 0  | 4  | 4     | Count Total            | 0                                 | 0  | 1  | 2  | 3     |
| Peak Hour              | 0              | 0  | 2  | 0  | 2     | Peak Hour              | 0                   | 0  | 0  | 4  | 4     | Peak Hour              | 0                                 | 0  | 1  | 2  | 3     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 2.3% | 0.67 |
| WB  | 6.5% | 0.55 |
| NB  | 0.0% | 0.43 |
| SB  | 0.0% | 0.57 |
| All | 2.6% | 0.84 |

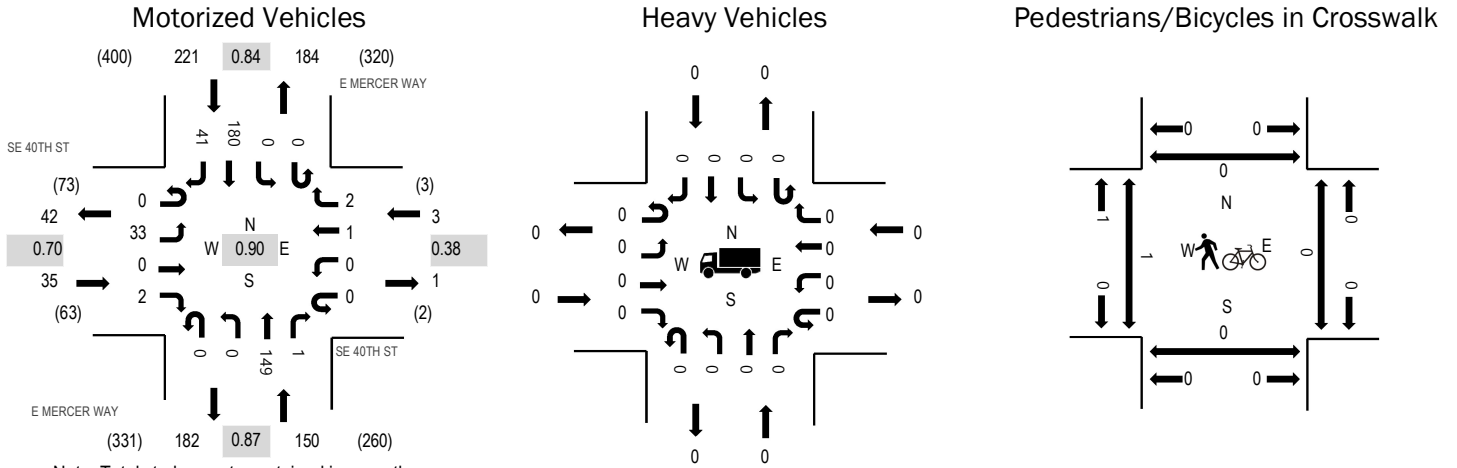
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | SITE ACCESS Northbound |      |      | SITE ACCESS Southbound |        |      |      | Total | Rolling Hour |       |
|---------------------|-----------------------|------|------|-------|-----------------------|------|------|-------|------------------------|------|------|------------------------|--------|------|------|-------|--------------|-------|
|                     | U-Turn                | Left | Thru | Right | U-Turn                | Left | Thru | Right | U-Turn                 | Left | Thru | Right                  | U-Turn | Left | Thru |       |              | Right |
| 3:00 PM             | 0                     | 3    | 5    | 5     | 0                     | 1    | 4    | 0     | 0                      | 1    | 0    | 1                      | 0      | 0    | 0    | 7     | 27           | 114   |
| 3:15 PM             | 0                     | 0    | 4    | 2     | 0                     | 0    | 8    | 1     | 0                      | 2    | 0    | 0                      | 0      | 1    | 0    | 1     | 19           |       |
| 3:30 PM             | 0                     | 1    | 3    | 4     | 0                     | 0    | 11   | 3     | 0                      | 6    | 0    | 0                      | 0      | 0    | 0    | 6     | 34           |       |
| 3:45 PM             | 0                     | 0    | 1    | 15    | 0                     | 0    | 3    | 0     | 0                      | 14   | 0    | 0                      | 0      | 0    | 0    | 1     | 34           |       |
| Count Total         | 0                     | 4    | 13   | 26    | 0                     | 1    | 26   | 4     | 0                      | 23   | 0    | 1                      | 0      | 1    | 0    | 15    | 114          |       |
| Peak Hour           | 0                     | 4    | 13   | 26    | 0                     | 1    | 26   | 4     | 0                      | 23   | 0    | 1                      | 0      | 1    | 0    | 15    | 114          |       |

**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 |
| 3:00 PM             | 1              | 0  | 1  | 0  | 2     | 3:00 PM             | 0                   | 0  | 0  | 0  | 0     | 3:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:15 PM             | 0              | 0  | 1  | 0  | 1     | 3:15 PM             | 0                   | 0  | 0  | 0  | 0     | 3:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:30 PM             | 0              | 0  | 0  | 0  | 0     | 3:30 PM             | 0                   | 0  | 0  | 0  | 0     | 3:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 3:45 PM             | 0              | 0  | 0  | 0  | 0     | 3:45 PM             | 0                   | 0  | 0  | 0  | 0     | 3:45 PM             | 0                                 | 0  | 0  | 0  | 0     |
| Count Total         | 1              | 0  | 2  | 0  | 3     | Count Total         | 0                   | 0  | 0  | 0  | 0     | Count Total         | 0                                 | 0  | 0  | 0  | 0     |
| Peak Hour           | 1              | 0  | 2  | 0  | 3     | Peak Hour           | 0                   | 0  | 0  | 0  | 0     | Peak Hour           | 0                                 | 0  | 0  | 0  | 0     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.70 |
| WB  | 0.0% | 0.38 |
| NB  | 0.0% | 0.87 |
| SB  | 0.0% | 0.84 |
| All | 0.0% | 0.90 |

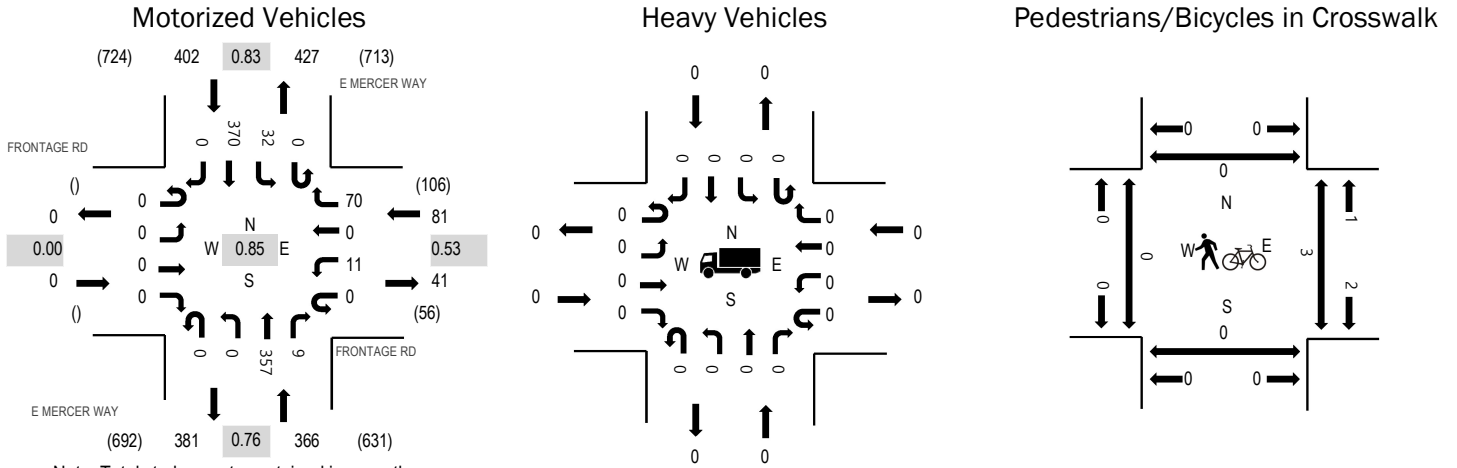
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | SE 40TH ST Eastbound |      |      |       | SE 40TH ST Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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    | 0     | 0                    | 0    | 0    | 0     | 0                       | 0    | 35   | 0     | 0                       | 0    | 30   | 4     | 74    | 342          |
| 4:15 PM             | 0                    | 2    | 0    | 0     | 0                    | 0    | 0    | 0     | 0                       | 0    | 29   | 0     | 0                       | 0    | 35   | 7     | 73    | 382          |
| 4:30 PM             | 0                    | 7    | 0    | 1     | 0                    | 0    | 0    | 1     | 0                       | 0    | 31   | 0     | 0                       | 0    | 40   | 11    | 91    | 409          |
| 4:45 PM             | 0                    | 9    | 0    | 0     | 0                    | 0    | 0    | 0     | 0                       | 0    | 39   | 0     | 0                       | 0    | 44   | 12    | 104   | 405          |
| 5:00 PM             | 0                    | 8    | 0    | 1     | 0                    | 0    | 1    | 1     | 0                       | 0    | 36   | 1     | 0                       | 0    | 56   | 10    | 114   | 384          |
| 5:15 PM             | 0                    | 9    | 0    | 0     | 0                    | 0    | 0    | 0     | 0                       | 0    | 43   | 0     | 0                       | 0    | 40   | 8     | 100   |              |
| 5:30 PM             | 0                    | 7    | 0    | 0     | 0                    | 0    | 0    | 0     | 0                       | 0    | 27   | 0     | 0                       | 1    | 41   | 11    | 87    |              |
| 5:45 PM             | 0                    | 12   | 0    | 2     | 0                    | 0    | 0    | 0     | 0                       | 0    | 19   | 0     | 0                       | 0    | 41   | 9     | 83    |              |
| Count Total         | 0                    | 59   | 0    | 4     | 0                    | 0    | 1    | 2     | 0                       | 0    | 259  | 1     | 0                       | 1    | 327  | 72    | 726   |              |
| Peak Hour           | 0                    | 33   | 0    | 2     | 0                    | 0    | 1    | 2     | 0                       | 0    | 149  | 1     | 0                       | 0    | 180  | 41    | 409   |              |

**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  | 0  | 0  | 0     | 4:00 PM             | 0                   | 0  | 0  | 0  | 0     | 4:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 1                   | 0  | 0  | 0  | 1     | 4:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 0  | 0     | 4:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 0                   | 0  | 0  | 0  | 0     | 4:45 PM             | 1                                 | 0  | 0  | 0  | 1     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 1  | 0  | 1  | 2     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:15 PM             | 0              | 0  | 0  | 0  | 0     | 5:15 PM             | 0                   | 2  | 0  | 3  | 5     | 5:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:30 PM             | 0              | 0  | 0  | 0  | 0     | 5:30 PM             | 1                   | 0  | 0  | 2  | 3     | 5:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 0                   | 2  | 0  | 0  | 2     | 5:45 PM             | 0                                 | 0  | 0  | 0  | 0     |
| Count Total         | 0              | 0  | 0  | 0  | 0     | Count Total         | 2                   | 5  | 0  | 6  | 13    | Count Total         | 1                                 | 0  | 0  | 0  | 1     |
| Peak Hour           | 0              | 0  | 0  | 0  | 0     | Peak Hour           | 0                   | 3  | 0  | 4  | 7     | Peak Hour           | 1                                 | 0  | 0  | 0  | 1     |

Peak Hour



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.00 |
| WB  | 0.0% | 0.53 |
| NB  | 0.0% | 0.76 |
| SB  | 0.0% | 0.83 |
| All | 0.0% | 0.85 |

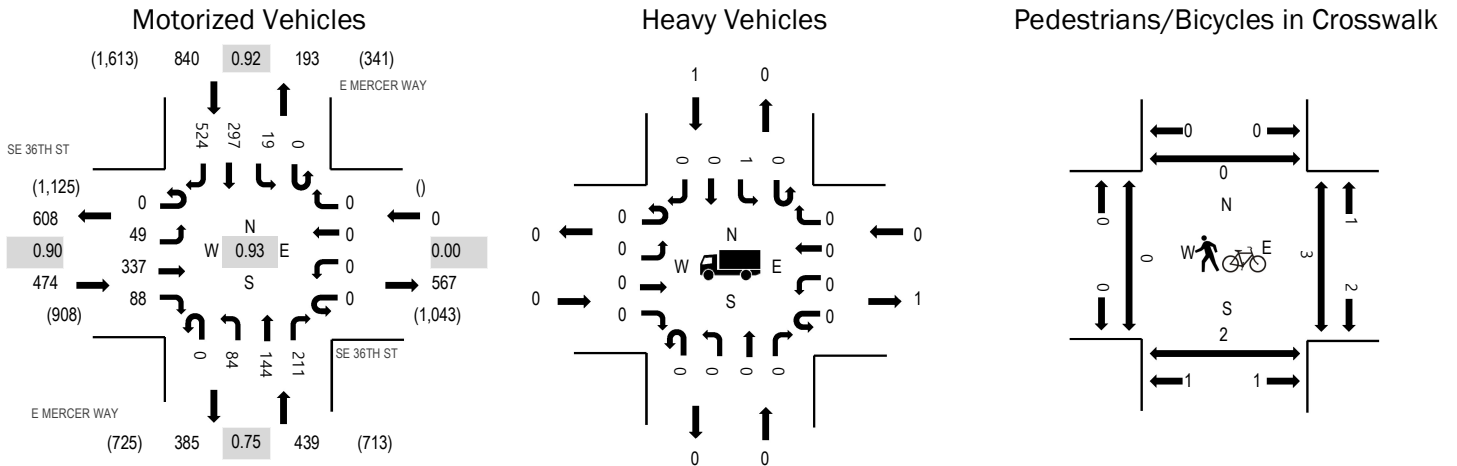
Traffic Counts - Motorized Vehicles

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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    | 0    | 0     | 0                     | 2    | 0    | 14    | 0                       | 0    | 64   | 0     | 0                       | 4    | 67   | 0     | 151   | 711          |
| 4:15 PM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 3     | 0                       | 0    | 52   | 0     | 0                       | 3    | 77   | 0     | 136   | 809          |
| 4:30 PM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 6     | 0                       | 0    | 73   | 1     | 0                       | 7    | 93   | 0     | 180   | 849          |
| 4:45 PM             | 0                     | 0    | 0    | 0     | 0                     | 7    | 0    | 31    | 0                       | 0    | 77   | 8     | 0                       | 17   | 104  | 0     | 244   | 845          |
| 5:00 PM             | 0                     | 0    | 0    | 0     | 0                     | 3    | 0    | 27    | 0                       | 0    | 125  | 0     | 0                       | 6    | 88   | 0     | 249   | 750          |
| 5:15 PM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 6     | 0                       | 0    | 82   | 0     | 0                       | 2    | 85   | 0     | 176   |              |
| 5:30 PM             | 0                     | 0    | 0    | 0     | 0                     | 1    | 0    | 3     | 0                       | 0    | 88   | 0     | 0                       | 3    | 81   | 0     | 176   |              |
| 5:45 PM             | 0                     | 0    | 0    | 0     | 0                     | 0    | 0    | 1     | 0                       | 0    | 61   | 0     | 0                       | 5    | 82   | 0     | 149   |              |
| Count Total         | 0                     | 0    | 0    | 0     | 0                     | 15   | 0    | 91    | 0                       | 0    | 622  | 9     | 0                       | 47   | 677  | 0     | 1,461 |              |
| Peak Hour           | 0                     | 0    | 0    | 0     | 0                     | 11   | 0    | 70    | 0                       | 0    | 357  | 9     | 0                       | 32   | 370  | 0     | 849   |              |

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  | 0  | 0  | 0     | 4:00 PM             | 0                   | 1  | 0  | 0  | 1     | 4:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 0                   | 0  | 0  | 0  | 0     | 4:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 0  | 0     | 4:30 PM             | 0                                 | 0  | 2  | 0  | 2     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 0                   | 0  | 0  | 0  | 0     | 4:45 PM             | 0                                 | 0  | 1  | 0  | 1     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 1  | 0  | 0  | 1     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:15 PM             | 0              | 0  | 0  | 0  | 0     | 5:15 PM             | 0                   | 2  | 0  | 3  | 5     | 5:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:30 PM             | 0              | 0  | 0  | 0  | 0     | 5:30 PM             | 0                   | 0  | 0  | 1  | 1     | 5:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 0                   | 2  | 0  | 1  | 3     | 5:45 PM             | 0                                 | 0  | 4  | 0  | 4     |
| Count Total         | 0              | 0  | 0  | 0  | 0     | Count Total         | 0                   | 6  | 0  | 5  | 11    | Count Total         | 0                                 | 0  | 7  | 0  | 7     |
| Peak Hour           | 0              | 0  | 0  | 0  | 0     | Peak Hour           | 0                   | 3  | 0  | 3  | 6     | Peak Hour           | 0                                 | 0  | 3  | 0  | 3     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.90 |
| WB  | 0.0% | 0.00 |
| NB  | 0.0% | 0.75 |
| SB  | 0.1% | 0.92 |
| All | 0.1% | 0.93 |

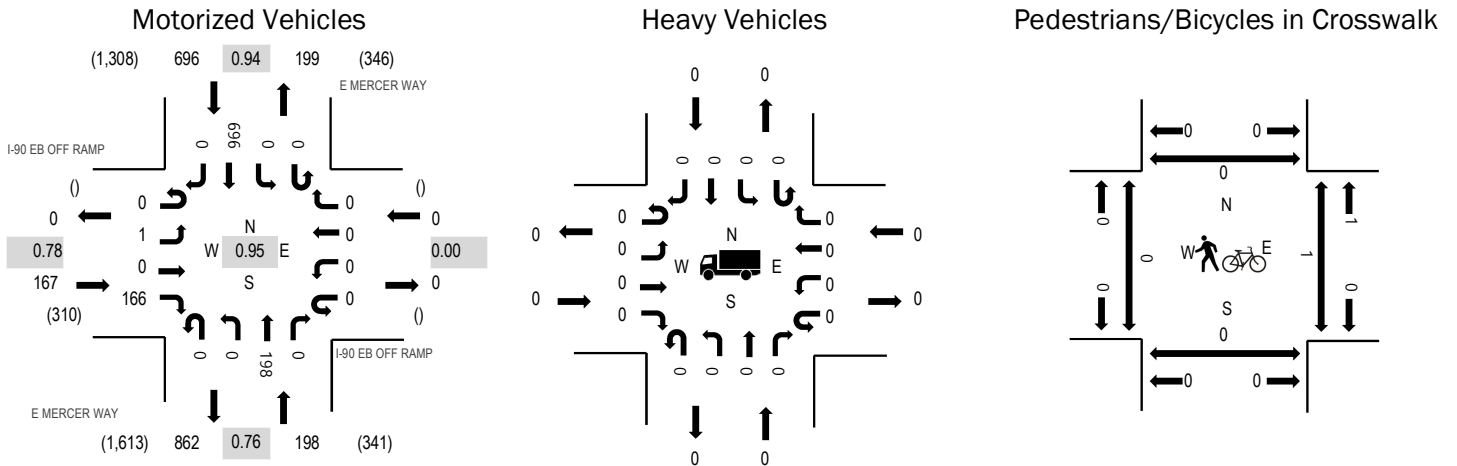
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | SE 36TH ST Eastbound |      |      |       | SE 36TH ST Westbound |      |      |       | E MERCER WAY Northbound |      |      | E MERCER WAY 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                    | 16   | 97   | 11    | 0                    | 0    | 0    | 0     | 0                       | 18   | 25   | 35                      | 0      | 3    | 62   | 90    | 357          | 1,576 |
| 4:15 PM             | 0                    | 23   | 75   | 13    | 0                    | 0    | 0    | 0     | 0                       | 11   | 9    | 35                      | 0      | 6    | 65   | 125   | 362          | 1,692 |
| 4:30 PM             | 0                    | 19   | 72   | 11    | 0                    | 0    | 0    | 0     | 0                       | 13   | 28   | 37                      | 0      | 5    | 90   | 121   | 396          | 1,747 |
| 4:45 PM             | 0                    | 11   | 69   | 39    | 0                    | 0    | 0    | 0     | 0                       | 27   | 33   | 49                      | 0      | 3    | 86   | 144   | 461          | 1,753 |
| 5:00 PM             | 0                    | 16   | 95   | 20    | 0                    | 0    | 0    | 0     | 0                       | 26   | 49   | 71                      | 0      | 3    | 72   | 121   | 473          | 1,658 |
| 5:15 PM             | 0                    | 13   | 80   | 13    | 0                    | 0    | 0    | 0     | 0                       | 19   | 29   | 46                      | 0      | 6    | 73   | 138   | 417          |       |
| 5:30 PM             | 0                    | 9    | 93   | 16    | 0                    | 0    | 0    | 0     | 0                       | 12   | 33   | 45                      | 0      | 7    | 66   | 121   | 402          |       |
| 5:45 PM             | 0                    | 8    | 72   | 17    | 0                    | 0    | 0    | 0     | 0                       | 13   | 20   | 30                      | 0      | 9    | 71   | 126   | 366          |       |
| Count Total         | 0                    | 115  | 653  | 140   | 0                    | 0    | 0    | 0     | 0                       | 139  | 226  | 348                     | 0      | 42   | 585  | 986   | 3,234        |       |
| Peak Hour           | 0                    | 49   | 337  | 88    | 0                    | 0    | 0    | 0     | 0                       | 84   | 144  | 211                     | 0      | 19   | 297  | 524   | 1,753        |       |

**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  | 0  | 0  | 0     | 4:00 PM             | 1                   | 1  | 0  | 1  | 3     | 4:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 0                   | 0  | 0  | 0  | 0     | 4:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 1  | 1     | 4:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 1                   | 0  | 0  | 0  | 1     | 4:45 PM             | 0                                 | 1  | 2  | 0  | 3     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 1  | 0  | 1  | 2     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:15 PM             | 0              | 0  | 0  | 0  | 0     | 5:15 PM             | 2                   | 2  | 0  | 3  | 7     | 5:15 PM             | 0                                 | 1  | 1  | 0  | 2     |
| 5:30 PM             | 0              | 0  | 0  | 1  | 1     | 5:30 PM             | 2                   | 0  | 0  | 1  | 3     | 5:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 1                   | 2  | 0  | 0  | 3     | 5:45 PM             | 0                                 | 0  | 4  | 0  | 4     |
| Count Total         | 0              | 0  | 0  | 1  | 1     | Count Total         | 7                   | 6  | 0  | 7  | 20    | Count Total         | 0                                 | 2  | 7  | 0  | 9     |
| Peak Hour           | 0              | 0  | 0  | 1  | 1     | Peak Hour           | 5                   | 3  | 0  | 5  | 13    | Peak Hour           | 0                                 | 2  | 3  | 0  | 5     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.78 |
| WB  | 0.0% | 0.00 |
| NB  | 0.0% | 0.76 |
| SB  | 0.0% | 0.94 |
| All | 0.0% | 0.95 |

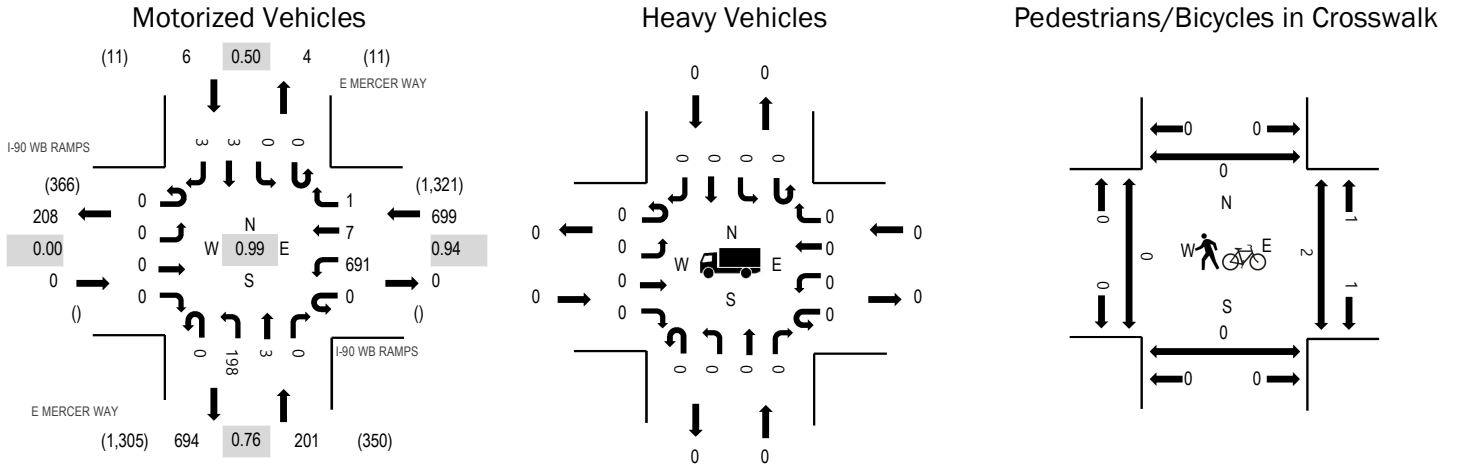
**Traffic Counts - Motorized Vehicles**

| Interval Start Time | I-90 EB OFF RAMP Eastbound |      |      |       | I-90 EB OFF RAMP Westbound |      |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY 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    | 40    | 0                          | 0    | 0    | 0     | 0                       | 0    | 41   | 0     | 0                       | 0    | 115   | 0     | 197   | 967          |
| 4:15 PM             | 0                          | 1    | 0    | 40    | 0                          | 0    | 0    | 0     | 0                       | 0    | 32   | 0     | 0                       | 0    | 156   | 0     | 229   | 1,031        |
| 4:30 PM             | 0                          | 0    | 0    | 40    | 0                          | 0    | 0    | 0     | 0                       | 0    | 47   | 0     | 0                       | 0    | 176   | 0     | 263   | 1,061        |
| 4:45 PM             | 0                          | 1    | 0    | 57    | 0                          | 0    | 0    | 0     | 0                       | 0    | 44   | 0     | 0                       | 0    | 176   | 0     | 278   | 1,034        |
| 5:00 PM             | 0                          | 0    | 0    | 38    | 0                          | 0    | 0    | 0     | 0                       | 0    | 65   | 0     | 0                       | 0    | 158   | 0     | 261   | 992          |
| 5:15 PM             | 0                          | 0    | 0    | 31    | 0                          | 0    | 0    | 0     | 0                       | 0    | 42   | 0     | 0                       | 0    | 186   | 0     | 259   |              |
| 5:30 PM             | 0                          | 0    | 0    | 31    | 0                          | 0    | 0    | 0     | 0                       | 0    | 42   | 0     | 0                       | 0    | 163   | 0     | 236   |              |
| 5:45 PM             | 0                          | 2    | 0    | 28    | 0                          | 0    | 0    | 0     | 0                       | 0    | 28   | 0     | 0                       | 0    | 178   | 0     | 236   |              |
| Count Total         | 0                          | 5    | 0    | 305   | 0                          | 0    | 0    | 0     | 0                       | 0    | 341  | 0     | 0                       | 0    | 1,308 | 0     | 1,959 |              |
| Peak Hour           | 0                          | 1    | 0    | 166   | 0                          | 0    | 0    | 0     | 0                       | 0    | 198  | 0     | 0                       | 0    | 696   | 0     | 1,061 |              |

**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  | 0  | 0  | 0     | 4:00 PM             | 0                   | 2  | 0  | 1  | 3     | 4:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 0                   | 0  | 0  | 0  | 0     | 4:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 1  | 1     | 4:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 0                   | 1  | 0  | 0  | 1     | 4:45 PM             | 0                                 | 0  | 1  | 0  | 1     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 0  | 0  | 1  | 1     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:15 PM             | 0              | 0  | 0  | 0  | 0     | 5:15 PM             | 0                   | 1  | 0  | 3  | 4     | 5:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:30 PM             | 0              | 0  | 0  | 1  | 1     | 5:30 PM             | 0                   | 1  | 0  | 1  | 2     | 5:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 0                   | 2  | 0  | 0  | 2     | 5:45 PM             | 0                                 | 0  | 0  | 0  | 0     |
| Count Total         | 0              | 0  | 0  | 1  | 1     | Count Total         | 0                   | 7  | 0  | 7  | 14    | Count Total         | 0                                 | 0  | 1  | 0  | 1     |
| Peak Hour           | 0              | 0  | 0  | 0  | 0     | Peak Hour           | 0                   | 2  | 0  | 5  | 7     | Peak Hour           | 0                                 | 0  | 1  | 0  | 1     |

**Peak Hour**



Note: Total study counts contained in parentheses.

|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.00 |
| WB  | 0.0% | 0.94 |
| NB  | 0.0% | 0.76 |
| SB  | 0.0% | 0.50 |
| All | 0.0% | 0.99 |

**Traffic Counts - Motorized Vehicles**

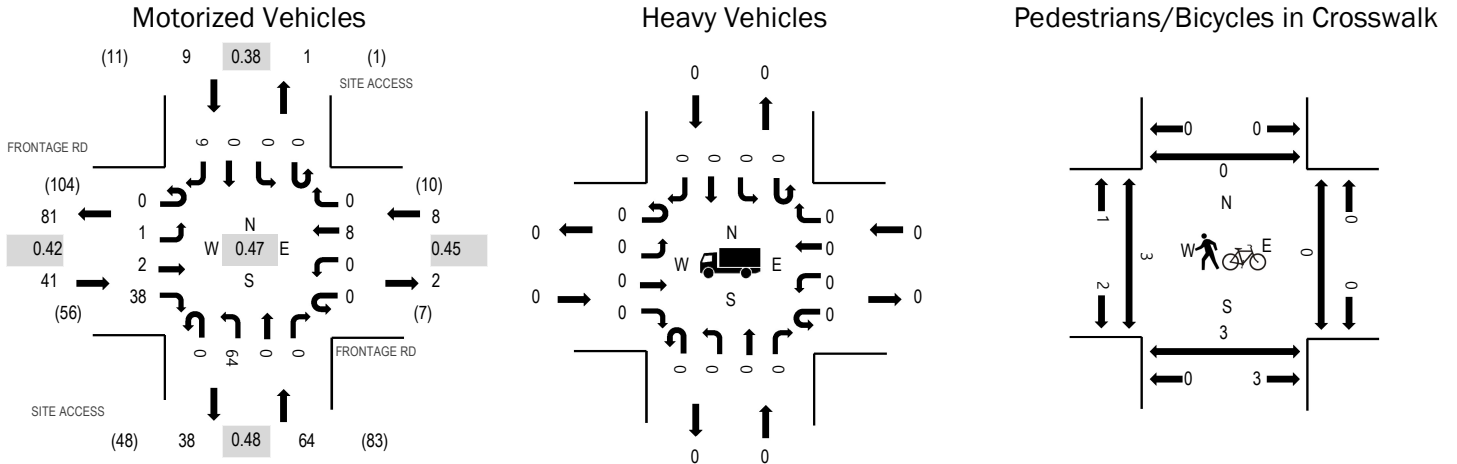
| Interval Start Time | I-90 WB RAMPS Eastbound |      |      |       | I-90 WB RAMPS Westbound |       |      |       | E MERCER WAY Northbound |      |      |       | E MERCER WAY Southbound |      |      |       | Total | Rolling Hour |
|---------------------|-------------------------|------|------|-------|-------------------------|-------|------|-------|-------------------------|------|------|-------|-------------------------|------|------|-------|-------|--------------|
|                     | 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    | 0    | 0     | 0                       | 116   | 1    | 0     | 0                       | 45   | 0    | 0     | 0                       | 0    | 0    | 0     | 162   | 802          |
| 4:15 PM             | 0                       | 0    | 0    | 0     | 0                       | 153   | 1    | 2     | 0                       | 31   | 1    | 0     | 0                       | 0    | 1    | 0     | 189   | 868          |
| 4:30 PM             | 0                       | 0    | 0    | 0     | 0                       | 174   | 3    | 1     | 0                       | 45   | 1    | 0     | 0                       | 0    | 0    | 0     | 224   | 906          |
| 4:45 PM             | 0                       | 0    | 0    | 0     | 0                       | 178   | 0    | 0     | 0                       | 46   | 1    | 0     | 0                       | 0    | 0    | 2     | 227   | 892          |
| 5:00 PM             | 0                       | 0    | 0    | 0     | 0                       | 156   | 2    | 0     | 0                       | 66   | 0    | 0     | 0                       | 0    | 3    | 1     | 228   | 880          |
| 5:15 PM             | 0                       | 0    | 0    | 0     | 0                       | 183   | 2    | 0     | 0                       | 41   | 1    | 0     | 0                       | 0    | 0    | 0     | 227   |              |
| 5:30 PM             | 0                       | 0    | 0    | 0     | 0                       | 163   | 3    | 1     | 0                       | 42   | 0    | 0     | 0                       | 0    | 0    | 1     | 210   |              |
| 5:45 PM             | 0                       | 0    | 0    | 0     | 0                       | 176   | 5    | 1     | 0                       | 28   | 2    | 0     | 0                       | 0    | 2    | 1     | 215   |              |
| Count Total         | 0                       | 0    | 0    | 0     | 0                       | 1,299 | 17   | 5     | 0                       | 344  | 6    | 0     | 0                       | 0    | 6    | 5     | 1,682 |              |
| Peak Hour           | 0                       | 0    | 0    | 0     | 0                       | 691   | 7    | 1     | 0                       | 198  | 3    | 0     | 0                       | 0    | 3    | 3     | 906   |              |

**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  | 0  | 0  | 0     | 4:00 PM             | 0                   | 1  | 0  | 1  | 2     | 4:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 0                   | 1  | 0  | 0  | 1     | 4:15 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 1  | 1     | 4:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 0                   | 1  | 0  | 0  | 1     | 4:45 PM             | 0                                 | 0  | 1  | 0  | 1     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 0  | 0  | 1  | 1     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:15 PM             | 0              | 0  | 0  | 0  | 0     | 5:15 PM             | 0                   | 1  | 0  | 3  | 4     | 5:15 PM             | 0                                 | 0  | 1  | 0  | 1     |
| 5:30 PM             | 0              | 0  | 1  | 0  | 1     | 5:30 PM             | 0                   | 1  | 0  | 1  | 2     | 5:30 PM             | 0                                 | 0  | 1  | 1  | 2     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 0                   | 2  | 0  | 0  | 2     | 5:45 PM             | 0                                 | 0  | 1  | 0  | 1     |
| Count Total         | 0              | 0  | 1  | 0  | 1     | Count Total         | 0                   | 7  | 0  | 7  | 14    | Count Total         | 0                                 | 0  | 4  | 1  | 5     |
| Peak Hour           | 0              | 0  | 0  | 0  | 0     | Peak Hour           | 0                   | 2  | 0  | 5  | 7     | Peak Hour           | 0                                 | 0  | 2  | 0  | 2     |



**Peak Hour**



|     | HV%  | PHF  |
|-----|------|------|
| EB  | 0.0% | 0.42 |
| WB  | 0.0% | 0.45 |
| NB  | 0.0% | 0.48 |
| SB  | 0.0% | 0.38 |
| All | 0.0% | 0.47 |

**Traffic Counts - Motorized Vehicles**

| Interval Start Time | FRONTAGE RD Eastbound |      |      |       | FRONTAGE RD Westbound |      |      |       | SITE ACCESS Northbound |      |      |       | SITE ACCESS 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    | 0    | 4     | 0                     | 0    | 0    | 0     | 0                      | 13   | 0    | 0     | 0                      | 0    | 0    | 1     | 18    | 105          |
| 4:15 PM             | 0                     | 0    | 2    | 1     | 0                     | 0    | 0    | 0     | 0                      | 3    | 0    | 0     | 0                      | 0    | 0    | 1     | 7     | 120          |
| 4:30 PM             | 0                     | 1    | 0    | 7     | 0                     | 0    | 1    | 0     | 0                      | 6    | 0    | 0     | 0                      | 0    | 0    | 0     | 15    | 122          |
| 4:45 PM             | 0                     | 0    | 1    | 24    | 0                     | 0    | 5    | 0     | 0                      | 33   | 0    | 0     | 0                      | 0    | 0    | 2     | 65    | 114          |
| 5:00 PM             | 0                     | 0    | 0    | 6     | 0                     | 0    | 1    | 0     | 0                      | 20   | 0    | 0     | 0                      | 0    | 0    | 6     | 33    | 55           |
| 5:15 PM             | 0                     | 0    | 1    | 1     | 0                     | 0    | 1    | 0     | 0                      | 5    | 0    | 0     | 0                      | 0    | 0    | 1     | 9     |              |
| 5:30 PM             | 0                     | 0    | 2    | 1     | 0                     | 0    | 2    | 0     | 0                      | 2    | 0    | 0     | 0                      | 0    | 0    | 0     | 7     |              |
| 5:45 PM             | 0                     | 0    | 1    | 4     | 0                     | 0    | 0    | 0     | 0                      | 1    | 0    | 0     | 0                      | 0    | 0    | 0     | 6     |              |
| Count Total         | 0                     | 1    | 7    | 48    | 0                     | 0    | 10   | 0     | 0                      | 83   | 0    | 0     | 0                      | 0    | 0    | 11    | 160   |              |
| Peak Hour           | 0                     | 1    | 2    | 38    | 0                     | 0    | 8    | 0     | 0                      | 64   | 0    | 0     | 0                      | 0    | 0    | 9     | 122   |              |

**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  | 0  | 0  | 0     | 4:00 PM             | 0                   | 0  | 0  | 0  | 0     | 4:00 PM             | 0                                 | 2  | 0  | 0  | 2     |
| 4:15 PM             | 0              | 0  | 0  | 0  | 0     | 4:15 PM             | 0                   | 0  | 0  | 0  | 0     | 4:15 PM             | 0                                 | 1  | 0  | 0  | 1     |
| 4:30 PM             | 0              | 0  | 0  | 0  | 0     | 4:30 PM             | 0                   | 0  | 0  | 0  | 0     | 4:30 PM             | 2                                 | 3  | 0  | 0  | 5     |
| 4:45 PM             | 0              | 0  | 0  | 0  | 0     | 4:45 PM             | 0                   | 0  | 0  | 0  | 0     | 4:45 PM             | 1                                 | 0  | 0  | 0  | 1     |
| 5:00 PM             | 0              | 0  | 0  | 0  | 0     | 5:00 PM             | 0                   | 0  | 0  | 0  | 0     | 5:00 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 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  | 0  | 0     | 5:30 PM             | 0                   | 0  | 0  | 0  | 0     | 5:30 PM             | 0                                 | 0  | 0  | 0  | 0     |
| 5:45 PM             | 0              | 0  | 0  | 0  | 0     | 5:45 PM             | 0                   | 0  | 0  | 0  | 0     | 5:45 PM             | 1                                 | 0  | 0  | 0  | 1     |
| Count Total         | 0              | 0  | 0  | 0  | 0     | Count Total         | 0                   | 0  | 0  | 0  | 0     | Count Total         | 4                                 | 6  | 0  | 0  | 10    |
| Peak Hour           | 0              | 0  | 0  | 0  | 0     | Peak Hour           | 0                   | 0  | 0  | 0  | 0     | Peak Hour           | 3                                 | 3  | 0  | 0  | 6     |

## Appendix B: LOS Definitions

## Highway Capacity Manual 7th Edition

**Signalized intersection** level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 7th Edition* (Transportation Research Board, 2022).

**Table 1. Level of Service Criteria for Signalized Intersections**

| Level of Service | Average Control Delay (seconds/vehicle) | General Description   |
|------------------|---|---|
| A                | ≤10                                     | Free Flow   |
| B                | >10 – 20                                | Stable Flow (slight delays)   |
| C                | >20 – 35                                | Stable flow (acceptable delays)   |
| D                | >35 – 55                                | Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding) |
| E                | >55 – 80                                | Unstable flow (intolerable delay)   |
| F <sup>1</sup>   | >80                                     | Forced flow (congested and queues fail to clear)  |

Source: *Highway Capacity Manual 7th Edition*, Transportation Research Board, 2022, respectively.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

**Unsignalized intersection** LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop controlled. All-way stop controlled intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

**Table 2. Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Average Control Delay (seconds/vehicle) |
|------------------|---|
| A                | 0 – 10                                  |
| B                | >10 – 15                                |
| C                | >15 – 25                                |
| D                | >25 – 35                                |
| E                | >35 – 50                                |
| F <sup>1</sup>   | >50                                     |

Source: *Highway Capacity Manual 7th Edition*, Transportation Research Board, 2022, respectively.

1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

## Highway Capacity Manual, 2000

**Signalized intersection** level of service (LOS) is defined in terms of the average total vehicle delay of all movements through an intersection. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. Specifically, LOS criteria are stated in terms of average delay per vehicle during a specified time period (for example, the PM peak hour). Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. Table 1 shows LOS criteria for signalized intersections, as described in the *Highway Capacity Manual* (Transportation Research Board, Special Report 209, 2000).

**Table 1. Level of Service Criteria for Signalized Intersections**

| Level of Service | Average Control Delay (sec/veh) | General Description (Signalized Intersections)  |
|------------------|---------------------------------|---|
| A                | ≤10                             | Free Flow   |
| B                | >10 - 20                        | Stable Flow (slight delays)   |
| C                | >20 - 35                        | Stable flow (acceptable delays)   |
| D                | >35 - 55                        | Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding) |
| E                | >55 - 80                        | Unstable flow (intolerable delay)   |
| F                | >80                             | Forced flow (jammed)  |

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

**Unsignalized intersection** LOS criteria can be further reduced into two intersection types: all-way stop-controlled and two-way stop-controlled. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 2 shows LOS criteria for unsignalized intersections (both all-way and two-way, stop-controlled).

**Table 2. Level of Service Criteria for Unsignalized Intersections**

| Level of Service | Average Control Delay (sec/veh) |
|------------------|---------------------------------|
| A                | 0 - 10                          |
| B                | >10 - 15                        |
| C                | >15 - 25                        |
| D                | >25 - 35                        |
| E                | >35 - 50                        |
| F                | >50                             |

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 2000.

## Appendix C: LOS Worksheets

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 25   | 0    | 3    | 0    | 0    | 2    | 2    | 180  | 0    | 1    | 120  | 25   |
| Future Vol, veh/h        | 25   | 0    | 3    | 0    | 0    | 2    | 2    | 180  | 0    | 1    | 120  | 25   |
| Conflicting Peds, #/hr   | 2    | 0    | 2    | 0    | 0    | 0    | 2    | 0    | 0    | 0    | 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    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 26   | 0    | 3    | 0    | 0    | 2    | 2    | 189  | 0    | 1    | 126  | 26   |

| Major/Minor          | Minor2 |     | Minor1 |     |     | Major1 |      |   | Major2 |      |   |   |
|----------------------|--------|-----|--------|-----|-----|--------|------|---|--------|------|---|---|
| Conflicting Flow All | 339    | 337 | 143    | 324 | 350 | 191    | 155  | 0 | 0      | 189  | 0 | 0 |
| Stage 1              | 144    | 144 | -      | 194 | 194 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 196    | 194 | -      | 130 | 157 | -      | -    | - | -      | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5 | 6.2    | 4.1  | - | -      | 4.1  | - | - |
| 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    | 2.2  | - | -      | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 618    | 587 | 909    | 633 | 577 | 855    | 1438 | - | -      | 1397 | - | - |
| Stage 1              | 864    | 782 | -      | 813 | 744 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 811    | 744 | -      | 878 | 772 | -      | -    | - | -      | -    | - | - |
| Platoon blocked, %   |        |     |        |     |     |        |      | - | -      | -    | - | - |
| Mov Cap-1 Maneuver   | 613    | 584 | 906    | 628 | 575 | 854    | 1435 | - | -      | 1397 | - | - |
| Mov Cap-2 Maneuver   | 613    | 584 | -      | 628 | 575 | -      | -    | - | -      | -    | - | - |
| Stage 1              | 862    | 780 | -      | 811 | 743 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 806    | 743 | -      | 873 | 770 | -      | -    | - | -      | -    | - | - |

| Approach                    | EB |  | WB   |  |  | NB   |  |  | SB   |  |  |
|-----------------------------|----|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/v10.94 |    |  | 9.23 |  |  | 0.08 |  |  | 0.05 |  |  |
| HCM LOS                     | B  |  | A    |  |  |      |  |  |      |  |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL   | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h)          | 20    | -   | -   | 635   | 854   | 12    | -   | -   |
| HCM Lane V/C Ratio        | 0.001 | -   | -   | 0.046 | 0.002 | 0.001 | -   | -   |
| HCM Control Delay (s/veh) | 7.5   | 0   | -   | 10.9  | 9.2   | 7.6   | 0   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A     | A   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.1   | 0     | 0     | -   | -   |

HCM 7th TWSC  
2: E Mercer Way & Frontage Rd

JDS  
Existing (2024) AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 1    | 35   | 455  | 0    | 35   | 440  |
| Future Vol, veh/h        | 1    | 35   | 455  | 0    | 35   | 440  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 11   | 11   | 0    | 0    | 1    | 1    |
| Mvmt Flow                | 1    | 40   | 517  | 0    | 40   | 500  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1103   | 523    | 0      | 0 | 520   | 0 |
| Stage 1              | 520    | -      | -      | - | -     | - |
| Stage 2              | 583    | -      | -      | - | -     | - |
| Critical Hdwy        | 6.51   | 6.31   | -      | - | 4.11  | - |
| Critical Hdwy Stg 1  | 5.51   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.51   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.599  | 3.399  | -      | - | 2.209 | - |
| Pot Cap-1 Maneuver   | 225    | 537    | -      | - | 1051  | - |
| Stage 1              | 579    | -      | -      | - | -     | - |
| Stage 2              | 541    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       | - |
| Mov Cap-1 Maneuver   | 212    | 534    | -      | - | 1048  | - |
| Mov Cap-2 Maneuver   | 212    | -      | -      | - | -     | - |
| Stage 1              | 577    | -      | -      | - | -     | - |
| Stage 2              | 511    | -      | -      | - | -     | - |




















| Approach               | WB    | NB | SB   |
|------------------------|-------|----|------|
| HCM Control Delay, s/v | 12.64 | 0  | 0.63 |
| HCM LOS                | B     |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL  | SBT   |
|---------------------------|-----|----------|------|-------|
| Capacity (veh/h)          | -   | -        | 512  | 133   |
| HCM Lane V/C Ratio        | -   | -        | 0.08 | 0.038 |
| HCM Control Delay (s/veh) | -   | -        | 12.6 | 8.6   |
| HCM Lane LOS              | -   | -        | B    | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.3  | 0.1   |

# HCM Signalized Intersection Capacity Analysis

## 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
Existing (2024) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 35  | 370   | 80  | 0   | 0   | 0   | 75  | 135   | 280   | 30  | 395   | 590   |
| Future Volume (vph)               | 35  | 370   | 80  | 0   | 0   | 0   | 75  | 135   | 280   | 30  | 395   | 590   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.97  |   | 1.00  | 1.00  | 0.97  |
| Flpb, ped/bikes                   |   | 0.99  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.89  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1891  | 1570  |   |   |   | 1779  | 1645  |   | 1805  | 1900  | 1576  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.51  | 1.00  |   | 0.20  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1891  | 1570  |   |   |   | 971   | 1645  |   | 391   | 1900  | 1576  |
| Peak-hour factor, PHF             | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Adj. Flow (vph)                   | 37  | 389   | 84  | 0   | 0   | 0   | 79  | 142   | 295   | 32  | 416   | 621   |
| RTOR Reduction (vph)              | 0   | 0   | 55  | 0   | 0   | 0   | 0   | 68  | 0   | 0   | 0   | 316   |
| Lane Group Flow (vph)             | 0   | 426   | 29  | 0   | 0   | 0   | 79  | 369   | 0   | 32  | 416   | 305   |
| Confl. Peds. (#/hr)               | 2   |   | 4   | 8   |   | 6   | 4   |   | 8   | 6   |   | 2   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 1%  | 1%  | 1%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 32.8  | 32.8  |   |   |   | 26.7  | 26.7  |   | 42.2  | 42.2  | 42.2  |
| Effective Green, g (s)            |   | 29.8  | 29.8  |   |   |   | 26.7  | 26.7  |   | 42.2  | 42.2  | 42.2  |
| Actuated g/C Ratio                |   | 0.35  | 0.35  |   |   |   | 0.31  | 0.31  |   | 0.49  | 0.49  | 0.49  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 655   | 544   |   |   |   | 301   | 510   |   | 349   | 932   | 773   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.22   |   | 0.01  | c0.22   |   |
| v/s Ratio Perm                    |   | 0.23  | 0.02  |   |   |   | 0.08  |   |   | 0.03  |   | 0.19  |
| v/c Ratio                         |   | 0.65  | 0.05  |   |   |   | 0.26  | 0.72  |   | 0.09  | 0.44  | 0.39  |
| Uniform Delay, d1                 |   | 23.7  | 18.7  |   |   |   | 22.2  | 26.3  |   | 13.6  | 14.2  | 13.8  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.92  | 0.88  | 0.81  |
| Incremental Delay, d2             |   | 3.6   | 0.1   |   |   |   | 0.4   | 5.0   |   | 0.1   | 0.3   | 0.3   |
| Delay (s)                         |   | 27.4  | 18.8  |   |   |   | 22.7  | 31.3  |   | 12.7  | 13.0  | 11.6  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 25.9  |   |   | 0.0   |   |   | 30.0  |   |   | 12.1  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 20.0  |   |   |   | HCM 2000 Level of Service   |   |   |   | B   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.67  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 86.0  |   |   |   | Sum of lost time (s)  |   |   |   | 19.9  |   |
| Intersection Capacity Utilization |   |   | 73.7%   |   |   |   | ICU Level of Service  |   |   |   | D   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Existing (2024) AM Peak Hour



| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 2    | 265   | 0    | 175  | 745   | 0    |
| Future Volume (vph)    | 2    | 265   | 0    | 175  | 745   | 0    |
| Ideal Flow (vphpl)     | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frbp, ped/bikes        | 1.00 | 0.98  |      | 1.00 | 1.00  |      |
| Flpb, ped/bikes        | 1.00 | 1.00  |      | 1.00 | 1.00  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1591  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1591  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 |
| Adj. Flow (vph)        | 2    | 279   | 0    | 184  | 784   | 0    |
| RTOR Reduction (vph)   | 0    | 205   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 2    | 74    | 0    | 184  | 784   | 0    |
| Confl. Peds. (#/hr)    | 1    | 1     | 1    |      |       | 1    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 9.6  | 9.6   |      | 65.0 | 65.0  |      |
| Effective Green, g (s) | 9.6  | 9.6   |      | 65.0 | 65.0  |      |
| Actuated g/C Ratio     | 0.11 | 0.11  |      | 0.76 | 0.76  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 201  | 177   |      | 1436 | 2728  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.10 | c0.22 |      |
| v/s Ratio Perm         |      | c0.05 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.41  |      | 0.12 | 0.28  |      |
| Uniform Delay, d1      | 33.9 | 35.5  |      | 2.8  | 3.2   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.17 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 1.5   |      | 0.0  | 0.0   |      |
| Delay (s)              | 33.9 | 37.1  |      | 0.5  | 3.3   |      |
| Level of Service       | C    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 37.1 |       |      | 0.5  | 3.3   |      |
| Approach LOS           | D    |       |      | A    | A     |      |
















### Intersection Summary

|                                   |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 10.5  | HCM 2000 Level of Service | B    |
| HCM 2000 Volume to Capacity ratio | 0.33  |                           |      |
| Actuated Cycle Length (s)         | 86.0  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 46.6% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |

c Critical Lane Group

HCM 7th Signalized Intersection Summary  
 5: E Mercer Way & I-90 WB Ramps

JDS  
 Existing (2024) AM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 735   | 55  | 3   | 175   | 0   | 0   | 0   | 5   | 1   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 735   | 55  | 3   | 175   | 0   | 0   | 0   | 5   | 1   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 758   | 57  | 3   | 180   | 0   | 0   | 0   | 5   | 1   |
| Peak Hour Factor   |   |   |   | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 857   | 64  | 3   | 398   | 0   | 0   | 0   | 258   | 52  |
| Arrive On Green  |   |   |   | 0.58  | 0.51  | 0.58  | 0.17  | 0.00  | 0.00  | 0.00  | 0.17  | 0.17  |
| Sat Flow, veh/h  |   |   |   | 1682  | 126   | 7   | 1409  | 0   | 0   | 0   | 1537  | 307   |
| Grp Volume(v), veh/h   |   |   |   | 818   | 0   | 0   | 180   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1815  | 0   | 0   | 1409  | 0   | 0   | 0   | 0   | 1845  |
| Q Serve(g_s), s  |   |   |   | 17.4  | 0.0   | 0.0   | 5.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 17.4  | 0.0   | 0.0   | 5.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.93  |   | 0.00  | 1.00  |   | 0.00  | 0.00  |   | 0.17  |
| Lane Grp Cap(c), veh/h   |   |   |   | 924   | 0   | 0   | 398   | 0   | 0   | 0   | 0   | 309   |
| V/C Ratio(X)   |   |   |   | 0.88  | 0.00  | 0.00  | 0.45  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1265  | 0   | 0   | 944   | 0   | 0   | 0   | 0   | 1013  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 8.4   | 0.0   | 0.0   | 17.8  | 0.0   | 0.0   | 0.0   | 0.0   | 15.5  |
| Incr Delay (d2), s/veh   |   |   |   | 6.4   | 0.0   | 0.0   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 5.4   | 0.0   | 0.0   | 1.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 14.8  | 0.0   | 0.0   | 18.6  | 0.0   | 0.0   | 0.0   | 0.0   | 15.5  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 818   |   |   | 180   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 14.8  |   |   | 18.6  |   |   |   | 15.5  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 13.0  |   | 31.6  |   | 13.0  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 19.4  |   | 7.5   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 6.3   |   | 0.8   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 15.5  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

HCM 7th TWSC  
6: Site Access & Frontage Rd

JDS  
Existing (2024) AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 20   | 35   | 0    | 30   | 1    | 0    |
| Future Vol, veh/h        | 20   | 35   | 0    | 30   | 1    | 0    |
| Conflicting Peds, #/hr   | 0    | 8    | 5    | 0    | 8    | 5    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 3    | 3    | 3    | 3    | 0    | 0    |
| Mvmt Flow                | 23   | 40   | 0    | 34   | 1    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 71     | 0      | 93     |
| Stage 1              | -      | -      | -      | -      | 51     |
| Stage 2              | -      | -      | -      | -      | 42     |
| Critical Hdwy        | -      | -      | 4.13   | -      | 6.4    |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.4    |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.4    |
| Follow-up Hdwy       | -      | -      | 2.227  | -      | 3.5    |
| Pot Cap-1 Maneuver   | -      | -      | 1524   | -      | 912    |
| Stage 1              | -      | -      | -      | -      | 977    |
| Stage 2              | -      | -      | -      | -      | 986    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1512   | -      | 898    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 898    |
| Stage 1              | -      | -      | -      | -      | 970    |
| Stage 2              | -      | -      | -      | -      | 978    |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 9.01 |
| HCM LOS                |    |    | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 898   | -   | -   | 1512 | -   |
| HCM Lane V/C Ratio        | 0.001 | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 9     | -   | -   | 0    | -   |
| HCM Lane LOS              | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0    | -   |

| 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       | 35   | 0    | 1    | 0    | 0    | 1    | 2    | 180  | 0    | 0    | 130  | 35   |
| Future Vol, veh/h        | 35   | 0    | 1    | 0    | 0    | 1    | 2    | 180  | 0    | 0    | 130  | 35   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| 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         | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 40   | 0    | 1    | 0    | 0    | 1    | 2    | 205  | 0    | 0    | 148  | 40   |

| Major/Minor          | Minor2 |     | Minor1 |     | Major1 |     |      | Major2 |   |      |   |   |
|----------------------|--------|-----|--------|-----|--------|-----|------|--------|---|------|---|---|
| Conflicting Flow All | 379    | 379 | 170    | 359 | 399    | 207 | 189  | 0      | 0 | 206  | 0 | 0 |
| Stage 1              | 169    | 169 | -      | 210 | 210    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 210    | 210 | -      | 149 | 189    | -   | -    | -      | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5    | 6.2 | 4.1  | -      | - | 4.1  | - | - |
| 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 | 2.2  | -      | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 583    | 556 | 880    | 600 | 542    | 839 | 1398 | -      | - | 1378 | - | - |
| Stage 1              | 838    | 763 | -      | 797 | 732    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 797    | 732 | -      | 859 | 748    | -   | -    | -      | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |        |     |      | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | 580    | 554 | 878    | 597 | 540    | 837 | 1396 | -      | - | 1377 | - | - |
| Mov Cap-2 Maneuver   | 580    | 554 | -      | 597 | 540    | -   | -    | -      | - | -    | - | - |
| Stage 1              | 837    | 762 | -      | 794 | 730    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 793    | 730 | -      | 857 | 747    | -   | -    | -      | - | -    | - | - |

| Approach               | EB    |  | WB  |  | NB   |  |  | SB |  |  |
|------------------------|-------|--|-----|--|------|--|--|----|--|--|
| HCM Control Delay, s/v | 11.61 |  | 9.3 |  | 0.08 |  |  | 0  |  |  |
| HCM LOS                | B     |  | A   |  |      |  |  |    |  |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 20    | -   | -   | 585   | 837   | 1377 | -   | -   |
| HCM Lane V/C Ratio        | 0.002 | -   | -   | 0.07  | 0.001 | -    | -   | -   |
| HCM Control Delay (s/veh) | 7.6   | 0   | -   | 11.6  | 9.3   | 0    | -   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.2   | 0     | 0    | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | TT   |      | TT   |      |      | TT   |
| Traffic Vol, veh/h       | 4    | 60   | 410  | 10   | 35   | 340  |
| Future Vol, veh/h        | 4    | 60   | 410  | 10   | 35   | 340  |
| 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    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 93   | 93   | 93   | 93   | 93   | 93   |
| Heavy Vehicles, %        | 3    | 3    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 4    | 65   | 441  | 11   | 38   | 366  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 889    | 448    | 0      | 0 | 453  | 0 |
| Stage 1              | 447    | -      | -      | - | -    | - |
| Stage 2              | 442    | -      | -      | - | -    | - |
| Critical Hdwy        | 6.43   | 6.23   | -      | - | 4.1  | - |
| Critical Hdwy Stg 1  | 5.43   | -      | -      | - | -    | - |
| Critical Hdwy Stg 2  | 5.43   | -      | -      | - | -    | - |
| Follow-up Hdwy       | 3.527  | 3.327  | -      | - | 2.2  | - |
| Pot Cap-1 Maneuver   | 312    | 608    | -      | - | 1119 | - |
| Stage 1              | 642    | -      | -      | - | -    | - |
| Stage 2              | 646    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - |      | - |
| Mov Cap-1 Maneuver   | 299    | 607    | -      | - | 1118 | - |
| Mov Cap-2 Maneuver   | 299    | -      | -      | - | -    | - |
| Stage 1              | 641    | -      | -      | - | -    | - |
| Stage 2              | 618    | -      | -      | - | -    | - |




















| Approach                    | WB | NB | SB   |
|-----------------------------|----|----|------|
| HCM Control Delay, s/v12.17 |    | 0  | 0.78 |
| HCM LOS                     | B  |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 570   | 168   |
| HCM Lane V/C Ratio        | -   | -        | 0.121 | 0.034 |
| HCM Control Delay (s/veh) | -   | -        | 12.2  | 8.3   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.4   | 0.1   |

# HCM Signalized Intersection Capacity Analysis

## 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
Existing (2024) School PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 75  | 370   | 65  | 0   | 0   | 0   | 45  | 145   | 280   | 25  | 305   | 405   |
| Future Volume (vph)               | 75  | 370   | 65  | 0   | 0   | 0   | 45  | 145   | 280   | 25  | 305   | 405   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.97  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.90  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1884  | 1573  |   |   |   | 1798  | 1672  |   | 1805  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.56  | 1.00  |   | 0.22  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1884  | 1573  |   |   |   | 1068  | 1672  |   | 432   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  |
| Adj. Flow (vph)                   | 80  | 394   | 69  | 0   | 0   | 0   | 48  | 154   | 298   | 27  | 324   | 431   |
| RTOR Reduction (vph)              | 0   | 0   | 45  | 0   | 0   | 0   | 0   | 60  | 0   | 0   | 0   | 218   |
| Lane Group Flow (vph)             | 0   | 474   | 24  | 0   | 0   | 0   | 48  | 392   | 0   | 27  | 324   | 213   |
| Confl. Peds. (#/hr)               |   |   | 3   | 6   |   | 3   | 3   |   | 6   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 33.8  | 33.8  |   |   |   | 30.4  | 30.4  |   | 43.6  | 43.6  | 43.6  |
| Effective Green, g (s)            |   | 30.8  | 30.8  |   |   |   | 30.4  | 30.4  |   | 43.6  | 43.6  | 43.6  |
| Actuated g/C Ratio                |   | 0.35  | 0.35  |   |   |   | 0.34  | 0.34  |   | 0.49  | 0.49  | 0.49  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 656   | 548   |   |   |   | 367   | 574   |   | 326   | 937   | 796   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.23   |   | 0.01  | c0.17   |   |
| v/s Ratio Perm                    |   | 0.25  | 0.02  |   |   |   | 0.04  |   |   | 0.03  |   | 0.13  |
| v/c Ratio                         |   | 0.72  | 0.04  |   |   |   | 0.13  | 0.68  |   | 0.08  | 0.34  | 0.26  |
| Uniform Delay, d1                 |   | 25.0  | 19.0  |   |   |   | 19.9  | 24.8  |   | 13.8  | 13.6  | 13.0  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.95  | 0.93  | 0.78  |
| Incremental Delay, d2             |   | 5.5   | 0.0   |   |   |   | 0.1   | 3.3   |   | 0.1   | 0.2   | 0.1   |
| Delay (s)                         |   | 30.5  | 19.1  |   |   |   | 20.0  | 28.2  |   | 13.3  | 13.0  | 10.4  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 29.1  |   |   | 0.0   |   |   | 27.4  |   |   | 11.6  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 21.2  |   |   |   | HCM 2000 Level of Service   |   |   | C   |   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.68  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 88.4  |   |   |   | Sum of lost time (s)  |   |   | 19.9  |   |   |
| Intersection Capacity Utilization |   |   | 76.3%   |   |   |   | ICU Level of Service  |   |   | D   |   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Existing (2024) School PM Peak Hour



| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 155   | 0    | 225  | 580   | 0    |
| Future Volume (vph)    | 1    | 155   | 0    | 225  | 580   | 0    |
| Ideal Flow (vphp)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.93 | 0.93  | 0.93 | 0.93 | 0.93  | 0.93 |
| Adj. Flow (vph)        | 1    | 167   | 0    | 242  | 624   | 0    |
| RTOR Reduction (vph)   | 0    | 153   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 14    | 0    | 242  | 624   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.3  | 7.3   |      | 69.7 | 69.7  |      |
| Effective Green, g (s) | 7.3  | 7.3   |      | 69.7 | 69.7  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.79 | 0.79  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 149  | 133   |      | 1498 | 2846  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.13 | c0.17 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.10  |      | 0.16 | 0.21  |      |
| Uniform Delay, d1      | 37.2 | 37.5  |      | 2.2  | 2.3   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.15 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 37.2 | 37.8  |      | 0.3  | 2.4   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 37.8 |       |      | 0.3  | 2.4   |      |
| Approach LOS           | D    |       |      | A    | A     |      |
















| Intersection Summary              |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 7.7   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.22  |                           |      |
| Actuated Cycle Length (s)         | 88.4  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 35.1% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

# HCM 7th Signalized Intersection Summary

JDS

## 5: E Mercer Way & I-90 WB Ramps

Existing (2024) School PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 575   | 5   | 4   | 215   | 5   | 0   | 0   | 5   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 575   | 5   | 4   | 215   | 5   | 0   | 0   | 5   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 618   | 5   | 4   | 231   | 5   | 0   | 0   | 5   | 3   |
| Peak Hour Factor   |   |   |   | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 731   | 6   | 5   | 491   | 7   | 0   | 0   | 250   | 150   |
| Arrive On Green  |   |   |   | 0.49  | 0.41  | 0.49  | 0.23  | 0.23  | 0.00  | 0.00  | 0.23  | 0.23  |
| Sat Flow, veh/h  |   |   |   | 1783  | 14  | 12  | 1379  | 30  | 0   | 0   | 1110  | 666   |
| Grp Volume(v), veh/h   |   |   |   | 627   | 0   | 0   | 236   | 0   | 0   | 0   | 0   | 8   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1809  | 0   | 0   | 1409  | 0   | 0   | 0   | 0   | 1777  |
| Q Serve(g_s), s  |   |   |   | 11.9  | 0.0   | 0.0   | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 11.9  | 0.0   | 0.0   | 6.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.01  | 0.98  |   | 0.00  | 0.00  |   | 0.37  |
| Lane Grp Cap(c), veh/h   |   |   |   | 742   | 0   | 0   | 498   | 0   | 0   | 0   | 0   | 400   |
| V/C Ratio(X)   |   |   |   | 0.85  | 0.00  | 0.00  | 0.47  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1425  | 0   | 0   | 1063  | 0   | 0   | 0   | 0   | 1102  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 9.1   | 0.0   | 0.0   | 14.3  | 0.0   | 0.0   | 0.0   | 0.0   | 11.9  |
| Incr Delay (d2), s/veh   |   |   |   | 3.3   | 0.0   | 0.0   | 0.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 3.5   | 0.0   | 0.0   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 12.4  | 0.0   | 0.0   | 15.0  | 0.0   | 0.0   | 0.0   | 0.0   | 11.9  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 627   |   |   | 236   |   |   |   | 8   |
| Approach Delay, s/veh  |   |   |   |   | 12.4  |   |   | 15.0  |   |   |   | 11.9  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 14.4  |   | 25.1  |   | 14.4  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 13.9  |   | 8.2   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.2   |   | 1.2   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 13.1  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |



HCM 7th TWSC  
6: Site Access & Frontage Rd

JDS  
Existing (2024) School PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 15   | 25   | 1    | 25   | 25   | 1    |
| Future Vol, veh/h        | 15   | 25   | 1    | 25   | 25   | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 84   | 84   | 84   | 84   | 84   | 84   |
| Heavy Vehicles, %        | 2    | 2    | 7    | 7    | 0    | 0    |
| Mvmt Flow                | 18   | 30   | 1    | 30   | 30   | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |     |      |
|----------------------|--------|--------|--------|---|-----|------|
| Conflicting Flow All | 0      | 0      | 48     | 0 | 65  | 33   |
| Stage 1              | -      | -      | -      | - | 33  | -    |
| Stage 2              | -      | -      | -      | - | 32  | -    |
| Critical Hdwy        | -      | -      | 4.17   | - | 6.4 | 6.2  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 | -    |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 | -    |
| Follow-up Hdwy       | -      | -      | 2.263  | - | 3.5 | 3.3  |
| Pot Cap-1 Maneuver   | -      | -      | 1528   | - | 946 | 1047 |
| Stage 1              | -      | -      | -      | - | 995 | -    |
| Stage 2              | -      | -      | -      | - | 996 | -    |
| Platoon blocked, %   | -      | -      | -      | - | -   | -    |
| Mov Cap-1 Maneuver   | -      | -      | 1528   | - | 945 | 1047 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 945 | -    |
| Stage 1              | -      | -      | -      | - | 995 | -    |
| Stage 2              | -      | -      | -      | - | 995 | -    |

| Approach               | EB | WB   | NB   |
|------------------------|----|------|------|
| HCM Control Delay, s/v | 0  | 0.28 | 8.92 |
| HCM LOS                |    |      | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL   | WBT |
|---------------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)          | 949   | -   | -   | 69    | -   |
| HCM Lane V/C Ratio        | 0.033 | -   | -   | 0.001 | -   |
| HCM Control Delay (s/veh) | 8.9   | -   | -   | 7.4   | 0   |
| HCM Lane LOS              | A     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh)     | 0.1   | -   | -   | 0     | -   |

| 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       | 35   | 0    | 2    | 0    | 1    | 2    | 0    | 150  | 1    | 0    | 180  | 40   |
| Future Vol, veh/h        | 35   | 0    | 2    | 0    | 1    | 2    | 0    | 150  | 1    | 0    | 180  | 40   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 1    |
| 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         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 39   | 0    | 2    | 0    | 1    | 2    | 0    | 167  | 1    | 0    | 200  | 44   |

| Major/Minor          | Minor2 |     | Minor1 |     | Major1 |     |      | Major2 |   |      |   |   |
|----------------------|--------|-----|--------|-----|--------|-----|------|--------|---|------|---|---|
| Conflicting Flow All | 391    | 391 | 224    | 368 | 413    | 168 | 245  | 0      | 0 | 168  | 0 | 0 |
| Stage 1              | 223    | 223 | -      | 167 | 167    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 168    | 168 | -      | 201 | 245    | -   | -    | -      | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5    | 6.2 | 4.1  | -      | - | 4.1  | - | - |
| 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 | 2.2  | -      | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 571    | 548 | 820    | 592 | 533    | 881 | 1332 | -      | - | 1422 | - | - |
| Stage 1              | 784    | 723 | -      | 839 | 764    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 838    | 763 | -      | 805 | 707    | -   | -    | -      | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |        |     |      | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | 568    | 547 | 819    | 590 | 532    | 880 | 1331 | -      | - | 1422 | - | - |
| Mov Cap-2 Maneuver   | 568    | 547 | -      | 590 | 532    | -   | -    | -      | - | -    | - | - |
| Stage 1              | 783    | 722 | -      | 839 | 764    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 834    | 763 | -      | 803 | 706    | -   | -    | -      | - | -    | - | - |

| Approach                    | EB | WB | NB | SB |
|-----------------------------|----|----|----|----|
| HCM Control Delay, s/v11.71 |    | 10 | 0  | 0  |
| HCM LOS                     | B  | B  |    |    |

| Minor Lane/Major Mvmt     | NBL  | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 1331 | -   | -   | 577   | 723   | 1422 | -   | -   |
| HCM Lane V/C Ratio        | -    | -   | -   | 0.071 | 0.005 | -    | -   | -   |
| HCM Control Delay (s/veh) | 0    | -   | -   | 11.7  | 10    | 0    | -   | -   |
| HCM Lane LOS              | A    | -   | -   | B     | B     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0    | -   | -   | 0.2   | 0     | 0    | -   | -   |

HCM 7th TWSC  
2: E Mercer Way & Frontage Rd

JDS  
Existing (2024) PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.5  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | W    | W    | T    | T    | S    | S    |
| Traffic Vol, veh/h       | 10   | 70   | 355  | 10   | 30   | 370  |
| Future Vol, veh/h        | 10   | 70   | 355  | 10   | 30   | 370  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 12   | 82   | 418  | 12   | 35   | 435  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 935    | 430    | 0      | 0 | 432  | 0 |
| Stage 1              | 427    | -      | -      | - | -    | - |
| Stage 2              | 509    | -      | -      | - | -    | - |
| 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   | 297    | 630    | -      | - | 1138 | - |
| Stage 1              | 663    | -      | -      | - | -    | - |
| Stage 2              | 608    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - |      | - |
| Mov Cap-1 Maneuver   | 283    | 626    | -      | - | 1135 | - |
| Mov Cap-2 Maneuver   | 283    | -      | -      | - | -    | - |
| Stage 1              | 661    | -      | -      | - | -    | - |
| Stage 2              | 581    | -      | -      | - | -    | - |




















| Approach               | WB | NB | SB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 13 | 0  | 0.62 |
| HCM LOS                | B  |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 544   | 135   |
| HCM Lane V/C Ratio        | -   | -        | 0.173 | 0.031 |
| HCM Control Delay (s/veh) | -   | -        | 13    | 8.3   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.6   | 0.1   |

# HCM Signalized Intersection Capacity Analysis

## 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
Existing (2024) PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 50  | 335   | 90  | 0   | 0   | 0   | 85  | 145   | 210   | 20  | 295   | 525   |
| Future Volume (vph)               | 50  | 335   | 90  | 0   | 0   | 0   | 85  | 145   | 210   | 20  | 295   | 525   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.98  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 0.99  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.91  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1888  | 1576  |   |   |   | 1800  | 1698  |   | 1804  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.56  | 1.00  |   | 0.29  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1888  | 1576  |   |   |   | 1077  | 1698  |   | 556   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)                   | 54  | 360   | 97  | 0   | 0   | 0   | 91  | 156   | 226   | 22  | 317   | 565   |
| RTOR Reduction (vph)              | 0   | 0   | 52  | 0   | 0   | 0   | 0   | 46  | 0   | 0   | 0   | 288   |
| Lane Group Flow (vph)             | 0   | 414   | 45  | 0   | 0   | 0   | 91  | 336   | 0   | 22  | 317   | 277   |
| Confl. Peds. (#/hr)               |   |   | 2   | 5   |   | 3   | 2   |   | 5   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 33.0  | 33.0  |   |   |   | 29.0  | 29.0  |   | 42.2  | 42.2  | 42.2  |
| Effective Green, g (s)            |   | 30.0  | 30.0  |   |   |   | 29.0  | 29.0  |   | 42.2  | 42.2  | 42.2  |
| Actuated g/C Ratio                |   | 0.35  | 0.35  |   |   |   | 0.34  | 0.34  |   | 0.49  | 0.49  | 0.49  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 657   | 548   |   |   |   | 362   | 571   |   | 377   | 930   | 790   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.20   |   | 0.00  | 0.17  |   |
| v/s Ratio Perm                    |   | 0.22  | 0.03  |   |   |   | 0.08  |   |   | 0.02  |   | c0.17   |
| v/c Ratio                         |   | 0.63  | 0.08  |   |   |   | 0.25  | 0.58  |   | 0.05  | 0.34  | 0.35  |
| Uniform Delay, d1                 |   | 23.4  | 18.8  |   |   |   | 20.7  | 23.6  |   | 12.8  | 13.4  | 13.5  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.97  | 0.93  | 0.95  |
| Incremental Delay, d2             |   | 3.2   | 0.1   |   |   |   | 0.3   | 1.5   |   | 0.0   | 0.2   | 0.2   |
| Delay (s)                         |   | 26.7  | 19.0  |   |   |   | 21.0  | 25.2  |   | 12.5  | 12.8  | 13.2  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 25.2  |   |   | 0.0   |   |   | 24.4  |   |   | 13.0  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 19.2  |   |   |   | HCM 2000 Level of Service   |   |   |   | B   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.60  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 86.2  |   |   |   | Sum of lost time (s)  |   |   |   | 19.9  |   |
| Intersection Capacity Utilization |   |   | 68.6%   |   |   |   | ICU Level of Service  |   |   |   | C   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Existing (2024) PM Peak Hour


















| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 165   | 0    | 200  | 695   | 0    |
| Future Volume (vph)    | 1    | 165   | 0    | 200  | 695   | 0    |
| Ideal Flow (vphp)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 |
| Adj. Flow (vph)        | 1    | 174   | 0    | 211  | 732   | 0    |
| RTOR Reduction (vph)   | 0    | 159   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 15    | 0    | 211  | 732   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.3  | 7.3   |      | 67.5 | 67.5  |      |
| Effective Green, g (s) | 7.3  | 7.3   |      | 67.5 | 67.5  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.78 | 0.78  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 152  | 136   |      | 1487 | 2826  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.11 | c0.20 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.10  |      | 0.14 | 0.25  |      |
| Uniform Delay, d1      | 36.1 | 36.4  |      | 2.2  | 2.5   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.12 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 36.1 | 36.7  |      | 0.3  | 2.5   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 36.7 |       |      | 0.3  | 2.5   |      |
| Approach LOS           | D    |       |      | A    | A     |      |

### Intersection Summary

|                                   |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 7.5   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.26  |                           |      |
| Actuated Cycle Length (s)         | 86.2  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 38.9% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

HCM 7th Signalized Intersection Summary  
 5: E Mercer Way & I-90 WB Ramps

JDS  
 Existing (2024) PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 690   | 5   | 1   | 200   | 3   | 0   | 0   | 3   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 690   | 5   | 1   | 200   | 3   | 0   | 0   | 3   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 697   | 5   | 1   | 202   | 3   | 0   | 0   | 3   | 3   |
| Peak Hour Factor   |   |   |   | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 815   | 6   | 1   | 443   | 4   | 0   | 0   | 167   | 167   |
| Arrive On Green  |   |   |   | 0.53  | 0.45  | 0.53  | 0.19  | 0.19  | 0.00  | 0.00  | 0.19  | 0.19  |
| Sat Flow, veh/h  |   |   |   | 1794  | 13  | 3   | 1396  | 21  | 0   | 0   | 872   | 872   |
| Grp Volume(v), veh/h   |   |   |   | 703   | 0   | 0   | 205   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1810  | 0   | 0   | 1416  | 0   | 0   | 0   | 0   | 1743  |
| Q Serve(g_s), s  |   |   |   | 13.6  | 0.0   | 0.0   | 5.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 13.6  | 0.0   | 0.0   | 5.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.00  | 0.99  |   | 0.00  | 0.00  |   | 0.50  |
| Lane Grp Cap(c), veh/h   |   |   |   | 822   | 0   | 0   | 447   | 0   | 0   | 0   | 0   | 334   |
| V/C Ratio(X)   |   |   |   | 0.86  | 0.00  | 0.00  | 0.46  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1385  | 0   | 0   | 1039  | 0   | 0   | 0   | 0   | 1051  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 8.5   | 0.0   | 0.0   | 15.6  | 0.0   | 0.0   | 0.0   | 0.0   | 13.3  |
| Incr Delay (d2), s/veh   |   |   |   | 3.4   | 0.0   | 0.0   | 0.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 3.8   | 0.0   | 0.0   | 1.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 11.8  | 0.0   | 0.0   | 16.3  | 0.0   | 0.0   | 0.0   | 0.0   | 13.3  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 703   |   |   | 205   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 11.8  |   |   | 16.3  |   |   |   | 13.3  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 13.3  |   | 27.3  |   | 13.3  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 15.6  |   | 7.6   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.9   |   | 1.0   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 12.8  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

HCM 7th TWSC  
6: Site Access & Frontage Rd

JDS  
Existing (2024) PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.3  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 2    | 40   | 0    | 10   | 65   | 0    |
| Future Vol, veh/h        | 2    | 40   | 0    | 10   | 65   | 0    |
| Conflicting Peds, #/hr   | 0    | 6    | 3    | 0    | 6    | 3    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 47   | 47   | 47   | 47   | 47   | 47   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 4    | 85   | 0    | 21   | 138  | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 95     | 0      | 80     |
| Stage 1              | -      | -      | -      | -      | 53     |
| Stage 2              | -      | -      | -      | -      | 27     |
| Critical Hdwy        | -      | -      | 4.1    | -      | 6.4    |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.4    |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.4    |
| Follow-up Hdwy       | -      | -      | 2.2    | -      | 3.5    |
| Pot Cap-1 Maneuver   | -      | -      | 1511   | -      | 927    |
| Stage 1              | -      | -      | -      | -      | 975    |
| Stage 2              | -      | -      | -      | -      | 1000   |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1503   | -      | 917    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 917    |
| Stage 1              | -      | -      | -      | -      | 969    |
| Stage 2              | -      | -      | -      | -      | 995    |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 9.62 |
| HCM LOS                |    |    | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 917   | -   | -   | 1503 | -   |
| HCM Lane V/C Ratio        | 0.151 | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 9.6   | -   | -   | 0    | -   |
| HCM Lane LOS              | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 0.5   | -   | -   | 0    | -   |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 25   | 0    | 3    | 0    | 0    | 2    | 2    | 180  | 0    | 1    | 120  | 25   |
| Future Vol, veh/h        | 25   | 0    | 3    | 0    | 0    | 2    | 2    | 180  | 0    | 1    | 120  | 25   |
| Conflicting Peds, #/hr   | 2    | 0    | 2    | 0    | 0    | 0    | 2    | 0    | 0    | 0    | 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    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 26   | 0    | 3    | 0    | 0    | 2    | 2    | 189  | 0    | 1    | 126  | 26   |

| Major/Minor          | Minor2 |     | Minor1 |     |     | Major1 |      |   | Major2 |      |   |   |
|----------------------|--------|-----|--------|-----|-----|--------|------|---|--------|------|---|---|
| Conflicting Flow All | 339    | 337 | 143    | 324 | 350 | 191    | 155  | 0 | 0      | 189  | 0 | 0 |
| Stage 1              | 144    | 144 | -      | 194 | 194 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 196    | 194 | -      | 130 | 157 | -      | -    | - | -      | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5 | 6.2    | 4.1  | - | -      | 4.1  | - | - |
| 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    | 2.2  | - | -      | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 618    | 587 | 909    | 633 | 577 | 855    | 1438 | - | -      | 1397 | - | - |
| Stage 1              | 864    | 782 | -      | 813 | 744 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 811    | 744 | -      | 878 | 772 | -      | -    | - | -      | -    | - | - |
| Platoon blocked, %   |        |     |        |     |     |        |      | - | -      | -    | - | - |
| Mov Cap-1 Maneuver   | 613    | 584 | 906    | 628 | 575 | 854    | 1435 | - | -      | 1397 | - | - |
| Mov Cap-2 Maneuver   | 613    | 584 | -      | 628 | 575 | -      | -    | - | -      | -    | - | - |
| Stage 1              | 862    | 780 | -      | 811 | 743 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 806    | 743 | -      | 873 | 770 | -      | -    | - | -      | -    | - | - |

| Approach                    | EB |  | WB   |  |  | NB   |  |  | SB   |  |  |
|-----------------------------|----|--|------|--|--|------|--|--|------|--|--|
| HCM Control Delay, s/v10.94 |    |  | 9.23 |  |  | 0.08 |  |  | 0.05 |  |  |
| HCM LOS                     | B  |  | A    |  |  |      |  |  |      |  |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL   | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h)          | 20    | -   | -   | 635   | 854   | 12    | -   | -   |
| HCM Lane V/C Ratio        | 0.001 | -   | -   | 0.046 | 0.002 | 0.001 | -   | -   |
| HCM Control Delay (s/veh) | 7.5   | 0   | -   | 10.9  | 9.2   | 7.6   | 0   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A     | A   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.1   | 0     | 0     | -   | -   |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.8  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 1    | 35   | 460  | 0    | 35   | 445  |
| Future Vol, veh/h        | 1    | 35   | 460  | 0    | 35   | 445  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 11   | 11   | 0    | 0    | 1    | 1    |
| Mvmt Flow                | 1    | 40   | 523  | 0    | 40   | 506  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1114   | 529    | 0      | 0 | 526   | 0 |
| Stage 1              | 526    | -      | -      | - | -     | - |
| Stage 2              | 588    | -      | -      | - | -     | - |
| Critical Hdwy        | 6.51   | 6.31   | -      | - | 4.11  | - |
| Critical Hdwy Stg 1  | 5.51   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.51   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.599  | 3.399  | -      | - | 2.209 | - |
| Pot Cap-1 Maneuver   | 221    | 533    | -      | - | 1046  | - |
| Stage 1              | 575    | -      | -      | - | -     | - |
| Stage 2              | 538    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       | - |
| Mov Cap-1 Maneuver   | 208    | 530    | -      | - | 1043  | - |
| Mov Cap-2 Maneuver   | 208    | -      | -      | - | -     | - |
| Stage 1              | 574    | -      | -      | - | -     | - |
| Stage 2              | 508    | -      | -      | - | -     | - |

| Approach               | WB    | NB | SB   |
|------------------------|-------|----|------|
| HCM Control Delay, s/v | 12.71 | 0  | 0.63 |
| HCM LOS                | B     |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 508   | 131   |
| HCM Lane V/C Ratio        | -   | -        | 0.081 | 0.038 |
| HCM Control Delay (s/veh) | -   | -        | 12.7  | 8.6   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.3   | 0.1   |

HCM Signalized Intersection Capacity Analysis  
 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
 Future (2026) Without Project AM Peak Hour

| Movement                          | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL                       | NBT   | NBR  | SBL   | SBT   | SBR  |
|-----------------------------------|------|------|-------|------|------|------|---------------------------|-------|------|-------|-------|------|
| Lane Configurations               |      |      |       |      |      |      |                           |       |      |       |       |      |
| Traffic Volume (vph)              | 35   | 375  | 80    | 0    | 0    | 0    | 75                        | 135   | 285  | 30    | 400   | 595  |
| Future Volume (vph)               | 35   | 375  | 80    | 0    | 0    | 0    | 75                        | 135   | 285  | 30    | 400   | 595  |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900 | 1900 | 1900 | 1900                      | 1900  | 1900 | 1900  | 1900  | 1900 |
| Total Lost time (s)               |      | 8.5  | 8.5   |      |      |      | 5.5                       | 5.5   |      | 5.9   | 5.5   | 5.5  |
| Lane Util. Factor                 |      | 1.00 | 1.00  |      |      |      | 1.00                      | 1.00  |      | 1.00  | 1.00  | 1.00 |
| Frbp, ped/bikes                   |      | 1.00 | 0.97  |      |      |      | 1.00                      | 0.97  |      | 1.00  | 1.00  | 0.97 |
| Flpb, ped/bikes                   |      | 0.99 | 1.00  |      |      |      | 0.99                      | 1.00  |      | 1.00  | 1.00  | 1.00 |
| Frt                               |      | 1.00 | 0.85  |      |      |      | 1.00                      | 0.89  |      | 1.00  | 1.00  | 0.85 |
| Flt Protected                     |      | 0.99 | 1.00  |      |      |      | 0.95                      | 1.00  |      | 0.95  | 1.00  | 1.00 |
| Satd. Flow (prot)                 |      | 1891 | 1570  |      |      |      | 1779                      | 1644  |      | 1805  | 1900  | 1576 |
| Flt Permitted                     |      | 0.99 | 1.00  |      |      |      | 0.51                      | 1.00  |      | 0.20  | 1.00  | 1.00 |
| Satd. Flow (perm)                 |      | 1891 | 1570  |      |      |      | 967                       | 1644  |      | 381   | 1900  | 1576 |
| Peak-hour factor, PHF             | 0.95 | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95                      | 0.95  | 0.95 | 0.95  | 0.95  | 0.95 |
| Adj. Flow (vph)                   | 37   | 395  | 84    | 0    | 0    | 0    | 79                        | 142   | 300  | 32    | 421   | 626  |
| RTOR Reduction (vph)              | 0    | 0    | 55    | 0    | 0    | 0    | 0                         | 70    | 0    | 0     | 0     | 317  |
| Lane Group Flow (vph)             | 0    | 432  | 29    | 0    | 0    | 0    | 79                        | 372   | 0    | 32    | 421   | 309  |
| Confl. Peds. (#/hr)               | 2    |      | 4     | 8    |      | 6    | 4                         |       | 8    | 6     |       | 2    |
| Heavy Vehicles (%)                | 0%   | 0%   | 0%    | 0%   | 0%   | 0%   | 1%                        | 1%    | 1%   | 0%    | 0%    | 0%   |
| Turn Type                         | Perm | NA   | Perm  |      |      |      | Perm                      | NA    |      | pm+pt | NA    | Perm |
| Protected Phases                  |      | 4    |       |      |      |      |                           | 2     |      | 1     | 6     |      |
| Permitted Phases                  | 4    |      | 4     |      |      |      | 2                         |       | 6    |       |       | 6    |
| Actuated Green, G (s)             |      | 32.9 | 32.9  |      |      |      | 26.9                      | 26.9  |      | 42.7  | 42.7  | 42.7 |
| Effective Green, g (s)            |      | 29.9 | 29.9  |      |      |      | 26.9                      | 26.9  |      | 42.7  | 42.7  | 42.7 |
| Actuated g/C Ratio                |      | 0.35 | 0.35  |      |      |      | 0.31                      | 0.31  |      | 0.49  | 0.49  | 0.49 |
| Clearance Time (s)                |      | 5.5  | 5.5   |      |      |      | 5.5                       | 5.5   |      | 5.9   | 5.5   | 5.5  |
| Vehicle Extension (s)             |      | 6.0  | 6.0   |      |      |      | 3.0                       | 3.0   |      | 3.0   | 3.0   | 3.0  |
| Lane Grp Cap (vph)                |      | 652  | 542   |      |      |      | 300                       | 510   |      | 350   | 936   | 777  |
| v/s Ratio Prot                    |      |      |       |      |      |      |                           | c0.23 |      | 0.01  | c0.22 |      |
| v/s Ratio Perm                    |      | 0.23 | 0.02  |      |      |      | 0.08                      |       |      | 0.03  |       | 0.20 |
| v/c Ratio                         |      | 0.66 | 0.05  |      |      |      | 0.26                      | 0.73  |      | 0.09  | 0.44  | 0.39 |
| Uniform Delay, d1                 |      | 24.0 | 18.9  |      |      |      | 22.4                      | 26.6  |      | 13.6  | 14.2  | 13.8 |
| Progression Factor                |      | 1.00 | 1.00  |      |      |      | 1.00                      | 1.00  |      | 0.92  | 0.88  | 0.80 |
| Incremental Delay, d2             |      | 3.9  | 0.1   |      |      |      | 0.4                       | 5.3   |      | 0.1   | 0.3   | 0.3  |
| Delay (s)                         |      | 28.0 | 19.0  |      |      |      | 22.8                      | 31.9  |      | 12.7  | 12.9  | 11.4 |
| Level of Service                  |      | C    | B     |      |      |      | C                         | C     |      | B     | B     | B    |
| Approach Delay (s/veh)            |      | 26.5 |       |      | 0.0  |      |                           | 30.5  |      |       | 12.1  |      |
| Approach LOS                      |      | C    |       |      | A    |      |                           | C     |      |       | B     |      |
| <b>Intersection Summary</b>       |      |      |       |      |      |      |                           |       |      |       |       |      |
| HCM 2000 Control Delay (s/veh)    |      |      | 20.2  |      |      |      | HCM 2000 Level of Service |       |      | C     |       |      |
| HCM 2000 Volume to Capacity ratio |      |      | 0.68  |      |      |      |                           |       |      |       |       |      |
| Actuated Cycle Length (s)         |      |      | 86.6  |      |      |      | Sum of lost time (s)      |       |      | 19.9  |       |      |
| Intersection Capacity Utilization |      |      | 74.3% |      |      |      | ICU Level of Service      |       |      | D     |       |      |
| Analysis Period (min)             |      |      | 15    |      |      |      |                           |       |      |       |       |      |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Future (2026) Without Project AM Peak Hour



| Movement                          | EBL  | EBR   | NBL   | NBT  | SBT                       | SBR  |
|-----------------------------------|------|-------|-------|------|---------------------------|------|
| Lane Configurations               |      |       |       |      |                           |      |
| Traffic Volume (vph)              | 2    | 270   | 0     | 175  | 750                       | 0    |
| Future Volume (vph)               | 2    | 270   | 0     | 175  | 750                       | 0    |
| Ideal Flow (vphp)                 | 1900 | 1900  | 1900  | 1900 | 1900                      | 1900 |
| Total Lost time (s)               | 5.9  | 5.9   |       | 5.5  | 5.5                       |      |
| Lane Util. Factor                 | 1.00 | 1.00  |       | 1.00 | 0.95                      |      |
| Frbp, ped/bikes                   | 1.00 | 0.98  |       | 1.00 | 1.00                      |      |
| Flpb, ped/bikes                   | 1.00 | 1.00  |       | 1.00 | 1.00                      |      |
| Frt                               | 1.00 | 0.85  |       | 1.00 | 1.00                      |      |
| Flt Protected                     | 0.95 | 1.00  |       | 1.00 | 1.00                      |      |
| Satd. Flow (prot)                 | 1805 | 1591  |       | 1900 | 3610                      |      |
| Flt Permitted                     | 0.95 | 1.00  |       | 1.00 | 1.00                      |      |
| Satd. Flow (perm)                 | 1805 | 1591  |       | 1900 | 3610                      |      |
| Peak-hour factor, PHF             | 0.95 | 0.95  | 0.95  | 0.95 | 0.95                      | 0.95 |
| Adj. Flow (vph)                   | 2    | 284   | 0     | 184  | 789                       | 0    |
| RTOR Reduction (vph)              | 0    | 203   | 0     | 0    | 0                         | 0    |
| Lane Group Flow (vph)             | 2    | 81    | 0     | 184  | 789                       | 0    |
| Confl. Peds. (#/hr)               | 1    | 1     | 1     |      |                           | 1    |
| Heavy Vehicles (%)                | 0%   | 0%    | 0%    | 0%   | 0%                        | 0%   |
| Turn Type                         | Prot | Perm  |       | NA   | NA                        |      |
| Protected Phases                  | 1    |       |       | 2 4  | 2 4                       |      |
| Permitted Phases                  |      | 1     |       |      |                           |      |
| Actuated Green, G (s)             | 9.9  | 9.9   |       | 65.3 | 65.3                      |      |
| Effective Green, g (s)            | 9.9  | 9.9   |       | 65.3 | 65.3                      |      |
| Actuated g/C Ratio                | 0.11 | 0.11  |       | 0.75 | 0.75                      |      |
| Clearance Time (s)                | 5.9  | 5.9   |       |      |                           |      |
| Vehicle Extension (s)             | 3.0  | 3.0   |       |      |                           |      |
| Lane Grp Cap (vph)                | 206  | 181   |       | 1432 | 2722                      |      |
| v/s Ratio Prot                    | 0.00 |       |       | 0.10 | c0.22                     |      |
| v/s Ratio Perm                    |      | c0.05 |       |      |                           |      |
| v/c Ratio                         | 0.00 | 0.44  |       | 0.12 | 0.28                      |      |
| Uniform Delay, d1                 | 34.0 | 35.8  |       | 2.9  | 3.3                       |      |
| Progression Factor                | 1.00 | 1.00  |       | 0.17 | 1.00                      |      |
| Incremental Delay, d2             | 0.0  | 1.7   |       | 0.0  | 0.0                       |      |
| Delay (s)                         | 34.0 | 37.5  |       | 0.5  | 3.4                       |      |
| Level of Service                  | C    | D     |       | A    | A                         |      |
| Approach Delay (s/veh)            | 37.5 |       |       | 0.5  | 3.4                       |      |
| Approach LOS                      | D    |       |       | A    | A                         |      |
| <b>Intersection Summary</b>       |      |       |       |      |                           |      |
| HCM 2000 Control Delay (s/veh)    |      |       | 10.7  |      | HCM 2000 Level of Service | B    |
| HCM 2000 Volume to Capacity ratio |      |       | 0.33  |      |                           |      |
| Actuated Cycle Length (s)         |      |       | 86.6  |      | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization |      |       | 47.1% |      | ICU Level of Service      | A    |
| Analysis Period (min)             |      |       | 15    |      |                           |      |
















c Critical Lane Group

# HCM 7th Signalized Intersection Summary

JDS

## 5: E Mercer Way & I-90 WB Ramps

Future (2026) Without Project AM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 740   | 55  | 3   | 175   | 0   | 0   | 0   | 5   | 1   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 740   | 55  | 3   | 175   | 0   | 0   | 0   | 5   | 1   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 763   | 57  | 3   | 180   | 0   | 0   | 0   | 5   | 1   |
| Peak Hour Factor   |   |   |   | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 860   | 64  | 3   | 397   | 0   | 0   | 0   | 258   | 52  |
| Arrive On Green  |   |   |   | 0.58  | 0.51  | 0.58  | 0.17  | 0.00  | 0.00  | 0.00  | 0.17  | 0.17  |
| Sat Flow, veh/h  |   |   |   | 1682  | 126   | 7   | 1409  | 0   | 0   | 0   | 1537  | 307   |
| Grp Volume(v), veh/h   |   |   |   | 823   | 0   | 0   | 180   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1815  | 0   | 0   | 1409  | 0   | 0   | 0   | 0   | 1845  |
| Q Serve(g_s), s  |   |   |   | 17.7  | 0.0   | 0.0   | 5.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 17.7  | 0.0   | 0.0   | 5.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.93  |   | 0.00  | 1.00  |   | 0.00  | 0.00  |   | 0.17  |
| Lane Grp Cap(c), veh/h   |   |   |   | 928   | 0   | 0   | 397   | 0   | 0   | 0   | 0   | 309   |
| V/C Ratio(X)   |   |   |   | 0.89  | 0.00  | 0.00  | 0.45  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1258  | 0   | 0   | 939   | 0   | 0   | 0   | 0   | 1007  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 8.4   | 0.0   | 0.0   | 17.9  | 0.0   | 0.0   | 0.0   | 0.0   | 15.6  |
| Incr Delay (d2), s/veh   |   |   |   | 6.6   | 0.0   | 0.0   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 5.5   | 0.0   | 0.0   | 1.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 15.0  | 0.0   | 0.0   | 18.7  | 0.0   | 0.0   | 0.0   | 0.0   | 15.6  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 823   |   |   | 180   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 15.0  |   |   | 18.7  |   |   |   | 15.6  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 13.0  |   | 31.8  |   | 13.0  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 19.7  |   | 7.5   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 6.3   |   | 0.8   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 15.7  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

HCM 7th TWSC  
6: Site Access & Frontage Rd

JDS  
Future (2026) Without Project AM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 20   | 35   | 0    | 30   | 1    | 0    |
| Future Vol, veh/h        | 20   | 35   | 0    | 30   | 1    | 0    |
| Conflicting Peds, #/hr   | 0    | 8    | 5    | 0    | 8    | 5    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 3    | 3    | 3    | 3    | 0    | 0    |
| Mvmt Flow                | 23   | 40   | 0    | 34   | 1    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |     |
|----------------------|--------|--------|--------|---|-----|
| Conflicting Flow All | 0      | 0      | 71     | 0 | 93  |
| Stage 1              | -      | -      | -      | - | 51  |
| Stage 2              | -      | -      | -      | - | 42  |
| Critical Hdwy        | -      | -      | 4.13   | - | 6.4 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 |
| Follow-up Hdwy       | -      | -      | 2.227  | - | 3.5 |
| Pot Cap-1 Maneuver   | -      | -      | 1524   | - | 912 |
| Stage 1              | -      | -      | -      | - | 977 |
| Stage 2              | -      | -      | -      | - | 986 |
| Platoon blocked, %   | -      | -      | -      | - | -   |
| Mov Cap-1 Maneuver   | -      | -      | 1512   | - | 898 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 898 |
| Stage 1              | -      | -      | -      | - | 970 |
| Stage 2              | -      | -      | -      | - | 978 |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 9.01 |
| HCM LOS                |    |    | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 898   | -   | -   | 1512 | -   |
| HCM Lane V/C Ratio        | 0.001 | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 9     | -   | -   | 0    | -   |
| HCM Lane LOS              | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0    | -   |

| 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       | 35   | 0    | 1    | 0    | 0    | 1    | 2    | 180  | 0    | 0    | 130  | 35   |
| Future Vol, veh/h        | 35   | 0    | 1    | 0    | 0    | 1    | 2    | 180  | 0    | 0    | 130  | 35   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| 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         | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 40   | 0    | 1    | 0    | 0    | 1    | 2    | 205  | 0    | 0    | 148  | 40   |

| Major/Minor          | Minor2 |     | Minor1 |     | Major1 |     | Major2 |   |   |      |   |   |
|----------------------|--------|-----|--------|-----|--------|-----|--------|---|---|------|---|---|
| Conflicting Flow All | 379    | 379 | 170    | 359 | 399    | 207 | 189    | 0 | 0 | 206  | 0 | 0 |
| Stage 1              | 169    | 169 | -      | 210 | 210    | -   | -      | - | - | -    | - | - |
| Stage 2              | 210    | 210 | -      | 149 | 189    | -   | -      | - | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5    | 6.2 | 4.1    | - | - | 4.1  | - | - |
| 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 | 2.2    | - | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 583    | 556 | 880    | 600 | 542    | 839 | 1398   | - | - | 1378 | - | - |
| Stage 1              | 838    | 763 | -      | 797 | 732    | -   | -      | - | - | -    | - | - |
| Stage 2              | 797    | 732 | -      | 859 | 748    | -   | -      | - | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |        |     |        | - | - | -    | - | - |
| Mov Cap-1 Maneuver   | 580    | 554 | 878    | 597 | 540    | 837 | 1396   | - | - | 1377 | - | - |
| Mov Cap-2 Maneuver   | 580    | 554 | -      | 597 | 540    | -   | -      | - | - | -    | - | - |
| Stage 1              | 837    | 762 | -      | 794 | 730    | -   | -      | - | - | -    | - | - |
| Stage 2              | 793    | 730 | -      | 857 | 747    | -   | -      | - | - | -    | - | - |

| Approach               | EB    |  | WB  |  | NB   |  | SB |  |
|------------------------|-------|--|-----|--|------|--|----|--|
| HCM Control Delay, s/v | 11.61 |  | 9.3 |  | 0.08 |  | 0  |  |
| HCM LOS                | B     |  | A   |  |      |  |    |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 20    | -   | -   | 585   | 837   | 1377 | -   | -   |
| HCM Lane V/C Ratio        | 0.002 | -   | -   | 0.07  | 0.001 | -    | -   | -   |
| HCM Control Delay (s/veh) | 7.6   | 0   | -   | 11.6  | 9.3   | 0    | -   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.2   | 0     | 0    | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 60   | 415  | 10   | 35   | 345  |
| Future Vol, veh/h        | 4    | 60   | 415  | 10   | 35   | 345  |
| 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    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 93   | 93   | 93   | 93   | 93   | 93   |
| Heavy Vehicles, %        | 3    | 3    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 4    | 65   | 446  | 11   | 38   | 371  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 900    | 454    | 0      | 0 | 458  | 0 |
| Stage 1              | 453    | -      | -      | - | -    | - |
| Stage 2              | 447    | -      | -      | - | -    | - |
| Critical Hdwy        | 6.43   | 6.23   | -      | - | 4.1  | - |
| Critical Hdwy Stg 1  | 5.43   | -      | -      | - | -    | - |
| Critical Hdwy Stg 2  | 5.43   | -      | -      | - | -    | - |
| Follow-up Hdwy       | 3.527  | 3.327  | -      | - | 2.2  | - |
| Pot Cap-1 Maneuver   | 308    | 604    | -      | - | 1114 | - |
| Stage 1              | 638    | -      | -      | - | -    | - |
| Stage 2              | 642    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - |      | - |
| Mov Cap-1 Maneuver   | 294    | 603    | -      | - | 1112 | - |
| Mov Cap-2 Maneuver   | 294    | -      | -      | - | -    | - |
| Stage 1              | 638    | -      | -      | - | -    | - |
| Stage 2              | 614    | -      | -      | - | -    | - |




















| Approach               | WB    | NB | SB   |
|------------------------|-------|----|------|
| HCM Control Delay, s/v | 12.24 | 0  | 0.77 |
| HCM LOS                | B     |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 566   | 166   |
| HCM Lane V/C Ratio        | -   | -        | 0.122 | 0.034 |
| HCM Control Delay (s/veh) | -   | -        | 12.2  | 8.3   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.4   | 0.1   |

HCM Signalized Intersection Capacity Analysis  
 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS

Future (2026) Without-Project School PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 75  | 375   | 65  | 0   | 0   | 0   | 45  | 145   | 285   | 25  | 310   | 410   |
| Future Volume (vph)               | 75  | 375   | 65  | 0   | 0   | 0   | 45  | 145   | 285   | 25  | 310   | 410   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.97  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.90  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1884  | 1573  |   |   |   | 1798  | 1671  |   | 1805  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.56  | 1.00  |   | 0.22  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1884  | 1573  |   |   |   | 1062  | 1671  |   | 428   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  |
| Adj. Flow (vph)                   | 80  | 399   | 69  | 0   | 0   | 0   | 48  | 154   | 303   | 27  | 330   | 436   |
| RTOR Reduction (vph)              | 0   | 0   | 45  | 0   | 0   | 0   | 0   | 61  | 0   | 0   | 0   | 220   |
| Lane Group Flow (vph)             | 0   | 479   | 24  | 0   | 0   | 0   | 48  | 396   | 0   | 27  | 330   | 216   |
| Confl. Peds. (#/hr)               |   |   | 3   | 6   |   | 3   | 3   |   | 6   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 34.0  | 34.0  |   |   |   | 30.9  | 30.9  |   | 44.1  | 44.1  | 44.1  |
| Effective Green, g (s)            |   | 31.0  | 31.0  |   |   |   | 30.9  | 30.9  |   | 44.1  | 44.1  | 44.1  |
| Actuated g/C Ratio                |   | 0.35  | 0.35  |   |   |   | 0.35  | 0.35  |   | 0.49  | 0.49  | 0.49  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 655   | 547   |   |   |   | 368   | 579   |   | 324   | 940   | 799   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.24   |   | 0.01  | c0.17   |   |
| v/s Ratio Perm                    |   | 0.25  | 0.02  |   |   |   | 0.05  |   |   | 0.03  |   | 0.13  |
| v/c Ratio                         |   | 0.73  | 0.04  |   |   |   | 0.13  | 0.68  |   | 0.08  | 0.35  | 0.27  |
| Uniform Delay, d1                 |   | 25.4  | 19.2  |   |   |   | 19.9  | 24.9  |   | 13.8  | 13.7  | 13.1  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.96  | 0.93  | 0.79  |
| Incremental Delay, d2             |   | 5.7   | 0.0   |   |   |   | 0.1   | 3.3   |   | 0.1   | 0.2   | 0.1   |
| Delay (s)                         |   | 31.1  | 19.3  |   |   |   | 20.0  | 28.2  |   | 13.5  | 13.0  | 10.5  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 29.6  |   |   | 0.0   |   |   | 27.4  |   |   | 11.7  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 21.4  |   |   |   | HCM 2000 Level of Service   |   |   |   | C   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.69  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 89.1  |   |   |   | Sum of lost time (s)  |   |   |   | 19.9  |   |
| Intersection Capacity Utilization |   |   | 76.9%   |   |   |   | ICU Level of Service  |   |   |   | D   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS

Future (2026) Without-Project School PM Peak Hour



| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 155   | 0    | 225  | 585   | 0    |
| Future Volume (vph)    | 1    | 155   | 0    | 225  | 585   | 0    |
| Ideal Flow (vphp)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.93 | 0.93  | 0.93 | 0.93 | 0.93  | 0.93 |
| Adj. Flow (vph)        | 1    | 167   | 0    | 242  | 629   | 0    |
| RTOR Reduction (vph)   | 0    | 153   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 14    | 0    | 242  | 629   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.3  | 7.3   |      | 70.4 | 70.4  |      |
| Effective Green, g (s) | 7.3  | 7.3   |      | 70.4 | 70.4  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.79 | 0.79  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 147  | 132   |      | 1501 | 2852  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.13 | c0.17 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.10  |      | 0.16 | 0.22  |      |
| Uniform Delay, d1      | 37.5 | 37.8  |      | 2.2  | 2.3   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.15 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 37.5 | 38.2  |      | 0.3  | 2.4   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 38.2 |       |      | 0.3  | 2.4   |      |
| Approach LOS           | D    |       |      | A    | A     |      |
















| Intersection Summary              |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 7.7   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.23  |                           |      |
| Actuated Cycle Length (s)         | 89.1  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 35.3% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

# HCM 7th Signalized Intersection Summary

JDS

## 5: E Mercer Way & I-90 WB Ramps

Future (2026) Without-Project School PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 580   | 5   | 4   | 215   | 5   | 0   | 0   | 5   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 580   | 5   | 4   | 215   | 5   | 0   | 0   | 5   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 624   | 5   | 4   | 231   | 5   | 0   | 0   | 5   | 3   |
| Peak Hour Factor   |   |   |   | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 737   | 6   | 5   | 489   | 7   | 0   | 0   | 250   | 150   |
| Arrive On Green  |   |   |   | 0.49  | 0.41  | 0.49  | 0.23  | 0.23  | 0.00  | 0.00  | 0.23  | 0.23  |
| Sat Flow, veh/h  |   |   |   | 1783  | 14  | 11  | 1379  | 30  | 0   | 0   | 1110  | 666   |
| Grp Volume(v), veh/h   |   |   |   | 633   | 0   | 0   | 236   | 0   | 0   | 0   | 0   | 8   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1809  | 0   | 0   | 1409  | 0   | 0   | 0   | 0   | 1777  |
| Q Serve(g_s), s  |   |   |   | 12.2  | 0.0   | 0.0   | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 12.2  | 0.0   | 0.0   | 6.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.01  | 0.98  |   | 0.00  | 0.00  |   | 0.37  |
| Lane Grp Cap(c), veh/h   |   |   |   | 747   | 0   | 0   | 496   | 0   | 0   | 0   | 0   | 400   |
| V/C Ratio(X)   |   |   |   | 0.85  | 0.00  | 0.00  | 0.48  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1413  | 0   | 0   | 1055  | 0   | 0   | 0   | 0   | 1094  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 9.1   | 0.0   | 0.0   | 14.4  | 0.0   | 0.0   | 0.0   | 0.0   | 12.0  |
| Incr Delay (d2), s/veh   |   |   |   | 3.3   | 0.0   | 0.0   | 0.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 3.6   | 0.0   | 0.0   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 12.4  | 0.0   | 0.0   | 15.1  | 0.0   | 0.0   | 0.0   | 0.0   | 12.0  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 633   |   |   | 236   |   |   |   | 8   |
| Approach Delay, s/veh  |   |   |   |   | 12.4  |   |   | 15.1  |   |   |   | 12.0  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 14.5  |   | 25.3  |   | 14.5  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 14.2  |   | 8.3   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.3   |   | 1.2   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 13.1  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 15   | 25   | 1    | 25   | 25   | 1    |
| Future Vol, veh/h        | 15   | 25   | 1    | 25   | 25   | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 84   | 84   | 84   | 84   | 84   | 84   |
| Heavy Vehicles, %        | 2    | 2    | 7    | 7    | 0    | 0    |
| Mvmt Flow                | 18   | 30   | 1    | 30   | 30   | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |     |      |
|----------------------|--------|--------|--------|---|-----|------|
| Conflicting Flow All | 0      | 0      | 48     | 0 | 65  | 33   |
| Stage 1              | -      | -      | -      | - | 33  | -    |
| Stage 2              | -      | -      | -      | - | 32  | -    |
| Critical Hdwy        | -      | -      | 4.17   | - | 6.4 | 6.2  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 | -    |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 | -    |
| Follow-up Hdwy       | -      | -      | 2.263  | - | 3.5 | 3.3  |
| Pot Cap-1 Maneuver   | -      | -      | 1528   | - | 946 | 1047 |
| Stage 1              | -      | -      | -      | - | 995 | -    |
| Stage 2              | -      | -      | -      | - | 996 | -    |
| Platoon blocked, %   | -      | -      | -      | - | -   | -    |
| Mov Cap-1 Maneuver   | -      | -      | 1528   | - | 945 | 1047 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 945 | -    |
| Stage 1              | -      | -      | -      | - | 995 | -    |
| Stage 2              | -      | -      | -      | - | 995 | -    |

| Approach               | EB | WB   | NB   |
|------------------------|----|------|------|
| HCM Control Delay, s/v | 0  | 0.28 | 8.92 |
| HCM LOS                |    |      | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL   | WBT |
|---------------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)          | 949   | -   | -   | 69    | -   |
| HCM Lane V/C Ratio        | 0.033 | -   | -   | 0.001 | -   |
| HCM Control Delay (s/veh) | 8.9   | -   | -   | 7.4   | 0   |
| HCM Lane LOS              | A     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh)     | 0.1   | -   | -   | 0     | -   |

| 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       | 35   | 0    | 2    | 0    | 1    | 2    | 0    | 150  | 1    | 0    | 180  | 40   |
| Future Vol, veh/h        | 35   | 0    | 2    | 0    | 1    | 2    | 0    | 150  | 1    | 0    | 180  | 40   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 1    |
| 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         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 39   | 0    | 2    | 0    | 1    | 2    | 0    | 167  | 1    | 0    | 200  | 44   |

| Major/Minor          | Minor2 |     | Minor1 |     |     | Major1 |      |   | Major2 |      |   |   |
|----------------------|--------|-----|--------|-----|-----|--------|------|---|--------|------|---|---|
| Conflicting Flow All | 391    | 391 | 224    | 368 | 413 | 168    | 245  | 0 | 0      | 168  | 0 | 0 |
| Stage 1              | 223    | 223 | -      | 167 | 167 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 168    | 168 | -      | 201 | 245 | -      | -    | - | -      | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5 | 6.2    | 4.1  | - | -      | 4.1  | - | - |
| 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    | 2.2  | - | -      | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 571    | 548 | 820    | 592 | 533 | 881    | 1332 | - | -      | 1422 | - | - |
| Stage 1              | 784    | 723 | -      | 839 | 764 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 838    | 763 | -      | 805 | 707 | -      | -    | - | -      | -    | - | - |
| Platoon blocked, %   |        |     |        |     |     |        |      | - | -      | -    | - | - |
| Mov Cap-1 Maneuver   | 568    | 547 | 819    | 590 | 532 | 880    | 1331 | - | -      | 1422 | - | - |
| Mov Cap-2 Maneuver   | 568    | 547 | -      | 590 | 532 | -      | -    | - | -      | -    | - | - |
| Stage 1              | 783    | 722 | -      | 839 | 764 | -      | -    | - | -      | -    | - | - |
| Stage 2              | 834    | 763 | -      | 803 | 706 | -      | -    | - | -      | -    | - | - |

| Approach                    | EB | WB | NB | SB |
|-----------------------------|----|----|----|----|
| HCM Control Delay, s/v11.71 |    | 10 | 0  | 0  |
| HCM LOS                     | B  | B  |    |    |

| Minor Lane/Major Mvmt     | NBL  | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 1331 | -   | -   | 577   | 723   | 1422 | -   | -   |
| HCM Lane V/C Ratio        | -    | -   | -   | 0.071 | 0.005 | -    | -   | -   |
| HCM Control Delay (s/veh) | 0    | -   | -   | 11.7  | 10    | 0    | -   | -   |
| HCM Lane LOS              | A    | -   | -   | B     | B     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0    | -   | -   | 0.2   | 0     | 0    | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.5  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | W    | W    | T    | T    | T    | T    |
| Traffic Vol, veh/h       | 10   | 70   | 360  | 10   | 30   | 375  |
| Future Vol, veh/h        | 10   | 70   | 360  | 10   | 30   | 375  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 12   | 82   | 424  | 12   | 35   | 441  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 947    | 435    | 0      | 0 | 438  | 0 |
| Stage 1              | 432    | -      | -      | - | -    | - |
| Stage 2              | 515    | -      | -      | - | -    | - |
| 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   | 292    | 625    | -      | - | 1132 | - |
| Stage 1              | 659    | -      | -      | - | -    | - |
| Stage 2              | 604    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - | -    | - |
| Mov Cap-1 Maneuver   | 278    | 621    | -      | - | 1129 | - |
| Mov Cap-2 Maneuver   | 278    | -      | -      | - | -    | - |
| Stage 1              | 657    | -      | -      | - | -    | - |
| Stage 2              | 577    | -      | -      | - | -    | - |




















| Approach                    | WB | NB | SB   |
|-----------------------------|----|----|------|
| HCM Control Delay, s/v13.09 |    | 0  | 0.61 |
| HCM LOS                     | B  |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 539   | 133   |
| HCM Lane V/C Ratio        | -   | -        | 0.175 | 0.031 |
| HCM Control Delay (s/veh) | -   | -        | 13.1  | 8.3   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.6   | 0.1   |

# HCM Signalized Intersection Capacity Analysis

## 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
Future (2026) Without Project PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 50  | 340   | 90  | 0   | 0   | 0   | 85  | 145   | 210   | 20  | 300   | 530   |
| Future Volume (vph)               | 50  | 340   | 90  | 0   | 0   | 0   | 85  | 145   | 210   | 20  | 300   | 530   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.98  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 0.99  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.91  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1888  | 1576  |   |   |   | 1800  | 1698  |   | 1804  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.56  | 1.00  |   | 0.29  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1888  | 1576  |   |   |   | 1071  | 1698  |   | 556   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)                   | 54  | 366   | 97  | 0   | 0   | 0   | 91  | 156   | 226   | 22  | 323   | 570   |
| RTOR Reduction (vph)              | 0   | 0   | 52  | 0   | 0   | 0   | 0   | 46  | 0   | 0   | 0   | 291   |
| Lane Group Flow (vph)             | 0   | 420   | 45  | 0   | 0   | 0   | 91  | 336   | 0   | 22  | 323   | 279   |
| Confl. Peds. (#/hr)               |   |   | 2   | 5   |   | 3   | 2   |   | 5   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 33.1  | 33.1  |   |   |   | 29.1  | 29.1  |   | 42.3  | 42.3  | 42.3  |
| Effective Green, g (s)            |   | 30.1  | 30.1  |   |   |   | 29.1  | 29.1  |   | 42.3  | 42.3  | 42.3  |
| Actuated g/C Ratio                |   | 0.35  | 0.35  |   |   |   | 0.34  | 0.34  |   | 0.49  | 0.49  | 0.49  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 657   | 549   |   |   |   | 360   | 571   |   | 377   | 930   | 790   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.20   |   | 0.00  | 0.17  |   |
| v/s Ratio Perm                    |   | 0.22  | 0.03  |   |   |   | 0.08  |   |   | 0.02  |   | c0.17   |
| v/c Ratio                         |   | 0.63  | 0.08  |   |   |   | 0.25  | 0.58  |   | 0.05  | 0.34  | 0.35  |
| Uniform Delay, d1                 |   | 23.5  | 18.8  |   |   |   | 20.7  | 23.7  |   | 12.8  | 13.5  | 13.6  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.97  | 0.93  | 0.95  |
| Incremental Delay, d2             |   | 3.4   | 0.1   |   |   |   | 0.3   | 1.5   |   | 0.0   | 0.2   | 0.2   |
| Delay (s)                         |   | 27.0  | 19.0  |   |   |   | 21.1  | 25.2  |   | 12.6  | 12.9  | 13.2  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 25.5  |   |   | 0.0   |   |   | 24.4  |   |   | 13.1  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 19.3  |   |   |   |   |   |   |   |   | B   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.60  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 86.4  |   |   |   |   |   |   | 19.9  |   |   |
| Intersection Capacity Utilization |   |   | 68.9%   |   |   |   |   |   |   |   |   | C   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Future (2026) Without Project PM Peak Hour


















| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 165   | 0    | 200  | 700   | 0    |
| Future Volume (vph)    | 1    | 165   | 0    | 200  | 700   | 0    |
| Ideal Flow (vphp)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 |
| Adj. Flow (vph)        | 1    | 174   | 0    | 211  | 737   | 0    |
| RTOR Reduction (vph)   | 0    | 159   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 15    | 0    | 211  | 737   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.3  | 7.3   |      | 67.7 | 67.7  |      |
| Effective Green, g (s) | 7.3  | 7.3   |      | 67.7 | 67.7  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.78 | 0.78  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 152  | 136   |      | 1488 | 2828  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.11 | c0.20 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.10  |      | 0.14 | 0.26  |      |
| Uniform Delay, d1      | 36.2 | 36.5  |      | 2.2  | 2.5   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.12 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 36.2 | 36.8  |      | 0.3  | 2.5   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 36.8 |       |      | 0.3  | 2.5   |      |
| Approach LOS           | D    |       |      | A    | A     |      |

| Intersection Summary              |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 7.5   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.27  |                           |      |
| Actuated Cycle Length (s)         | 86.4  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 39.1% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

HCM 7th Signalized Intersection Summary  
 5: E Mercer Way & I-90 WB Ramps

JDS  
 Future (2026) Without Project PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 695   | 5   | 1   | 200   | 3   | 0   | 0   | 3   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 695   | 5   | 1   | 200   | 3   | 0   | 0   | 3   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 702   | 5   | 1   | 202   | 3   | 0   | 0   | 3   | 3   |
| Peak Hour Factor   |   |   |   | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 819   | 6   | 1   | 442   | 4   | 0   | 0   | 167   | 167   |
| Arrive On Green  |   |   |   | 0.53  | 0.46  | 0.53  | 0.19  | 0.19  | 0.00  | 0.00  | 0.19  | 0.19  |
| Sat Flow, veh/h  |   |   |   | 1794  | 13  | 3   | 1396  | 21  | 0   | 0   | 872   | 872   |
| Grp Volume(v), veh/h   |   |   |   | 708   | 0   | 0   | 205   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1810  | 0   | 0   | 1416  | 0   | 0   | 0   | 0   | 1743  |
| Q Serve(g_s), s  |   |   |   | 13.8  | 0.0   | 0.0   | 5.5   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 13.8  | 0.0   | 0.0   | 5.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.00  | 0.99  |   | 0.00  | 0.00  |   | 0.50  |
| Lane Grp Cap(c), veh/h   |   |   |   | 826   | 0   | 0   | 446   | 0   | 0   | 0   | 0   | 334   |
| V/C Ratio(X)   |   |   |   | 0.86  | 0.00  | 0.00  | 0.46  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1376  | 0   | 0   | 1032  | 0   | 0   | 0   | 0   | 1044  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 8.5   | 0.0   | 0.0   | 15.7  | 0.0   | 0.0   | 0.0   | 0.0   | 13.4  |
| Incr Delay (d2), s/veh   |   |   |   | 3.5   | 0.0   | 0.0   | 0.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 3.9   | 0.0   | 0.0   | 1.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 12.0  | 0.0   | 0.0   | 16.4  | 0.0   | 0.0   | 0.0   | 0.0   | 13.4  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 708   |   |   | 205   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 12.0  |   |   | 16.4  |   |   |   | 13.4  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 13.3  |   | 27.6  |   | 13.3  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 15.8  |   | 7.6   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.9   |   | 1.0   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 13.0  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.3  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 2    | 40   | 0    | 10   | 65   | 0    |
| Future Vol, veh/h        | 2    | 40   | 0    | 10   | 65   | 0    |
| Conflicting Peds, #/hr   | 0    | 6    | 3    | 0    | 6    | 3    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 47   | 47   | 47   | 47   | 47   | 47   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 4    | 85   | 0    | 21   | 138  | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |      |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0      | 0      | 95     | 0 | 80   |
| Stage 1              | -      | -      | -      | - | 53   |
| Stage 2              | -      | -      | -      | - | 27   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4  |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5  |
| Pot Cap-1 Maneuver   | -      | -      | 1511   | - | 927  |
| Stage 1              | -      | -      | -      | - | 975  |
| Stage 2              | -      | -      | -      | - | 1000 |
| Platoon blocked, %   | -      | -      | -      | - | -    |
| Mov Cap-1 Maneuver   | -      | -      | 1503   | - | 917  |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 917  |
| Stage 1              | -      | -      | -      | - | 969  |
| Stage 2              | -      | -      | -      | - | 995  |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 9.62 |
| HCM LOS                |    |    | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 917   | -   | -   | 1503 | -   |
| HCM Lane V/C Ratio        | 0.151 | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 9.6   | -   | -   | 0    | -   |
| HCM Lane LOS              | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 0.5   | -   | -   | 0    | -   |

| 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       | 29   | 0    | 3    | 0    | 0    | 2    | 2    | 186  | 0    | 1    | 123  | 27   |
| Future Vol, veh/h        | 29   | 0    | 3    | 0    | 0    | 2    | 2    | 186  | 0    | 1    | 123  | 27   |
| Conflicting Peds, #/hr   | 2    | 0    | 2    | 0    | 0    | 0    | 2    | 0    | 0    | 0    | 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    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 31   | 0    | 3    | 0    | 0    | 2    | 2    | 196  | 0    | 1    | 129  | 28   |

| Major/Minor          | Minor2 |     | Minor1 |     |     | Major1 |      | Major2 |   |      |   |   |
|----------------------|--------|-----|--------|-----|-----|--------|------|--------|---|------|---|---|
| Conflicting Flow All | 350    | 348 | 148    | 334 | 362 | 198    | 160  | 0      | 0 | 196  | 0 | 0 |
| Stage 1              | 148    | 148 | -      | 200 | 200 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 202    | 200 | -      | 134 | 162 | -      | -    | -      | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5 | 6.2    | 4.1  | -      | - | 4.1  | - | - |
| 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    | 2.2  | -      | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 609    | 579 | 904    | 624 | 569 | 848    | 1432 | -      | - | 1389 | - | - |
| Stage 1              | 860    | 779 | -      | 806 | 739 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 805    | 739 | -      | 875 | 768 | -      | -    | -      | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |     |        |      | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | 603    | 577 | 901    | 619 | 566 | 847    | 1429 | -      | - | 1389 | - | - |
| Mov Cap-2 Maneuver   | 603    | 577 | -      | 619 | 566 | -      | -    | -      | - | -    | - | - |
| Stage 1              | 857    | 777 | -      | 805 | 738 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 800    | 738 | -      | 869 | 766 | -      | -    | -      | - | -    | - | - |

| Approach                    | EB |  | WB   |  |  | NB   |  | SB   |  |  |
|-----------------------------|----|--|------|--|--|------|--|------|--|--|
| HCM Control Delay, s/v11.11 |    |  | 9.26 |  |  | 0.08 |  | 0.05 |  |  |
| HCM LOS                     | B  |  | A    |  |  |      |  |      |  |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL   | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|-------|-----|-----|
| Capacity (veh/h)          | 19    | -   | -   | 623   | 847   | 12    | -   | -   |
| HCM Lane V/C Ratio        | 0.001 | -   | -   | 0.054 | 0.002 | 0.001 | -   | -   |
| HCM Control Delay (s/veh) | 7.5   | 0   | -   | 11.1  | 9.3   | 7.6   | 0   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A     | A   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.2   | 0     | 0     | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | Y    |      | T    |      |      | T    |
| Traffic Vol, veh/h       | 6    | 88   | 460  | 10   | 121  | 445  |
| Future Vol, veh/h        | 6    | 88   | 460  | 10   | 121  | 445  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 11   | 11   | 0    | 0    | 1    | 1    |
| Mvmt Flow                | 7    | 100  | 523  | 11   | 138  | 506  |




















| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 1315   | 534    | 0      | 0 | 537   | 0 |
| Stage 1              | 531    | -      | -      | - | -     | - |
| Stage 2              | 784    | -      | -      | - | -     | - |
| Critical Hdwy        | 6.51   | 6.31   | -      | - | 4.11  | - |
| Critical Hdwy Stg 1  | 5.51   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.51   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.599  | 3.399  | -      | - | 2.209 | - |
| Pot Cap-1 Maneuver   | 167    | 529    | -      | - | 1036  | - |
| Stage 1              | 572    | -      | -      | - | -     | - |
| Stage 2              | 435    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - | -     | - |
| Mov Cap-1 Maneuver   | 135    | 526    | -      | - | 1033  | - |
| Mov Cap-2 Maneuver   | 135    | -      | -      | - | -     | - |
| Stage 1              | 570    | -      | -      | - | -     | - |
| Stage 2              | 353    | -      | -      | - | -     | - |

| Approach               | WB    | NB | SB   |
|------------------------|-------|----|------|
| HCM Control Delay, s/v | 15.67 | 0  | 1.93 |
| HCM LOS                | C     |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 444   | 385   |
| HCM Lane V/C Ratio        | -   | -        | 0.241 | 0.133 |
| HCM Control Delay (s/veh) | -   | -        | 15.7  | 9     |
| HCM Lane LOS              | -   | -        | C     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 0.9   | 0.5   |

HCM Signalized Intersection Capacity Analysis  
 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS  
 Future (2026) With Project AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 35  | 375   | 81  | 0   | 0   | 0   | 75  | 150   | 323   | 30  | 485   | 595   |
| Future Volume (vph)               | 35  | 375   | 81  | 0   | 0   | 0   | 75  | 150   | 323   | 30  | 485   | 595   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.97  |   | 1.00  | 1.00  | 0.97  |
| Flpb, ped/bikes                   |   | 0.99  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.89  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1891  | 1569  |   |   |   | 1779  | 1641  |   | 1805  | 1900  | 1576  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.47  | 1.00  |   | 0.14  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1891  | 1569  |   |   |   | 890   | 1641  |   | 267   | 1900  | 1576  |
| Peak-hour factor, PHF             | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  | 0.95  |
| Adj. Flow (vph)                   | 37  | 395   | 85  | 0   | 0   | 0   | 79  | 158   | 340   | 32  | 511   | 626   |
| RTOR Reduction (vph)              | 0   | 0   | 57  | 0   | 0   | 0   | 0   | 71  | 0   | 0   | 0   | 302   |
| Lane Group Flow (vph)             | 0   | 432   | 28  | 0   | 0   | 0   | 79  | 427   | 0   | 32  | 511   | 324   |
| Confl. Peds. (#/hr)               | 2   |   | 4   | 8   |   |   | 6   | 4   |   | 8   | 6   | 2   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 1%  | 1%  | 1%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 33.5  | 33.5  |   |   |   | 28.9  | 28.9  |   | 47.8  | 47.8  | 47.8  |
| Effective Green, g (s)            |   | 30.5  | 30.5  |   |   |   | 28.9  | 28.9  |   | 47.8  | 47.8  | 47.8  |
| Actuated g/C Ratio                |   | 0.33  | 0.33  |   |   |   | 0.31  | 0.31  |   | 0.52  | 0.52  | 0.52  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 624   | 518   |   |   |   | 278   | 513   |   | 354   | 983   | 816   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.26   |   | 0.01  | c0.27   |   |
| v/s Ratio Perm                    |   | 0.23  | 0.02  |   |   |   | 0.09  |   |   | 0.03  |   | 0.21  |
| v/c Ratio                         |   | 0.69  | 0.05  |   |   |   | 0.28  | 0.83  |   | 0.09  | 0.51  | 0.39  |
| Uniform Delay, d1                 |   | 26.8  | 21.0  |   |   |   | 23.9  | 29.4  |   | 14.3  | 14.6  | 13.5  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.88  | 0.83  | 0.69  |
| Incremental Delay, d2             |   | 4.9   | 0.1   |   |   |   | 0.5   | 11.0  |   | 0.1   | 0.4   | 0.3   |
| Delay (s)                         |   | 31.7  | 21.1  |   |   |   | 24.4  | 40.5  |   | 12.7  | 12.7  | 9.6   |
| Level of Service                  |   | C   | C   |   |   |   | C   | D   |   | B   | B   | A   |
| Approach Delay (s/veh)            |   | 30.0  |   |   | 0.0   |   |   | 38.3  |   |   | 11.0  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | D   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 22.4  |   |   |   | HCM 2000 Level of Service   |   |   | C   |   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.74  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 92.3  |   |   |   | Sum of lost time (s)  |   |   | 19.9  |   |   |
| Intersection Capacity Utilization |   |   | 77.4%   |   |   |   | ICU Level of Service  |   |   | D   |   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Future (2026) With Project AM Peak Hour



| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 2    | 298   | 0    | 190  | 807   | 0    |
| Future Volume (vph)    | 2    | 298   | 0    | 190  | 807   | 0    |
| Ideal Flow (vphpl)     | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frbp, ped/bikes        | 1.00 | 0.98  |      | 1.00 | 1.00  |      |
| Flpb, ped/bikes        | 1.00 | 1.00  |      | 1.00 | 1.00  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1592  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1592  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 |
| Adj. Flow (vph)        | 2    | 314   | 0    | 200  | 849   | 0    |
| RTOR Reduction (vph)   | 0    | 174   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 2    | 140   | 0    | 200  | 849   | 0    |
| Confl. Peds. (#/hr)    | 1    | 1     | 1    |      |       | 1    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 13.0 | 13.0  |      | 67.9 | 67.9  |      |
| Effective Green, g (s) | 13.0 | 13.0  |      | 67.9 | 67.9  |      |
| Actuated g/C Ratio     | 0.14 | 0.14  |      | 0.74 | 0.74  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 254  | 224   |      | 1397 | 2655  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.11 | c0.24 |      |
| v/s Ratio Perm         |      | c0.09 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.62  |      | 0.14 | 0.31  |      |
| Uniform Delay, d1      | 34.1 | 37.3  |      | 3.6  | 4.2   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.17 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 5.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 34.1 | 42.6  |      | 0.6  | 4.2   |      |
| Level of Service       | C    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 42.5 |       |      | 0.6  | 4.2   |      |
| Approach LOS           | D    |       |      | A    | A     |      |
















### Intersection Summary

|                                   |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 12.6  | HCM 2000 Level of Service | B    |
| HCM 2000 Volume to Capacity ratio | 0.40  |                           |      |
| Actuated Cycle Length (s)         | 92.3  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 50.4% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |

c Critical Lane Group

HCM 7th Signalized Intersection Summary  
 5: E Mercer Way & I-90 WB Ramps

JDS  
 Future (2026) With Project AM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 797   | 55  | 3   | 190   | 0   | 0   | 0   | 5   | 1   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 797   | 55  | 3   | 190   | 0   | 0   | 0   | 5   | 1   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 822   | 57  | 3   | 196   | 0   | 0   | 0   | 5   | 1   |
| Peak Hour Factor   |   |   |   | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 894   | 62  | 3   | 400   | 0   | 0   | 0   | 277   | 55  |
| Arrive On Green  |   |   |   | 0.59  | 0.53  | 0.59  | 0.18  | 0.00  | 0.00  | 0.00  | 0.18  | 0.18  |
| Sat Flow, veh/h  |   |   |   | 1691  | 117   | 6   | 1411  | 0   | 0   | 0   | 1537  | 307   |
| Grp Volume(v), veh/h   |   |   |   | 882   | 0   | 0   | 196   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1814  | 0   | 0   | 1411  | 0   | 0   | 0   | 0   | 1845  |
| Q Serve(g_s), s  |   |   |   | 21.6  | 0.0   | 0.0   | 6.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 21.6  | 0.0   | 0.0   | 6.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.93  |   | 0.00  | 1.00  |   | 0.00  | 0.00  |   | 0.17  |
| Lane Grp Cap(c), veh/h   |   |   |   | 959   | 0   | 0   | 400   | 0   | 0   | 0   | 0   | 332   |
| V/C Ratio(X)   |   |   |   | 0.92  | 0.00  | 0.00  | 0.49  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1142  | 0   | 0   | 852   | 0   | 0   | 0   | 0   | 915   |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 9.3   | 0.0   | 0.0   | 19.4  | 0.0   | 0.0   | 0.0   | 0.0   | 16.7  |
| Incr Delay (d2), s/veh   |   |   |   | 10.9  | 0.0   | 0.0   | 0.9   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 7.8   | 0.0   | 0.0   | 2.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 20.2  | 0.0   | 0.0   | 20.3  | 0.0   | 0.0   | 0.0   | 0.0   | 16.7  |
| LnGrp LOS  |   |   |   | C   |   |   | C   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 882   |   |   | 196   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 20.2  |   |   | 20.3  |   |   |   | 16.7  |
| Approach LOS   |   |   |   |   | C   |   |   | C   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 14.4  |   | 35.0  |   | 14.4  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 23.6  |   | 8.6   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.5   |   | 0.9   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   | 20.2  |   |   |   |   |   |   |   |
| HCM 7th LOS  |   |   |   |   | C   |   |   |   |   |   |   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

HCM 7th TWSC  
6: Site Access & Frontage Rd

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.4  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 20   | 131  | 0    | 30   | 59   | 0    |
| Future Vol, veh/h        | 20   | 131  | 0    | 30   | 59   | 0    |
| Conflicting Peds, #/hr   | 0    | 8    | 5    | 0    | 8    | 5    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 3    | 3    | 3    | 3    | 0    | 0    |
| Mvmt Flow                | 23   | 149  | 0    | 34   | 67   | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 180    | 0      | 147    |
| Stage 1              | -      | -      | -      | -      | 105    |
| Stage 2              | -      | -      | -      | -      | 42     |
| Critical Hdwy        | -      | -      | 4.13   | -      | 6.4    |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.4    |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.4    |
| Follow-up Hdwy       | -      | -      | 2.227  | -      | 3.5    |
| Pot Cap-1 Maneuver   | -      | -      | 1390   | -      | 850    |
| Stage 1              | -      | -      | -      | -      | 924    |
| Stage 2              | -      | -      | -      | -      | 986    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1379   | -      | 837    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 837    |
| Stage 1              | -      | -      | -      | -      | 917    |
| Stage 2              | -      | -      | -      | -      | 978    |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 9.68 |
| HCM LOS                |    |    | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 837   | -   | -   | 1379 | -   |
| HCM Lane V/C Ratio        | 0.08  | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 9.7   | -   | -   | 0    | -   |
| HCM Lane LOS              | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 0.3   | -   | -   | 0    | -   |

| 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       | 37   | 0    | 1    | 0    | 0    | 1    | 2    | 183  | 0    | 0    | 134  | 37   |
| Future Vol, veh/h        | 37   | 0    | 1    | 0    | 0    | 1    | 2    | 183  | 0    | 0    | 134  | 37   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    | 1    | 0    | 1    |
| 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         | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   | 88   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 42   | 0    | 1    | 0    | 0    | 1    | 2    | 208  | 0    | 0    | 152  | 42   |

| Major/Minor          | Minor2 |     | Minor1 |     |     | Major1 |      | Major2 |   |      |   |   |
|----------------------|--------|-----|--------|-----|-----|--------|------|--------|---|------|---|---|
| Conflicting Flow All | 388    | 388 | 175    | 367 | 409 | 210    | 195  | 0      | 0 | 209  | 0 | 0 |
| Stage 1              | 174    | 174 | -      | 214 | 214 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 214    | 214 | -      | 153 | 195 | -      | -    | -      | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5 | 6.2    | 4.1  | -      | - | 4.1  | - | - |
| 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    | 2.2  | -      | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 575    | 550 | 873    | 593 | 535 | 835    | 1390 | -      | - | 1374 | - | - |
| Stage 1              | 832    | 759 | -      | 793 | 730 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 793    | 730 | -      | 854 | 743 | -      | -    | -      | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |     |        |      | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | 572    | 548 | 872    | 590 | 533 | 834    | 1388 | -      | - | 1373 | - | - |
| Mov Cap-2 Maneuver   | 572    | 548 | -      | 590 | 533 | -      | -    | -      | - | -    | - | - |
| Stage 1              | 831    | 758 | -      | 791 | 728 | -      | -    | -      | - | -    | - | - |
| Stage 2              | 790    | 728 | -      | 852 | 742 | -      | -    | -      | - | -    | - | - |

| Approach               | EB    |  | WB   |  |  | NB   |  | SB |  |  |
|------------------------|-------|--|------|--|--|------|--|----|--|--|
| HCM Control Delay, s/v | 11.74 |  | 9.32 |  |  | 0.08 |  | 0  |  |  |
| HCM LOS                | B     |  | A    |  |  |      |  |    |  |  |

| Minor Lane/Major Mvmt     | NBL   | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|-------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 19    | -   | -   | 577   | 834   | 1373 | -   | -   |
| HCM Lane V/C Ratio        | 0.002 | -   | -   | 0.075 | 0.001 | -    | -   | -   |
| HCM Control Delay (s/veh) | 7.6   | 0   | -   | 11.7  | 9.3   | 0    | -   | -   |
| HCM Lane LOS              | A     | A   | -   | B     | A     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0     | -   | -   | 0.2   | 0     | 0    | -   | -   |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | W    | W    | T    | T    | T    | T    |
| Traffic Vol, veh/h       | 10   | 112  | 415  | 15   | 81   | 345  |
| Future Vol, veh/h        | 10   | 112  | 415  | 15   | 81   | 345  |
| 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    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 93   | 93   | 93   | 93   | 93   | 93   |
| Heavy Vehicles, %        | 3    | 3    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 11   | 120  | 446  | 16   | 87   | 371  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 1001   | 456    | 0      | 0 | 463  | 0 |
| Stage 1              | 455    | -      | -      | - | -    | - |
| Stage 2              | 546    | -      | -      | - | -    | - |
| Critical Hdwy        | 6.43   | 6.23   | -      | - | 4.1  | - |
| Critical Hdwy Stg 1  | 5.43   | -      | -      | - | -    | - |
| Critical Hdwy Stg 2  | 5.43   | -      | -      | - | -    | - |
| Follow-up Hdwy       | 3.527  | 3.327  | -      | - | 2.2  | - |
| Pot Cap-1 Maneuver   | 268    | 602    | -      | - | 1108 | - |
| Stage 1              | 637    | -      | -      | - | -    | - |
| Stage 2              | 578    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - | -    | - |
| Mov Cap-1 Maneuver   | 241    | 601    | -      | - | 1107 | - |
| Mov Cap-2 Maneuver   | 241    | -      | -      | - | -    | - |
| Stage 1              | 636    | -      | -      | - | -    | - |
| Stage 2              | 521    | -      | -      | - | -    | - |




















| Approach               | WB    | NB | SB   |
|------------------------|-------|----|------|
| HCM Control Delay, s/v | 13.89 | 0  | 1.62 |
| HCM LOS                | B     |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 535   | 342   |
| HCM Lane V/C Ratio        | -   | -        | 0.245 | 0.079 |
| HCM Control Delay (s/veh) | -   | -        | 13.9  | 8.5   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 1     | 0.3   |

HCM Signalized Intersection Capacity Analysis  
 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS

Future (2026) With Project School PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 75  | 375   | 65  | 0   | 0   | 0   | 45  | 161   | 321   | 25  | 356   | 410   |
| Future Volume (vph)               | 75  | 375   | 65  | 0   | 0   | 0   | 45  | 161   | 321   | 25  | 356   | 410   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.97  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.90  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1884  | 1572  |   |   |   | 1798  | 1669  |   | 1805  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.53  | 1.00  |   | 0.19  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1884  | 1572  |   |   |   | 1016  | 1669  |   | 368   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  |
| Adj. Flow (vph)                   | 80  | 399   | 69  | 0   | 0   | 0   | 48  | 171   | 341   | 27  | 379   | 436   |
| RTOR Reduction (vph)              | 0   | 0   | 46  | 0   | 0   | 0   | 0   | 60  | 0   | 0   | 0   | 213   |
| Lane Group Flow (vph)             | 0   | 479   | 23  | 0   | 0   | 0   | 48  | 452   | 0   | 27  | 379   | 223   |
| Confl. Peds. (#/hr)               |   |   | 3   | 6   |   | 3   | 3   |   | 6   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 34.3  | 34.3  |   |   |   | 34.1  | 34.1  |   | 47.4  | 47.4  | 47.4  |
| Effective Green, g (s)            |   | 31.3  | 31.3  |   |   |   | 34.1  | 34.1  |   | 47.4  | 47.4  | 47.4  |
| Actuated g/C Ratio                |   | 0.34  | 0.34  |   |   |   | 0.37  | 0.37  |   | 0.51  | 0.51  | 0.51  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 636   | 530   |   |   |   | 373   | 613   |   | 302   | 971   | 825   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.27   |   | 0.01  | c0.20   |   |
| v/s Ratio Perm                    |   | 0.25  | 0.01  |   |   |   | 0.05  |   |   | 0.04  |   | 0.14  |
| v/c Ratio                         |   | 0.75  | 0.04  |   |   |   | 0.12  | 0.73  |   | 0.08  | 0.39  | 0.27  |
| Uniform Delay, d1                 |   | 27.2  | 20.6  |   |   |   | 19.4  | 25.4  |   | 14.3  | 13.8  | 12.8  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.96  | 0.92  | 0.76  |
| Incremental Delay, d2             |   | 6.6   | 0.0   |   |   |   | 0.1   | 4.6   |   | 0.1   | 0.2   | 0.1   |
| Delay (s)                         |   | 33.8  | 20.7  |   |   |   | 19.5  | 30.0  |   | 14.0  | 13.0  | 9.9   |
| Level of Service                  |   | C   | C   |   |   |   | B   | C   |   | B   | B   | A   |
| Approach Delay (s/veh)            |   | 32.2  |   |   | 0.0   |   |   | 29.1  |   |   | 11.4  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 22.4  |   |   |   | HCM 2000 Level of Service   |   |   | C   |   |   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.73  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 92.7  |   |   |   | Sum of lost time (s)  |   |   | 19.9  |   |   |
| Intersection Capacity Utilization |   |   | 79.6%   |   |   |   | ICU Level of Service  |   |   | D   |   |   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS

Future (2026) With Project School PM Peak Hour



| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 169   | 0    | 241  | 617   | 0    |
| Future Volume (vph)    | 1    | 169   | 0    | 241  | 617   | 0    |
| Ideal Flow (vphpl)     | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.93 | 0.93  | 0.93 | 0.93 | 0.93  | 0.93 |
| Adj. Flow (vph)        | 1    | 182   | 0    | 259  | 663   | 0    |
| RTOR Reduction (vph)   | 0    | 167   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 15    | 0    | 259  | 663   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.4  | 7.4   |      | 73.9 | 73.9  |      |
| Effective Green, g (s) | 7.4  | 7.4   |      | 73.9 | 73.9  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.80 | 0.80  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 144  | 128   |      | 1514 | 2877  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.14 | c0.18 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.11  |      | 0.17 | 0.23  |      |
| Uniform Delay, d1      | 39.2 | 39.6  |      | 2.2  | 2.3   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.14 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 39.2 | 39.9  |      | 0.3  | 2.3   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 39.9 |       |      | 0.3  | 2.3   |      |
| Approach LOS           | D    |       |      | A    | A     |      |
















| Intersection Summary              |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 8.1   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.24  |                           |      |
| Actuated Cycle Length (s)         | 92.7  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 37.0% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

# HCM 7th Signalized Intersection Summary

## 5: E Mercer Way & I-90 WB Ramps

JDS

Future (2026) With Project School PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |  |   |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 612   | 5   | 4   | 231   | 5   | 0   | 0   | 5   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 612   | 5   | 4   | 231   | 5   | 0   | 0   | 5   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 658   | 5   | 4   | 248   | 5   | 0   | 0   | 5   | 3   |
| Peak Hour Factor   |   |   |   | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 763   | 6   | 5   | 493   | 7   | 0   | 0   | 263   | 158   |
| Arrive On Green  |   |   |   | 0.50  | 0.43  | 0.50  | 0.24  | 0.24  | 0.00  | 0.00  | 0.24  | 0.24  |
| Sat Flow, veh/h  |   |   |   | 1784  | 14  | 11  | 1382  | 28  | 0   | 0   | 1110  | 666   |
| Grp Volume(v), veh/h   |   |   |   | 667   | 0   | 0   | 253   | 0   | 0   | 0   | 0   | 8   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1809  | 0   | 0   | 1410  | 0   | 0   | 0   | 0   | 1777  |
| Q Serve(g_s), s  |   |   |   | 13.9  | 0.0   | 0.0   | 7.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 13.9  | 0.0   | 0.0   | 7.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.01  | 0.98  |   | 0.00  | 0.00  |   | 0.37  |
| Lane Grp Cap(c), veh/h   |   |   |   | 773   | 0   | 0   | 500   | 0   | 0   | 0   | 0   | 420   |
| V/C Ratio(X)   |   |   |   | 0.86  | 0.00  | 0.00  | 0.51  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1312  | 0   | 0   | 979   | 0   | 0   | 0   | 0   | 1015  |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 9.7   | 0.0   | 0.0   | 15.3  | 0.0   | 0.0   | 0.0   | 0.0   | 12.6  |
| Incr Delay (d2), s/veh   |   |   |   | 3.8   | 0.0   | 0.0   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 4.2   | 0.0   | 0.0   | 2.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 13.4  | 0.0   | 0.0   | 16.1  | 0.0   | 0.0   | 0.0   | 0.0   | 12.6  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 667   |   |   | 253   |   |   |   | 8   |
| Approach Delay, s/veh  |   |   |   |   | 13.4  |   |   | 16.1  |   |   |   | 12.6  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 15.6  |   | 27.2  |   | 15.6  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 15.9  |   | 9.2   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.4   |   | 1.2   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 14.2  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

HCM 7th TWSC  
6: Site Access & Frontage Rd

JDS  
Future (2026) With Project School PM Peak Hour

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 15   | 76   | 1    | 25   | 83   | 1    |
| Future Vol, veh/h        | 15   | 76   | 1    | 25   | 83   | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 84   | 84   | 84   | 84   | 84   | 84   |
| Heavy Vehicles, %        | 2    | 2    | 7    | 7    | 0    | 0    |
| Mvmt Flow                | 18   | 90   | 1    | 30   | 99   | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |     |
|----------------------|--------|--------|--------|---|-----|
| Conflicting Flow All | 0      | 0      | 108    | 0 | 95  |
| Stage 1              | -      | -      | -      | - | 63  |
| Stage 2              | -      | -      | -      | - | 32  |
| Critical Hdwy        | -      | -      | 4.17   | - | 6.4 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4 |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4 |
| Follow-up Hdwy       | -      | -      | 2.263  | - | 3.5 |
| Pot Cap-1 Maneuver   | -      | -      | 1452   | - | 909 |
| Stage 1              | -      | -      | -      | - | 965 |
| Stage 2              | -      | -      | -      | - | 996 |
| Platoon blocked, %   | -      | -      | -      | - | -   |
| Mov Cap-1 Maneuver   | -      | -      | 1452   | - | 908 |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 908 |
| Stage 1              | -      | -      | -      | - | 965 |
| Stage 2              | -      | -      | -      | - | 995 |

| Approach               | EB | WB   | NB   |
|------------------------|----|------|------|
| HCM Control Delay, s/v | 0  | 0.29 | 9.45 |
| HCM LOS                |    |      | A    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL   | WBT |
|---------------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)          | 909   | -   | -   | 69    | -   |
| HCM Lane V/C Ratio        | 0.11  | -   | -   | 0.001 | -   |
| HCM Control Delay (s/veh) | 9.4   | -   | -   | 7.5   | 0   |
| HCM Lane LOS              | A     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh)     | 0.4   | -   | -   | 0     | -   |

| 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       | 36   | 0    | 2    | 0    | 1    | 2    | 0    | 152  | 1    | 0    | 182  | 42   |
| Future Vol, veh/h        | 36   | 0    | 2    | 0    | 1    | 2    | 0    | 152  | 1    | 0    | 182  | 42   |
| Conflicting Peds, #/hr   | 1    | 0    | 1    | 0    | 0    | 0    | 1    | 0    | 0    | 0    | 0    | 1    |
| 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         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 40   | 0    | 2    | 0    | 1    | 2    | 0    | 169  | 1    | 0    | 202  | 47   |

| Major/Minor          | Minor2 |     | Minor1 |     | Major1 |     |      | Major2 |   |      |   |   |
|----------------------|--------|-----|--------|-----|--------|-----|------|--------|---|------|---|---|
| Conflicting Flow All | 397    | 397 | 228    | 373 | 419    | 170 | 250  | 0      | 0 | 170  | 0 | 0 |
| Stage 1              | 227    | 227 | -      | 169 | 169    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 170    | 170 | -      | 203 | 250    | -   | -    | -      | - | -    | - | - |
| Critical Hdwy        | 7.1    | 6.5 | 6.2    | 7.1 | 6.5    | 6.2 | 4.1  | -      | - | 4.1  | - | - |
| 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 | 2.2  | -      | - | 2.2  | - | - |
| Pot Cap-1 Maneuver   | 567    | 544 | 817    | 588 | 528    | 879 | 1327 | -      | - | 1420 | - | - |
| Stage 1              | 781    | 720 | -      | 837 | 762    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 836    | 762 | -      | 803 | 704    | -   | -    | -      | - | -    | - | - |
| Platoon blocked, %   |        |     |        |     |        |     |      | -      | - | -    | - | - |
| Mov Cap-1 Maneuver   | 563    | 543 | 815    | 586 | 528    | 878 | 1326 | -      | - | 1420 | - | - |
| Mov Cap-2 Maneuver   | 563    | 543 | -      | 586 | 528    | -   | -    | -      | - | -    | - | - |
| Stage 1              | 780    | 719 | -      | 837 | 762    | -   | -    | -      | - | -    | - | - |
| Stage 2              | 832    | 762 | -      | 800 | 703    | -   | -    | -      | - | -    | - | - |

| Approach                    | EB | WB    | NB | SB |
|-----------------------------|----|-------|----|----|
| HCM Control Delay, s/v11.79 |    | 10.03 | 0  | 0  |
| HCM LOS                     | B  | B     |    |    |

| Minor Lane/Major Mvmt     | NBL  | NBT | NBR | EBLn1 | WBLn1 | SBL  | SBT | SBR |
|---------------------------|------|-----|-----|-------|-------|------|-----|-----|
| Capacity (veh/h)          | 1326 | -   | -   | 572   | 719   | 1420 | -   | -   |
| HCM Lane V/C Ratio        | -    | -   | -   | 0.074 | 0.005 | -    | -   | -   |
| HCM Control Delay (s/veh) | 0    | -   | -   | 11.8  | 10    | 0    | -   | -   |
| HCM Lane LOS              | A    | -   | -   | B     | B     | A    | -   | -   |
| HCM 95th %tile Q(veh)     | 0    | -   | -   | 0.2   | 0     | 0    | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      | TT   |      | T    |      |      | T    |
| Traffic Vol, veh/h       | 14   | 111  | 360  | 13   | 50   | 375  |
| Future Vol, veh/h        | 14   | 111  | 360  | 13   | 50   | 375  |
| Conflicting Peds, #/hr   | 3    | 3    | 0    | 3    | 3    | 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         | 85   | 85   | 85   | 85   | 85   | 85   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 16   | 131  | 424  | 15   | 59   | 441  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |      |   |
|----------------------|--------|--------|--------|---|------|---|
| Conflicting Flow All | 996    | 437    | 0      | 0 | 442  | 0 |
| Stage 1              | 434    | -      | -      | - | -    | - |
| Stage 2              | 562    | -      | -      | - | -    | - |
| 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   | 273    | 624    | -      | - | 1129 | - |
| Stage 1              | 657    | -      | -      | - | -    | - |
| Stage 2              | 575    | -      | -      | - | -    | - |
| Platoon blocked, %   |        |        | -      | - |      | - |
| Mov Cap-1 Maneuver   | 253    | 620    | -      | - | 1126 | - |
| Mov Cap-2 Maneuver   | 253    | -      | -      | - | -    | - |
| Stage 1              | 656    | -      | -      | - | -    | - |
| Stage 2              | 533    | -      | -      | - | -    | - |




















| Approach               | WB   | NB | SB   |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 14.3 | 0  | 0.99 |
| HCM LOS                | B    |    |      |

| Minor Lane/Major Mvmt     | NBT | NBRWBLn1 | SBL   | SBT   |
|---------------------------|-----|----------|-------|-------|
| Capacity (veh/h)          | -   | -        | 533   | 212   |
| HCM Lane V/C Ratio        | -   | -        | 0.276 | 0.052 |
| HCM Control Delay (s/veh) | -   | -        | 14.3  | 8.4   |
| HCM Lane LOS              | -   | -        | B     | A     |
| HCM 95th %tile Q(veh)     | -   | -        | 1.1   | 0.2   |

HCM Signalized Intersection Capacity Analysis  
 3: E Mercer Way & SE 36th St/I-90 EB On-Ramp

JDS

Future (2026) With-Project PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                          | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations               |   |  |  |   |   |   |  |  |   |  |  |  |
| Traffic Volume (vph)              | 50  | 340   | 90  | 0   | 0   | 0   | 86  | 160   | 235   | 20  | 320   | 530   |
| Future Volume (vph)               | 50  | 340   | 90  | 0   | 0   | 0   | 86  | 160   | 235   | 20  | 320   | 530   |
| Ideal Flow (vphpl)                | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Total Lost time (s)               |   | 8.5   | 8.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Lane Util. Factor                 |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frbp, ped/bikes                   |   | 1.00  | 0.97  |   |   |   | 1.00  | 0.98  |   | 1.00  | 1.00  | 1.00  |
| Flpb, ped/bikes                   |   | 1.00  | 1.00  |   |   |   | 0.99  | 1.00  |   | 1.00  | 1.00  | 1.00  |
| Frt                               |   | 1.00  | 0.85  |   |   |   | 1.00  | 0.91  |   | 1.00  | 1.00  | 0.85  |
| Flt Protected                     |   | 0.99  | 1.00  |   |   |   | 0.95  | 1.00  |   | 0.95  | 1.00  | 1.00  |
| Satd. Flow (prot)                 |   | 1888  | 1576  |   |   |   | 1800  | 1697  |   | 1805  | 1900  | 1615  |
| Flt Permitted                     |   | 0.99  | 1.00  |   |   |   | 0.55  | 1.00  |   | 0.26  | 1.00  | 1.00  |
| Satd. Flow (perm)                 |   | 1888  | 1576  |   |   |   | 1050  | 1697  |   | 497   | 1900  | 1615  |
| Peak-hour factor, PHF             | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  | 0.93  |
| Adj. Flow (vph)                   | 54  | 366   | 97  | 0   | 0   | 0   | 92  | 172   | 253   | 22  | 344   | 570   |
| RTOR Reduction (vph)              | 0   | 0   | 53  | 0   | 0   | 0   | 0   | 45  | 0   | 0   | 0   | 284   |
| Lane Group Flow (vph)             | 0   | 420   | 44  | 0   | 0   | 0   | 92  | 380   | 0   | 22  | 344   | 286   |
| Confl. Peds. (#/hr)               |   |   | 2   | 5   |   | 3   | 2   |   | 5   | 3   |   |   |
| Heavy Vehicles (%)                | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  | 0%  |
| Turn Type                         | Perm  | NA  | Perm  |   |   |   | Perm  | NA  |   | pm+pt   | NA  | Perm  |
| Protected Phases                  |   | 4   |   |   |   |   |   | 2   |   | 1   | 6   |   |
| Permitted Phases                  | 4   |   | 4   |   |   |   | 2   |   | 6   |   |   | 6   |
| Actuated Green, G (s)             |   | 33.1  | 33.1  |   |   |   | 31.0  | 31.0  |   | 44.3  | 44.3  | 44.3  |
| Effective Green, g (s)            |   | 30.1  | 30.1  |   |   |   | 31.0  | 31.0  |   | 44.3  | 44.3  | 44.3  |
| Actuated g/C Ratio                |   | 0.34  | 0.34  |   |   |   | 0.35  | 0.35  |   | 0.50  | 0.50  | 0.50  |
| Clearance Time (s)                |   | 5.5   | 5.5   |   |   |   | 5.5   | 5.5   |   | 5.9   | 5.5   | 5.5   |
| Vehicle Extension (s)             |   | 6.0   | 6.0   |   |   |   | 3.0   | 3.0   |   | 3.0   | 3.0   | 3.0   |
| Lane Grp Cap (vph)                |   | 642   | 536   |   |   |   | 368   | 595   |   | 358   | 952   | 809   |
| v/s Ratio Prot                    |   |   |   |   |   |   |   | c0.22   |   | 0.01  | c0.18   |   |
| v/s Ratio Perm                    |   | 0.22  | 0.03  |   |   |   | 0.09  |   |   | 0.03  |   | 0.18  |
| v/c Ratio                         |   | 0.65  | 0.08  |   |   |   | 0.25  | 0.63  |   | 0.06  | 0.36  | 0.35  |
| Uniform Delay, d1                 |   | 24.7  | 19.7  |   |   |   | 20.4  | 24.0  |   | 13.0  | 13.4  | 13.3  |
| Progression Factor                |   | 1.00  | 1.00  |   |   |   | 1.00  | 1.00  |   | 0.97  | 0.93  | 0.94  |
| Incremental Delay, d2             |   | 3.8   | 0.1   |   |   |   | 0.3   | 2.2   |   | 0.0   | 0.2   | 0.2   |
| Delay (s)                         |   | 28.5  | 19.9  |   |   |   | 20.7  | 26.2  |   | 12.8  | 12.7  | 12.8  |
| Level of Service                  |   | C   | B   |   |   |   | C   | C   |   | B   | B   | B   |
| Approach Delay (s/veh)            |   | 26.9  |   |   | 0.0   |   |   | 25.2  |   |   | 12.8  |   |
| Approach LOS                      |   | C   |   |   | A   |   |   | C   |   |   | B   |   |
| <b>Intersection Summary</b>       |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 2000 Control Delay (s/veh)    |   |   | 19.8  |   |   |   |   |   |   |   |   | B   |
| HCM 2000 Volume to Capacity ratio |   |   | 0.63  |   |   |   |   |   |   |   |   |   |
| Actuated Cycle Length (s)         |   |   | 88.4  |   |   |   |   |   |   |   | 19.9  |   |
| Intersection Capacity Utilization |   |   | 71.2%   |   |   |   |   |   |   |   |   | C   |
| Analysis Period (min)             |   |   | 15  |   |   |   |   |   |   |   |   |   |

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 4: E Mercer Way & I-90 EB Off Ramp

JDS  
Future (2026) With-Project PM Peak Hour


















| Movement               | EBL  | EBR   | NBL  | NBT  | SBT   | SBR  |
|------------------------|------|-------|------|------|-------|------|
| Lane Configurations    |      |       |      |      |       |      |
| Traffic Volume (vph)   | 1    | 171   | 0    | 215  | 714   | 0    |
| Future Volume (vph)    | 1    | 171   | 0    | 215  | 714   | 0    |
| Ideal Flow (vphp)      | 1900 | 1900  | 1900 | 1900 | 1900  | 1900 |
| Total Lost time (s)    | 5.9  | 5.9   |      | 5.5  | 5.5   |      |
| Lane Util. Factor      | 1.00 | 1.00  |      | 1.00 | 0.95  |      |
| Frt                    | 1.00 | 0.85  |      | 1.00 | 1.00  |      |
| Flt Protected          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (prot)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Flt Permitted          | 0.95 | 1.00  |      | 1.00 | 1.00  |      |
| Satd. Flow (perm)      | 1805 | 1615  |      | 1900 | 3610  |      |
| Peak-hour factor, PHF  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95  | 0.95 |
| Adj. Flow (vph)        | 1    | 180   | 0    | 226  | 752   | 0    |
| RTOR Reduction (vph)   | 0    | 165   | 0    | 0    | 0     | 0    |
| Lane Group Flow (vph)  | 1    | 15    | 0    | 226  | 752   | 0    |
| Heavy Vehicles (%)     | 0%   | 0%    | 0%   | 0%   | 0%    | 0%   |
| Turn Type              | Prot | Perm  |      | NA   | NA    |      |
| Protected Phases       | 1    |       |      | 2 4  | 2 4   |      |
| Permitted Phases       |      | 1     |      |      |       |      |
| Actuated Green, G (s)  | 7.4  | 7.4   |      | 69.6 | 69.6  |      |
| Effective Green, g (s) | 7.4  | 7.4   |      | 69.6 | 69.6  |      |
| Actuated g/C Ratio     | 0.08 | 0.08  |      | 0.79 | 0.79  |      |
| Clearance Time (s)     | 5.9  | 5.9   |      |      |       |      |
| Vehicle Extension (s)  | 3.0  | 3.0   |      |      |       |      |
| Lane Grp Cap (vph)     | 151  | 135   |      | 1495 | 2842  |      |
| v/s Ratio Prot         | 0.00 |       |      | 0.12 | c0.21 |      |
| v/s Ratio Perm         |      | c0.01 |      |      |       |      |
| v/c Ratio              | 0.00 | 0.11  |      | 0.15 | 0.26  |      |
| Uniform Delay, d1      | 37.1 | 37.4  |      | 2.2  | 2.5   |      |
| Progression Factor     | 1.00 | 1.00  |      | 0.11 | 1.00  |      |
| Incremental Delay, d2  | 0.0  | 0.3   |      | 0.0  | 0.0   |      |
| Delay (s)              | 37.1 | 37.8  |      | 0.2  | 2.5   |      |
| Level of Service       | D    | D     |      | A    | A     |      |
| Approach Delay (s/veh) | 37.8 |       |      | 0.2  | 2.5   |      |
| Approach LOS           | D    |       |      | A    | A     |      |

### Intersection Summary

|                                   |       |                           |      |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay (s/veh)    | 7.6   | HCM 2000 Level of Service | A    |
| HCM 2000 Volume to Capacity ratio | 0.27  |                           |      |
| Actuated Cycle Length (s)         | 88.4  | Sum of lost time (s)      | 16.9 |
| Intersection Capacity Utilization | 39.8% | ICU Level of Service      | A    |
| Analysis Period (min)             | 15    |                           |      |
| c Critical Lane Group             |       |                           |      |

HCM 7th Signalized Intersection Summary  
 5: E Mercer Way & I-90 WB Ramps

JDS  
 Future (2026) With-Project PM Peak Hour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement   | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  |   |   |   |   |  |   |   |  |   |   |   |  |
| Traffic Volume (veh/h)   | 0   | 0   | 0   | 709   | 5   | 1   | 215   | 3   | 0   | 0   | 3   | 3   |
| Future Volume (veh/h)  | 0   | 0   | 0   | 709   | 5   | 1   | 215   | 3   | 0   | 0   | 3   | 3   |
| Initial Q (Qb), veh  |   |   |   | 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  |
| Ped-Bike Adj(A_pbT)  |   |   |   | 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  |
| Work Zone On Approach  |   |   |   | No  |   |   | No  |   |   | No  |   |   |
| Adj Sat Flow, veh/h/ln   |   |   |   | 1900  | 1900  | 1900  | 1900  | 1900  | 0   | 0   | 1900  | 1900  |
| Adj Flow Rate, veh/h   |   |   |   | 716   | 5   | 1   | 217   | 3   | 0   | 0   | 3   | 3   |
| Peak Hour Factor   |   |   |   | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Percent Heavy Veh, %   |   |   |   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Cap, veh/h   |   |   |   | 826   | 6   | 1   | 452   | 4   | 0   | 0   | 177   | 177   |
| Arrive On Green  |   |   |   | 0.53  | 0.46  | 0.53  | 0.20  | 0.20  | 0.00  | 0.00  | 0.20  | 0.20  |
| Sat Flow, veh/h  |   |   |   | 1795  | 13  | 3   | 1398  | 19  | 0   | 0   | 872   | 872   |
| Grp Volume(v), veh/h   |   |   |   | 722   | 0   | 0   | 220   | 0   | 0   | 0   | 0   | 6   |
| Grp Sat Flow(s),veh/h/ln   |   |   |   | 1810  | 0   | 0   | 1418  | 0   | 0   | 0   | 0   | 1743  |
| Q Serve(g_s), s  |   |   |   | 14.9  | 0.0   | 0.0   | 6.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Cycle Q Clear(g_c), s  |   |   |   | 14.9  | 0.0   | 0.0   | 6.3   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   |
| Prop In Lane   |   |   |   | 0.99  |   | 0.00  | 0.99  |   | 0.00  | 0.00  |   | 0.50  |
| Lane Grp Cap(c), veh/h   |   |   |   | 833   | 0   | 0   | 456   | 0   | 0   | 0   | 0   | 355   |
| V/C Ratio(X)   |   |   |   | 0.87  | 0.00  | 0.00  | 0.48  | 0.00  | 0.00  | 0.00  | 0.00  | 0.02  |
| Avail Cap(c_a), veh/h  |   |   |   | 1314  | 0   | 0   | 985   | 0   | 0   | 0   | 0   | 997   |
| HCM Platoon Ratio  |   |   |   | 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  | 0.00  | 1.00  | 0.00  | 0.00  | 0.00  | 0.00  | 1.00  |
| Uniform Delay (d), s/veh   |   |   |   | 8.9   | 0.0   | 0.0   | 16.2  | 0.0   | 0.0   | 0.0   | 0.0   | 13.6  |
| Incr Delay (d2), s/veh   |   |   |   | 4.4   | 0.0   | 0.0   | 0.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Initial Q Delay(d3), s/veh   |   |   |   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| %ile BackOfQ(50%),veh/ln   |   |   |   | 4.4   | 0.0   | 0.0   | 1.8   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Unsig. Movement Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d), s/veh  |   |   |   | 13.3  | 0.0   | 0.0   | 16.9  | 0.0   | 0.0   | 0.0   | 0.0   | 13.7  |
| LnGrp LOS  |   |   |   | B   |   |   | B   |   |   |   |   | B   |
| Approach Vol, veh/h  |   |   |   |   | 722   |   |   | 220   |   |   |   | 6   |
| Approach Delay, s/veh  |   |   |   |   | 13.3  |   |   | 16.9  |   |   |   | 13.7  |
| Approach LOS   |   |   |   |   | B   |   |   | B   |   |   |   | B   |
| Timer - Assigned Phs   |   |   |   | 4   |   | 6   |   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s   |   |   |   | 14.2  |   | 28.6  |   | 14.2  |   |   |   |   |
| Change Period (Y+Rc), s  |   |   |   | 5.5   |   | 5.9   |   | 5.5   |   |   |   |   |
| Max Green Setting (Gmax), s  |   |   |   | 24.5  |   | 34.1  |   | 24.5  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s                                       |   |   |   | 2.1   |   | 16.9  |   | 8.3   |   |   |   |   |
| Green Ext Time (p_c), s  |   |   |   | 0.0   |   | 5.9   |   | 1.1   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 7th Control Delay, s/veh                                       |   |   |   |   |   |   |   |   |   |   | 14.2  |   |
| HCM 7th LOS  |   |   |   |   |   |   |   |   |   |   | B   |   |
| <b>Notes</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| User approved pedestrian interval to be less than phase max green. |   |   |   |   |   |   |   |   |   |   |   |   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 2    | 63   | 0    | 10   | 110  | 0    |
| Future Vol, veh/h        | 2    | 63   | 0    | 10   | 110  | 0    |
| Conflicting Peds, #/hr   | 0    | 6    | 3    | 0    | 6    | 3    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 0    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 47   | 47   | 47   | 47   | 47   | 47   |
| Heavy Vehicles, %        | 0    | 0    | 0    | 0    | 0    | 0    |
| Mvmt Flow                | 4    | 134  | 0    | 21   | 234  | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |      |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0      | 0      | 144    | 0 | 105  |
| Stage 1              | -      | -      | -      | - | 77   |
| Stage 2              | -      | -      | -      | - | 27   |
| Critical Hdwy        | -      | -      | 4.1    | - | 6.4  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.4  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.4  |
| Follow-up Hdwy       | -      | -      | 2.2    | - | 3.5  |
| Pot Cap-1 Maneuver   | -      | -      | 1450   | - | 898  |
| Stage 1              | -      | -      | -      | - | 951  |
| Stage 2              | -      | -      | -      | - | 1000 |
| Platoon blocked, %   | -      | -      | -      | - | -    |
| Mov Cap-1 Maneuver   | -      | -      | 1442   | - | 888  |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 888  |
| Stage 1              | -      | -      | -      | - | 945  |
| Stage 2              | -      | -      | -      | - | 995  |

| Approach               | EB | WB | NB   |
|------------------------|----|----|------|
| HCM Control Delay, s/v | 0  | 0  | 10.5 |
| HCM LOS                |    |    | B    |

| Minor Lane/Major Mvmt     | NBLn1 | EBT | EBR | WBL  | WBT |
|---------------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)          | 888   | -   | -   | 1442 | -   |
| HCM Lane V/C Ratio        | 0.264 | -   | -   | -    | -   |
| HCM Control Delay (s/veh) | 10.5  | -   | -   | 0    | -   |
| HCM Lane LOS              | B     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh)     | 1.1   | -   | -   | 0    | -   |

## Appendix D: Trip Generation Calculations

## Attachment B: Trip Generation

### Herzl Private School

| <u>Proposed Use</u>                     |                           |              |       |                |                                     |      |             |           |             |          |          |               |          |       |  |
|---|---------------------------|--------------|-------|----------------|-------------------------------------|------|-------------|-----------|-------------|----------|----------|---------------|----------|-------|--|
| Land Use                                | Setting                   | Size         | Units | Model          | Equation                            | Rate | Units       | Inbound % | Gross Trips |          |          | Total Net New |          |       |  |
|   |                           |              |       |                |                                     |      |             |           | Inbound     | Outbound | Subtotal | Inbound       | Outbound | Total |  |
| <b>Private School (K-8) (LU 530)</b>    |                           | 150 students |       |                |                                     |      |             |           |             |          |          |               |          |       |  |
|   | School Peak Hour          |              |       | Equation (log) | $\ln(T) = 0.98 \cdot \ln(x) - 0.38$ | -    | -           | 47%       | 44          | 50       | 94       | 44            | 50       | 94    |  |
|   | AM Peak Hour              |              |       | Equation (lin) | $T = 1.11x - 40.99$                 | -    | -           | 56%       | 71          | 55       | 126      | 71            | 55       | 126   |  |
|   | PM Peak Hour              |              |       | Rate           | -                                   | 0.26 | per student | 46%       | 18          | 21       | 39       | 18            | 21       | 39    |  |
| <b>General Office Building (LU 710)</b> |                           | 12,300 sf    |       |                |                                     |      |             |           |             |          |          |               |          |       |  |
|   | School Peak Hour          |              |       | Equation (log) | $\ln(T) = 0.87 \cdot \ln(x) + 3.05$ | -    | -           | 50%       | 7           | 8        | 15       | 7             | 8        | 15    |  |
|   | AM Peak Hour              |              |       | Equation (log) | $\ln(T) = 0.86 \cdot \ln(x) + 1.16$ | -    | -           | 88%       | 25          | 3        | 28       | 25            | 3        | 28    |  |
|   | PM Peak Hour              |              |       | Equation (log) | $\ln(T) = 0.83 \cdot \ln(x) + 1.29$ | -    | -           | 17%       | 5           | 24       | 29       | 5             | 24       | 29    |  |
| <b><u>Subtotal</u></b>                  |                           |              |       |                |                                     |      |             |           |             |          |          |               |          |       |  |
|   | PM Peak Hour of Generator |              |       |                |                                     |      |             |           | 51          | 58       | 109      | 51            | 58       | 109   |  |
|   | AM Peak Hour              |              |       |                |                                     |      |             |           | 96          | 58       | 154      | 96            | 58       | 154   |  |
|   | PM Peak Hour              |              |       |                |                                     |      |             |           | 23          | 45       | 68       | 23            | 45       | 68    |  |
| <b><u>Net New Trips</u></b>             |                           |              |       |                |                                     |      |             |           |             |          |          |               |          |       |  |
|   | PM Peak Hour of Generator |              |       |                |                                     |      |             |           |             |          |          | 51            | 58       | 109   |  |
|   | AM Peak Hour              |              |       |                |                                     |      |             |           |             |          |          | 96            | 58       | 154   |  |
|   | PM Peak Hour              |              |       |                |                                     |      |             |           |             |          |          | 23            | 45       | 68    |  |

**Notes:**

1. Trip rates based on Institute of Transportation Engineers' (ITE) *Trip Generation* 11th Edition equation and average trip rate as shown above.
2. AVO = average vehicle occupancy. Retail and Residential AVO based on NCHRP 365 for urban areas with populations over 1 million people. No AVO rate if trips calculated based on person trip rate.
3. School Peak Hour trips for LU 530 based on PM peak hour of generator. School Peak Hour trips for LU 710 calculated based on time of day distributions at 3-4 pm given in ITE Trip Generation 11th Edition appendices, and daily trips given from equation. Inbound trips for school peak hour are 7.3% of 94 daily inbound trips. Outbound school peak hour trips are 8.4% of 94 daily outbound trips. Total school peak hour trips are 7.8% of 188 total daily trips.