

# MEDICAL OFFICE BUILDING - EDWARD HOSPITAL

*Traffic Impact Study*

Naperville, IL

November 2022

Prepared for:

**Ryan Companies**

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## EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Ryan Companies to perform a traffic impact study for a medical office building proposed on the southwest corner of Washington Street and Martin Avenue in Naperville, Illinois. The proposed development totals approximately 96,430 square feet. In order to accommodate the development, the existing medical office building would be removed. Access to the development would be provided via two driveways along Martin Avenue: a full-access (Driveway 1) and a right-in/right-out (Driveway 4). As part of the redevelopment, access to Pam Davis Drive would be provided via the west driveway (Driveway 1); the existing right-in/right-out at Washington Street would be removed.

Based on a review of future traffic conditions, the addition of background traffic growth and site-generated traffic are not expected to materially impact the study intersections. To facilitate access to the proposed development and connectivity to Pam Davis Drive, a westbound left-turn lane should be installed on Martin Street at Driveway 1. The turn lane should provide 125 feet of storage and a 155-foot back-to-back taper with the existing eastbound left-turn lane on Martin Avenue at Washington Street. With the new turn lane, the existing eastbound left-turn storage length should be extended from 100 feet to 125 feet. The existing 200-foot parking box (approximately 8 spaces) on the north side of Martin Avenue and 95-foot parking box (approximately 4 spaces) on the south side of the street should be removed to accommodate the westbound left-turn lane. At Driveway 4, double-sided “No Left Turn” signage should be installed for westbound traffic on Martin Avenue at Driveway 4 and outbound traffic at Driveway 4. In addition, Driveway 4 should provide a channelizing island to limit access to right-in/right-out movements, and a double-sided “No Left Turn” sign should be posted for outbound traffic and traffic on Washington Street. Minor-leg stop control should be posted for outbound traffic at both Driveway 1 and Driveway 4. A “Right Turn Only” sign should be posted below the stop sign at Driveway 4. The study results are discussed in more detail in the *Recommendations & Conclusions* section of this report.

## 1. INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-horn) was retained by Ryan Companies to perform a traffic impact study for a proposed 96,430 square-foot medical office building on the southwest corner of the intersection of Martin Avenue/Washington Street in Naperville, Illinois. In order to accommodate the development, the existing medical office building would be removed. In addition, Pam Davis Drive at Washington Street (right-in/right-out access) would be removed.

Access to the development would be provided via two driveways along Martin Avenue; two existing driveways (i.e., Driveway 2 and Driveway 3) would be removed. Located near the western boundary of the site, Driveway 1 would be shifted to the east and would provide access to the surface parking lot. In addition, Driveway 1 would provide connectivity to Pam Davis Drive. Driveway 4, located near the eastern boundary of the site, would provide right-in/right-out access to the employee-only parking garage. An aerial view of the study location and surrounding area roadway network is presented in **Exhibit 1**.

As part of this study, the existing network was analyzed to determine the current operations at the study intersections. In order to assess the site's impact on the area roadway network, site-generated trips were established and added to background traffic volumes. Existing site-generated traffic was removed from the study intersections and traffic at the intersection of Washington Street/Pam Davis Drive was redistributed based on the future configuration. Future traffic conditions were evaluated for build-plus-five conditions (Year 2029). This report presents and documents Kimley-Horn's data collection, summarizes the evaluation of existing and projected future traffic conditions on the surrounding roadways, and identifies recommendations to address the potential impact of site-generated traffic on the adjacent roadway network.



## 2. EXISTING CONDITIONS

Kimley-Horn reviewed the subject site including existing land uses in the surrounding area, the adjacent street system, current traffic volumes and operating conditions, lane configurations and traffic conditions at nearby intersections, and other key roadway characteristics. This section of the report details information on these existing conditions.

### Area Land Uses & Connectivity

Located on the southwest corner of the intersection of Martin Avenue/Washington Street, the subject site is currently developed with a medical office building. The site is bounded by Martin Avenue to the north, Washington Street to the east, and Edward Hospital to the south and west. The surrounding area is developed with a mix of residential and institutional uses. Downtown Naperville is located approximately one-half mile north of the subject site.

Washington Street serves as a key north-south route through the City of Naperville. East-west connectivity is provided via Aurora Avenue, located approximately one-half mile north of the subject site. North-south regional connectivity is provided via IL 59, located approximately three miles to the west. East-west regional connectivity is provided via US 34 (Ogden Avenue), located less than two miles to the west and north.

### Existing Roadway Characteristics

A summary of key roadways in the vicinity of the subject site is outlined below.

**Martin Avenue** is an east-west roadway along the northern frontage of the site. Martin Avenue extends west of Washington Street to its terminus at West Street. The Illinois Department of Transportation (IDOT) classifies Martin Avenue as a local road. Through the study area, Martin Avenue provides one travel lane in each direction. At its unsignalized T-intersection with Brom Drive, Martin Avenue operates under a free-flow condition and provides a single shared lane in each direction. At its signalized intersection with Washington Street, Martin Avenue provides separate left- and right-turn lanes. A speed limit of 30 miles per hour (MPH) is posted on Martin Avenue through the study area. Martin Avenue is under the jurisdiction of the City of Naperville.

**Washington Street** is a north-south roadway that runs along the eastern frontage of the site. IDOT classifies Washington Street as a Minor Arterial. Throughout the study area, Washington Street provides two travel lanes in each direction. At its signalized intersections with Martin Avenue and Osler Drive, Washington Street provides a dedicated left-turn lane and two through lanes on the south leg, and a shared through/right-turn lane and through lane on the north leg. A speed limit of 30 MPH is posted on Washington Street through the study area. Washington Street is under the jurisdiction of the City of Naperville.

**Brom Drive** is a north-south roadway located west of the subject site. IDOT classifies Brom Drive as a local road. Throughout the study area, Brom Drive provides one travel lane in each direction. At its unsignalized T-intersection with Martin Avenue, Brom Drive operates under minor-leg stop control with separate left- and right-turn lanes. A speed limit of 25 MPH is posted on Brom Drive through the study area. Brom Drive is under the jurisdiction of the City of Naperville.

**Pam Davis Drive** is an east-west roadway that runs just south of the subject site. IDOT classifies Pam Davis Drive as a local road. Throughout the study area, Pam Davis Drive provides a single travel lane in each direction. At its intersection with Washington Street, Pam Davis Drive operates under minor-leg stop control and is limited to right-in/right-out movements. A speed limit of 25 MPH is posted on Pam Davis Drive. Pam Davis Drive is under the jurisdiction of the City of Naperville.

**Osler Drive** is an east-west roadway located approximately one-quarter mile south of Martin Avenue. This roadway serves as a primary access to the Edward Hospital campus. IDOT classifies Osler Drive as a local road. Osler Drive provides a single travel lane in each direction. At its signalized T-intersection with Washington Street, Osler Drive provides separate left- and right-turn lanes. A speed limit of 25 MPH is posted on Osler Drive. Osler Drive is under the jurisdiction of the City of Naperville.

**Driveway 1** is located near the western boundary of the subject site. Driveway 1 provides access to the surface parking lot for the existing medical office building. A single inbound lane and single outbound lane are currently provided. At the time of the data collection effort, Driveway 1 was gated and not in use.

**Driveway 2** is located immediately east of Driveway 1. This access driveway provides a single inbound lane and a single outbound lane. Stop control is not posted for outbound traffic at Driveway 2; therefore, for purposes of this analysis, minor-leg stop control was assumed. A speed limit of 25 MPH was assumed for Driveway 2.

**Driveway 3** is a full-access driveway located east of Driveway 2. A single inbound lane and single outbound lane are currently provided. Driveway 3 was assumed to operate under minor-leg stop control at its intersection with Martin Avenue. For purposes of this analysis, a speed limit of 25 MPH was assumed for Driveway 3.

**Driveway 4** is located near the eastern boundary of the subject site. Driveway 4 is an outbound-only driveway. "Do Not Enter" signage is posted at Driveway 4. For purposes of this analysis, Driveway 4 was assumed to operate under minor-leg stop control at its intersection with Martin Avenue. A speed limit of 25 MPH was assumed for Driveway 4.

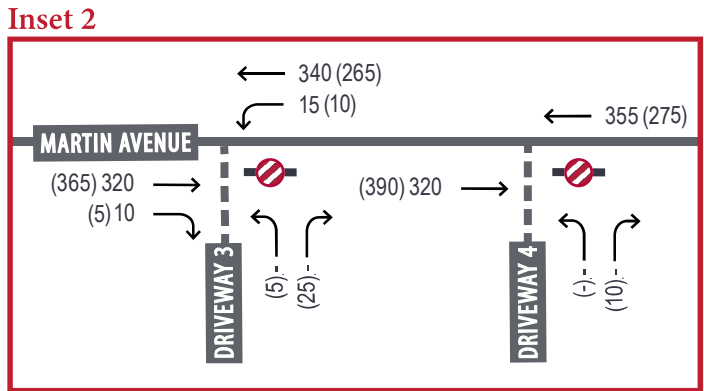
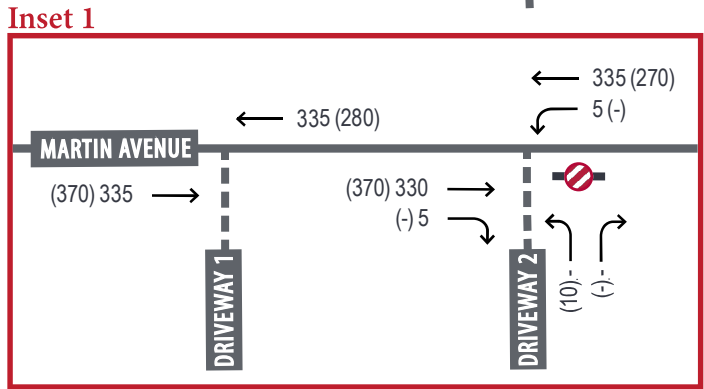
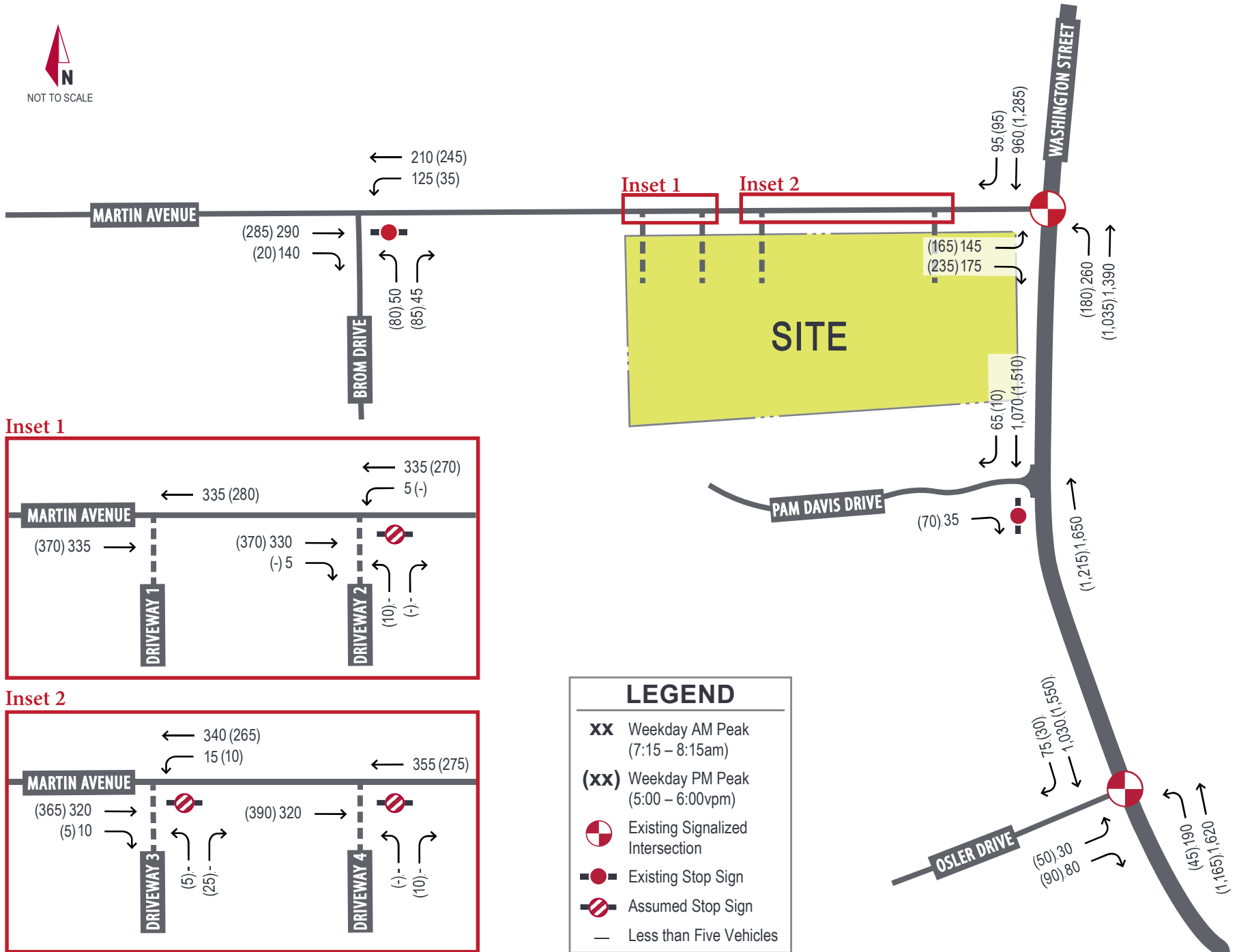
## Traffic Count Data

Turning movement count data was collected in March 2022 at the intersections listed below. The counts were conducted on a typical weekday from 7:00-9:00AM and 4:00-6:00PM. These time periods coincide with the typical peak traffic periods of the proposed end user as well as the surrounding street system.

- Brom Drive / Martin Avenue
- Washington Street / Martin Avenue
- Washington Street / Pam Davis Drive
- Washington Street / Osler Drive
- Martin Avenue / Driveway 1
- Martin Avenue / Driveway 2
- Martin Avenue / Driveway 3
- Martin Avenue / Driveway 4

The count data indicates that the morning peak period in the study area occurs from 7:15-8:15 AM, and the evening peak period occurs from 5:00-6:00 PM. For purposes of the analysis, the peak hour traffic volumes were rounded to the nearest multiple of five and balanced between intersections. Existing traffic volumes are presented in **Exhibit 2**. The traffic count data is provided in the appendix.





| LEGEND      |                                  |
|-------------|----------------------------------|
| <b>xx</b>   | Weekday AM Peak (7:15 – 8:15am)  |
| <b>(xx)</b> | Weekday PM Peak (5:00 – 6:00vpm) |
|             | Existing Signalized Intersection |
|             | Existing Stop Sign               |
|             | Assumed Stop Sign                |
| —           | Less than Five Vehicles          |

## Existing Capacity Analysis

Capacity analysis for the existing and future conditions was performed using Synchro Version 11. The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS), measured in average delay per vehicle. LOS grades range from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The lowest LOS grade typically accepted by jurisdictional transportation agencies in Northeastern Illinois is LOS D.

The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 2.1**.

Table 2.1 Level of Service Grading Descriptions

| Level of Service | Description <sup>1</sup>   |
|------------------|--|
| A                | Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.                                   |
| B                | Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream. |
| C                | Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.  |
| D                | Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.                 |
| E                | High control delay; average travel speed no more than 33 percent of free flow speed.   |
| F                | Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.   |

<sup>1</sup>Highway Capacity Manual, 6th Edition.

The range of control delay for each rating (as detailed in the HCM) is shown in **Table 2.2**. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, note that higher delays are tolerated for the corresponding LOS ratings.

Table 2.2 Level of Service Grading Criteria

| Level of Service <sup>1</sup> | Average Control Delay (s/veh) at: |                          |
|-------------------------------|-----------------------------------|--------------------------|
|                               | Unsignalized Intersections        | Signalized Intersections |
| A                             | 0 – 10                            | 0 – 10                   |
| B                             | > 10 – 15                         | > 10 – 20                |
| C                             | > 15 – 25                         | > 20 – 35                |
| D                             | > 25 – 35                         | > 35 – 55                |
| E                             | > 35 – 50                         | > 55 – 80                |
| F <sup>2</sup>                | > 50                              | > 80                     |

<sup>1</sup>Highway Capacity Manual, 6<sup>th</sup> Edition

<sup>2</sup>All movements with a Volume to Capacity (v/C) ratio greater than 1 receive a rating of LOS F.

Based on these standards, capacity results were identified for the study intersections under existing conditions. For purposes of this analysis, signal timing data was obtained from the City of Naperville for the intersections of Washington Street/Martin Avenue and Washington Street/Osler Drive. Right-

turn-on-red (RTOR) movements were not included in the analysis, consistent with standard IDOT procedures.

The results of capacity analysis for existing conditions are summarized in **Table 2.3**. In this table, operation on each approach is quantified according to the average delay per vehicle and the corresponding level of service. The results for the study intersections are based on Synchro’s HCM 6<sup>th</sup> Edition reports. Copies of the Synchro reports are provided in the appendix.

Table 2.3 Existing Year (2022) Levels of Service

| Intersection   | Weekday AM Peak Hour |     | Weekday PM Peak Hour |     |
|--|----------------------|-----|----------------------|-----|
|  | Delay (s/veh)        | LOS | Delay (s/veh)        | LOS |
| Brom Drive / Martin Avenue <span style="float:right">△</span>              |                      |     |                      |     |
| Westbound (Left)   | 9                    | A   | 8                    | A   |
| Northbound   | 16                   | C   | 13                   | B   |
| Washington Street / Martin Avenue <span style="float:right">*</span>       |                      |     |                      |     |
| Eastbound  | 49                   | D   | 47                   | D   |
| Northbound   | 6                    | A   | 7                    | A   |
| Southbound   | 10-                  | A   | 14                   | B   |
| <i>Intersection</i>  | 12                   | B   | 16                   | B   |
| Washington Street / Pam Davis Drive <span style="float:right">△</span>     |                      |     |                      |     |
| Eastbound  | 14                   | B   | 19                   | C   |
| Washington Street / Osler Drive <span style="float:right">*</span>         |                      |     |                      |     |
| Eastbound  | 62                   | E   | 61                   | E   |
| Northbound   | 3                    | A   | 3                    | A   |
| Southbound   | 1                    | A   | 2                    | A   |
| <i>Intersection</i>  | 5                    | A   | 5                    | A   |
| Martin Avenue / Driveway 1 <sup>1</sup> <span style="float:right">△</span> |                      |     |                      |     |
| Westbound (Left)   |                      |     |                      |     |
| Northbound   |                      |     |                      |     |
| Martin Avenue / Driveway 2 <span style="float:right">△</span>              |                      |     |                      |     |
| Westbound (Left)   | 8                    | A   | 8                    | A   |
| Northbound   | 12                   | B   | 14                   | B   |
| Martin Avenue / Driveway 3 <span style="float:right">△</span>              |                      |     |                      |     |
| Westbound (Left)   | 8                    | A   | 8                    | A   |
| Northbound   | 12                   | B   | 11                   | B   |
| Martin Avenue / Driveway 4 <sup>2</sup> <span style="float:right">△</span> |                      |     |                      |     |
| Northbound   | 12                   | B   | 10+                  | B   |

\* -Signalized Intersection                      △-Minor-Leg Stop-Controlled Intersection

<sup>1</sup>Under existing conditions, Driveway 1 is gated and not in use; and therefore, capacity analysis was not completed.

<sup>2</sup>Under existing conditions, Driveway 4 is outbound only.

The study intersections generally operate at LOS D or better during the peak hours. At the intersection of Washington Street/Martin Avenue, the overall intersection operates at LOS B during both peak hours. The 95<sup>th</sup> percentile queue for the eastbound left-turn movement exceeds the approximately 100-foot storage lane in the evening peak hour. The estimated queue is approximately 225 feet (9 vehicles).

At the intersection of Washington Street/Osler Drive, the overall intersection operates at LOS A; however, the eastbound approach operates at LOS E. The delay estimated for the eastbound approach is attributable to signal priority given to north-south traffic on Washington Street. As a result, long periods of green time are allocated to the north-south through movements, and the minor street approach receives relatively short green times. During both peak hours, the 95<sup>th</sup> percentile queues estimated for the eastbound left-turn movement are accommodated within the existing storage lane.

The existing site access driveways currently operate with limited delay (LOS B or better) and queues during both the morning and evening peak hours.

### 3. DEVELOPMENT CHARACTERISTICS

This section of the report outlines the proposed site plan, summarizes site-specific traffic characteristics, defines future roadway improvements, and develops future traffic projections for analysis.

#### Development Characteristics

The proposed redevelopment would include a single medical office building totaling approximately 96,430 square feet. In order to accommodate the development, the existing medical office building would be removed. In addition, Pam Davis Drive east of Brom Court to Washington Street would be removed.

The proposed redevelopment would include a total of 227 parking spaces, including 177 surface parking spaces and 50 spaces in a basement-level parking garage. The parking garage would be available to employees only; patients and visitors would park in the surface parking lot. The surface parking lot would be located west and south of the proposed medical office building.

Access to the development would be provided via two driveways along Martin Avenue; two existing driveways (i.e., Driveway 2 and Driveway 3) would be removed. Driveway 1 would be shifted east of its current location and would provide access to the surface parking lot. Driveway 1 would also provide connectivity to Pam Davis Drive. Driveway 4 would provide right-in/right-out access to the employee-only parking garage. A conceptual site plan is provided in the appendix.

#### Trip Generation

In order to calculate the trips generated by the proposed development, data was referenced from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11<sup>th</sup> Edition. Trip generation data for ITE Land Use Code (LUC) 720, Medical-Dental Office Building, Within/Near Hospital Campus, was used for the analysis. The ITE data is summarized in **Table 3.1**; the detailed ITE data is provided in the appendix.

Table 3.1 ITE Trip Generation Data

| ITE Land Use  | Unit          | Weekday                                   |  |  |
|---|---------------|---|--|--|
|   |               | Daily                                     | AM Peak Hour                           | PM Peak Hour                           |
| Medical-Dental Office Building, Within/Near Hospital Campus (LUC 720) | 1,000 sq. ft. | $T = 35.59(X) - 127.95$<br>50% in/50% out | $T = 2.72(X) - 1.53$<br>81% in/19% out | $T = 3.05(X) - 7.38$<br>25% in/75% out |

X = 1,000 square feet

T = number of trips

The subject site is currently developed as a medical office building. The existing site-generated traffic was derived from the traffic count data collection (Exhibit 2). Site-generated traffic estimated for the proposed medical office building is summarized in **Table 3.2**. This table also summarizes existing site-generated traffic to be removed from the study intersections.

Table 3.2 Site-Generated Traffic Projections<sup>1</sup>

| Land Use                                    | Size           | Daily                 | Weekday      |           |            |              |            |            |
|---|----------------|-----------------------|--------------|-----------|------------|--------------|------------|------------|
|   |                |                       | AM Peak Hour |           |            | PM Peak Hour |            |            |
|   |                |                       | In           | Out       | Total      | In           | Out        | Total      |
| Medical-Dental Office Building, Stand-Alone | 96,430 sq. ft. | 3,300                 | 210          | 50        | 260        | 70           | 215        | 285        |
| <i>Existing Site Trips (to be removed)</i>  |                | <i>--<sup>2</sup></i> | <i>-35</i>   | <i>--</i> | <i>-35</i> | <i>-15</i>   | <i>-50</i> | <i>-75</i> |
| Net New Site-Generated Trips                |                | 3,300                 | 175          | 50        | 225        | 55           | 165        | 210        |

<sup>1</sup>Daily trip generation rounded to the nearest multiple of ten. In/Out volumes rounded to the nearest multiple of five.

<sup>2</sup>Daily trip generation not collected at existing site access driveways.

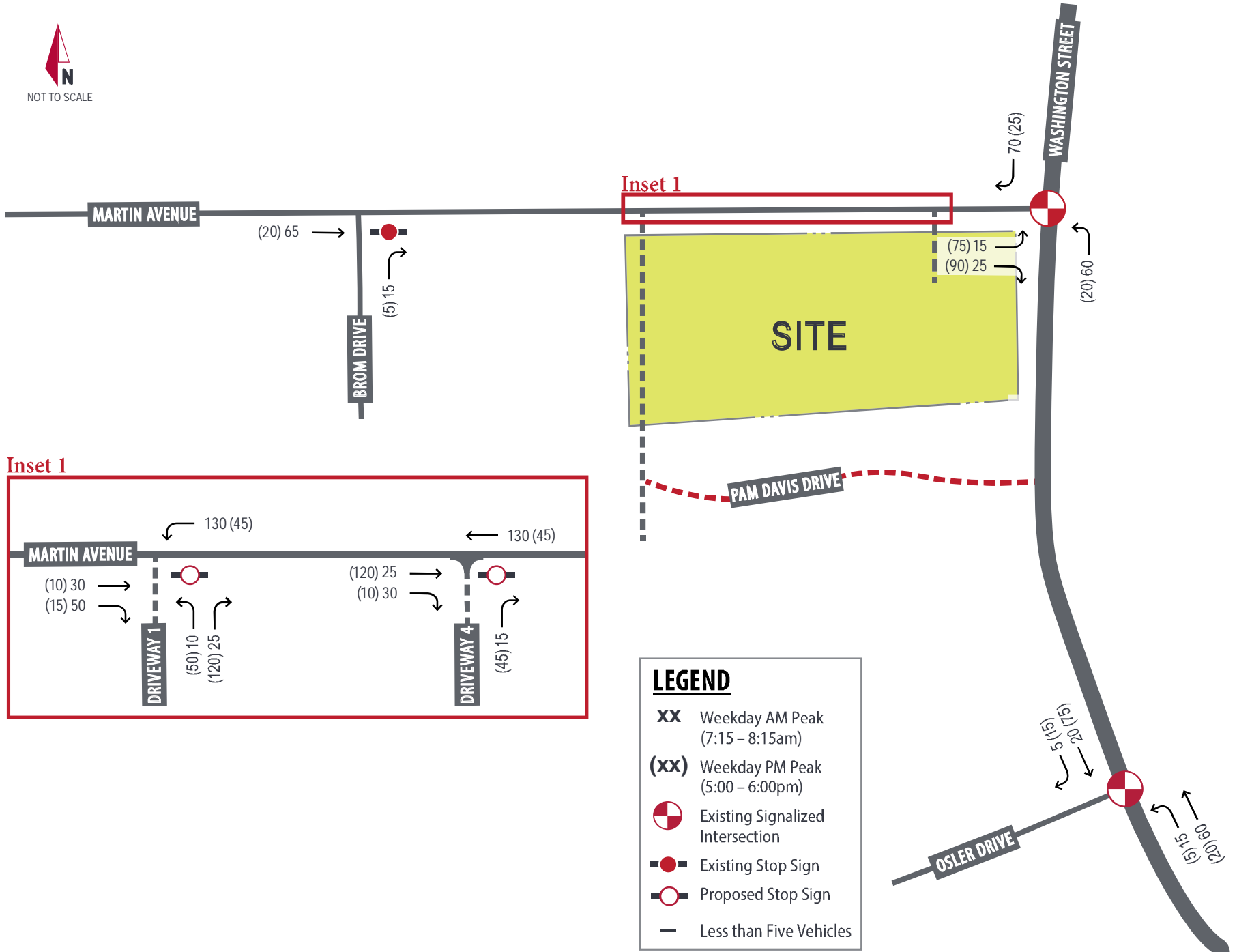
### Directional Distribution

The estimated distribution of site-generated traffic on the surrounding roadway network as it approaches and departs the site is a function of several variables, such as the nature of surrounding land uses, prevailing traffic volumes/patterns, characteristics of the street system, and the ease with which motorists can travel over various sections of that system. The anticipated directional distributions are outlined in **Table 3.3**.

Table 3.3 Estimated Trip Distribution

| Traveling to/from          | Estimated Trip Distribution |
|----------------------------|-----------------------------|
| North on Washington Street | 35%                         |
| South on Washington Street | 30%                         |
| West on Martin Avenue      | 35%                         |
| Total                      | 100%                        |

The site traffic assignment, representing traffic volumes associated with the proposed redevelopment at the study intersections, is a function of the estimated trip generation (Table 3.2) and the directional distribution (Table 3.3). The site trip assignment for the proposed medical office building is illustrated in **Exhibit 3**. The existing site-generated traffic to be removed from the study intersections is summarized in the appendix (**Exhibit A1**).



**LEGEND**

- xx** Weekday AM Peak (7:15 – 8:15am)
- (xx)** Weekday PM Peak (5:00 – 6:00pm)
- Existing Signalized Intersection
- Existing Stop Sign
- Proposed Stop Sign
- Less than Five Vehicles

## 4. FUTURE CONDITIONS

This section of the report outlines the proposed site plan, summarized site-specific traffic characteristics, and develops future projections for analysis.

### Future (2029) Traffic Projections

The proposed redevelopment is expected to be occupied by Year 2024; Kimley-Horn therefore evaluated future traffic conditions for a Year 2029 design horizon (build-plus-five conditions, per typical IDOT requirements). A future no-build scenario was prepared in order to assess future traffic conditions without the proposed redevelopment. Site-generated trips were then added to the no-build scenario to analyze the redevelopment's impact on the study intersections.

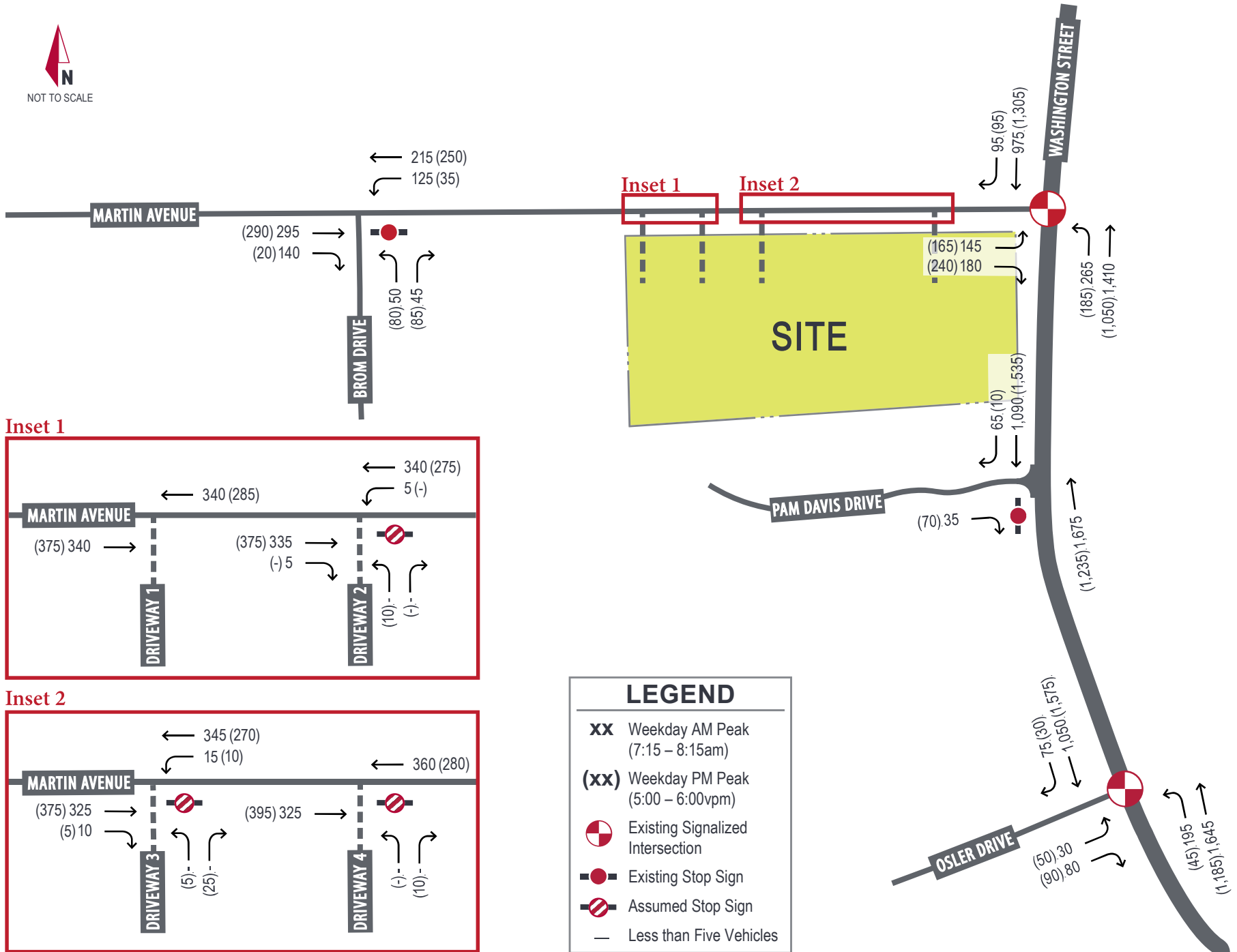
#### Future No-Build Traffic Projections

Background traffic volumes were estimated using data from the Chicago Metropolitan Agency for Planning (CMAP). Based on information received from CMAP, traffic growth on the roadway network is projected at a compounded rate of roughly 0.23 percent annually through Year 2050. Therefore, an annual growth rate of 0.23 percent was applied to all study intersections through Year 2029 to account for background traffic growth. The Future (2029) No-Build traffic projections are presented in **Exhibit 4**. An official letter from CMAP documenting the projected Year 2050 traffic volume on the roadway network is included in the appendix.

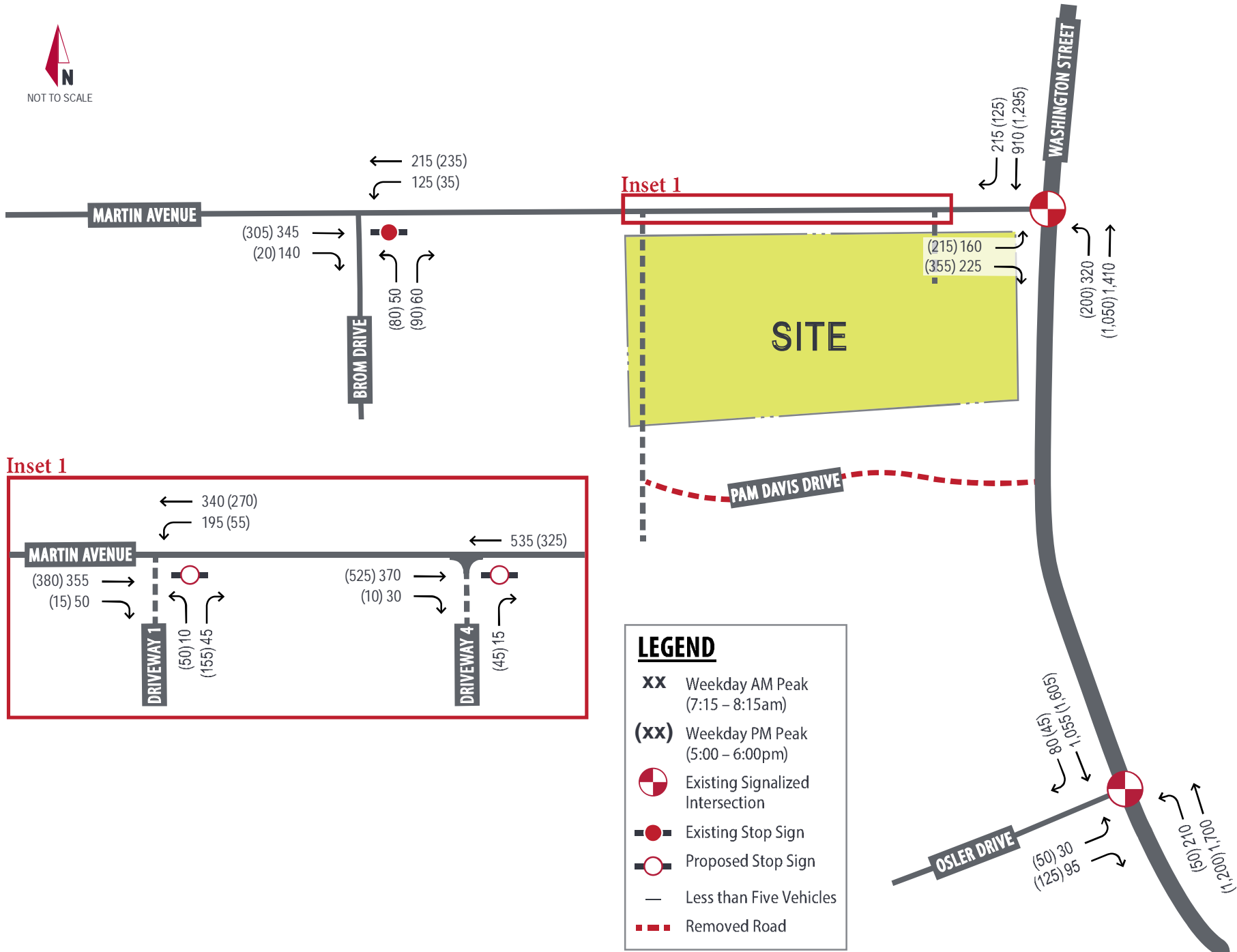
#### Future Build Traffic Projections

To develop future build traffic projections, site-generated traffic (Exhibit 3) was added to the Future (2029) No-Build traffic projections (Exhibit 4). Due to the planned demolition of the existing medical office building, existing site-generated traffic summarized in Table 3.2 was removed from the study intersections. An exhibit depicting existing site-generated traffic removed from the study intersections is presented in the appendix (**Exhibit A1**). In addition, existing traffic at the intersection of Washington Street/Pam Davis Drive was redistributed to reflect the future access to Pam Davis Drive via Driveway 1. An exhibit depicting the redistributed Pam Davis Drive traffic is provided in the appendix (**Exhibit A2**). The resulting Future (2029) Build traffic projections are illustrated in **Exhibit 5**.





| LEGEND      |                                  |
|-------------|----------------------------------|
| <b>xx</b>   | Weekday AM Peak (7:15 – 8:15am)  |
| <b>(xx)</b> | Weekday PM Peak (5:00 – 6:00vpm) |
|             | Existing Signalized Intersection |
|             | Existing Stop Sign               |
|             | Assumed Stop Sign                |
| —           | Less than Five Vehicles          |



Inset 1

Inset 1

EXHIBIT 5

## Turn Lane Warrants

For the analysis of Future (2029) Build traffic conditions, turn lane warrants were evaluated for the study intersections using guidelines in the IDOT *Bureau of Design and Environment (BDE) Manual*. A summary of the turn lane warrant analysis is outlined below; copies of the turn lane warrants are included in the appendix.

### Martin Avenue / Brom Drive

- A right-turn lane was evaluated on the west leg of Martin Avenue at Brom Drive. The IDOT *BDE Manual* does not provide specific volume guidance for two-lane facilities with design speeds below 50 MPH (Martin Avenue has a design speed of 35 MPH; posted speed limit is 30 MPH). However, per the *BDE Manual*, where the design speed is below 50 MPH an adjustment of 20 vehicles should be applied to the right-turn volume. Based on a review of the existing traffic volumes at Martin Avenue/Brom Drive, a right-turn lane is warranted under existing conditions (Exhibit 2). As there are no known improvement plans for this intersection, a right-turn lane was not included in the analysis of future conditions.
- A left-turn lane was evaluated on the east leg of this intersection. Based on IDOT criteria, a left-turn lane is also warranted under existing traffic volumes (Exhibit 2). Again, there are no known improvement plans; and therefore, a left-turn lane was not included in the analysis of future conditions.

### Martin Avenue / Driveway 1

- A right-turn lane was evaluated on the west leg of Martin Avenue at Driveway 1. Based on a review of the build traffic projections (Exhibit 5), a right-turn lane is not warranted; and therefore, was not included in the analysis of future conditions.
- A left-turn lane was evaluated on the east leg of this intersection. Based on IDOT guidelines, a left-turn lane is warranted under the future build condition.
  - The westbound left-turn lane should provide 125 feet of storage and a 155-foot back-to-back taper with the existing eastbound left-turn lane on Martin Avenue at Washington Street. The storage for the existing eastbound left-turn lane should be extended from 100 feet to 125 feet.
  - The approximately 200-foot parking box (8 spaces) on the north side of Martin Avenue should be removed to accommodate the turn lane. In addition, the approximately 95-foot parking box (4 spaces) on the south side of Martin Avenue should be removed.

### Martin Avenue / Driveway 4

- A right-turn lane was evaluated on the west leg of Martin Avenue at Driveway 4. Based on a review of the build traffic projections (Exhibit 5), a right-turn lane is not warranted; and therefore, was not included in the analysis of future conditions.
- Driveway 4 is limited to right-in/right-out movements only; and therefore, a left-turn lane was not considered.

### Washington Street / Martin Avenue and Washington Street / Osler Drive

- A right-turn lane was evaluated on the north leg of Washington Street at Martin Avenue. As noted above, the IDOT *BDE Manual* provides an adjustment for roads with design speeds lower than 50 MPH (Washington Street has a design speed of 35 MPH; posted speed limit is

30 MPH). Future (2029) Build traffic volumes (Exhibit 5) meet the criteria for installation of a southbound right-turn lane. However, the southbound approach is projected to operate at LOS B under future conditions. A review of the Washington Street corridor reveals that right-turn lanes are generally not provided; the existing geometry is consistent with other signalized intersections along the corridor. Therefore, the existing geometry was assumed for the future conditions analysis.

#### Washington Street / Osler Drive

- A right-turn lane was evaluated on the north leg of Washington Street at its intersection with Osler Drive. Future (2029) Build traffic volumes (Exhibit 5) do not meet the criteria for installation of a southbound right-turn lane.

## Future (2029) Capacity Analysis

Capacity results were identified for the study intersection under Future (2029) No-Build and Build conditions. The results of the capacity analysis are summarized in **Table 4.1**. Consistent with the existing conditions analysis, the results for the study intersections are based on Synchro’s HCM 6<sup>th</sup> Edition reports. Copies of these results are included in the appendix.

Table 4.1 Future (2029) Levels of Service

| Intersection   | No-Build      |     |               |     | Build         |     |               |     |
|--|---------------|-----|---------------|-----|---------------|-----|---------------|-----|
|  | AM Peak Hour  |     | PM Peak Hour  |     | AM Peak Hour  |     | PM Peak Hour  |     |
|  | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS | Delay (s/veh) | LOS |
| Brom Drive / Martin Avenue <span style="float:right">△</span>          |               |     |               |     |               |     |               |     |
| Westbound (Left)   | 9             | A   | 8             | A   | 9             | A   | 8             | A   |
| Northbound   | 16            | C   | 13            | B   | 17            | C   | 13            | B   |
| Washington Street / Martin Avenue <span style="float:right">★</span>   |               |     |               |     |               |     |               |     |
| Eastbound  | 48            | D   | 47            | D   | 45            | D   | 47            | D   |
| Northbound   | 6             | A   | 8             | A   | 9             | A   | 12            | B   |
| Southbound   | 10+           | B   | 14            | B   | 14            | B   | 21            | C   |
| <i>Intersection</i>  | 12            | B   | 16            | B   | 15            | B   | 22            | C   |
| Washington Street / Pam Davis Drive <span style="float:right">△</span> |               |     |               |     |               |     |               |     |
| Eastbound  | 14            | B   | 19            | C   |               |     |               |     |
| Washington Street / Osler Drive <span style="float:right">★</span>     |               |     |               |     |               |     |               |     |
| Eastbound  | 62            | E   | 61            | E   | 62            | E   | 59            | E   |
| Northbound   | 3             | A   | 3             | A   | 4             | A   | 4             | A   |
| Southbound   | 1             | A   | 2             | A   | 1             | A   | 1             | A   |
| <i>Intersection</i>  | 5             | A   | 5             | A   | 5             | A   | 6             | A   |
| Martin Avenue / Driveway 1 <sup>1</sup>                                |               |     |               |     |               |     |               |     |
| Westbound (Left)   |               |     |               |     | 9             | A   | 8             | A   |
| Northbound   |               |     |               |     | 14            | B   | 14            | B   |
| Martin Avenue / Driveway 2 <span style="float:right">△</span>          |               |     |               |     |               |     |               |     |
| Westbound (Left)   | 8             | A   | 8             | A   |               |     |               |     |
| Northbound   | 12            | B   | 14            | B   |               |     |               |     |
| Martin Avenue / Driveway 3 <span style="float:right">△</span>          |               |     |               |     |               |     |               |     |
| Westbound (Left)   | 8             | A   | 8             | A   |               |     |               |     |
| Northbound   | 12            | B   | 11            | B   |               |     |               |     |
| Martin Avenue / Driveway 4 <span style="float:right">△</span>          |               |     |               |     |               |     |               |     |
| Northbound (Right)   | 12            | B   | 10+           | B   | 10-           | A   | 10+           | B   |

★ -Signalized Intersection      ▲ - All-Way Stop-Controlled Intersection      △ -Minor-Leg Stop-Controlled Intersection

<sup>1</sup>Driveway 1 is gated off and not used in existing conditions, and therefore was not analyzed in a no-build scenario. Likewise, entry to Driveway 4 is not permitted in existing conditions and was not analyzed in the no-build.

<sup>2</sup>Pam Davis Drive, Driveway 2, and Driveway 3 will be removed as part of the build-scenario, and therefore were not analyzed in the build scenario.

<sup>3</sup>All driveways analyzed as stop-controlled as a conservative estimate.

With the addition of background traffic growth and site-generated traffic, the study area intersections are projected to experience very little change in delay with the majority of movements and approaches projected to operate at the same LOS as compared to existing conditions. At the intersection of Washington Street/Martin Avenue, the southbound approach in the AM peak hour is projected to operate at LOS B in the future conditions as compared to LOS A under existing conditions.

Similar to existing conditions, the delay projected for the eastbound approach at Washington Street/Osler Drive is attributable to signal priority given to north-south traffic on Washington Street. As a result, long periods of green time are allocated to the north-south through movements, and the minor street approach receives relatively short green times. The addition of site-generated traffic is not expected to materially impact delay or 95<sup>th</sup> percentile queues.

The proposed site access driveways are expected to operate with limited delay and queues. At the intersection of Martin Avenue/Driveway 1, the 95<sup>th</sup> percentile queue projected for the westbound left-turn movement is 25 feet (1 vehicle) or less during both peak hours. Therefore, the proposed turn lane is expected to accommodate projected queues; spillback to the westbound through travel lane is not anticipated. For the outbound left- and right-turn movements, the projected 95<sup>th</sup> percentile queue is approximate 25 feet (1 vehicle) or less during both peak hours. The proposed 115-foot storage lane for the outbound left-turn movement is expected to accommodate site-generated traffic; queue spillback to Pam Davis Drive is not anticipated. At the intersection of Martin Avenue/Driveway 4 (right-in/right-out access), limited delay and queues are projected during both the morning and evening peak hours.

## 5. RECOMMENDATIONS & CONCLUSIONS

Based on Kimley-Horn's review of the proposed site plan and evaluation of existing and future traffic conditions, the study intersections are projected to adequately accommodate the proposed development with the implementation of the following improvements:

- Martin Avenue / Driveway 1
  - Install a westbound left-turn lane on Martin Avenue at Driveway 1. The turn lane should provide 125 feet of storage and a 155-foot back-to-back taper with the existing eastbound left-turn lane on Martin Avenue at Washington Street.
    - The existing storage for the eastbound left-turn lane on Martin Avenue at Washington Street should be extended from 100 feet to 125 feet.
    - The approximately 200-foot parking box (8 spaces) on the north side of Martin Avenue should be removed to accommodate the turn lane. In addition, the approximately 95-foot parking box (4 spaces) on the south side of Martin Avenue should be removed.
  - Provide a single inbound lane and separate outbound left- and right-turn lanes.
    - The outbound left-turn lane should provide 115 feet of storage.
  - Install minor-leg stop control for outbound traffic at Driveway 1.
  
- Martin Avenue / Driveway 4
  - Provide a raised channelizing island to limit access to right-in/right-out movements. Provide a single inbound lane and a single outbound lane.
  - Install a double-sided "No Left Turn" sign for outbound traffic at Driveway 4 and westbound traffic on Martin Avenue.
  - Install minor-leg stop control for outbound traffic at Driveway 4; a "Right Turn Only" should be posted below the stop sign.

Regardless of the final configuration of the intersection geometrics, several additional items should be taken into consideration when preparing site and roadway improvement plans for the subject development. As the site design progresses, care should be taken with landscaping, signage, and monumentation at the site access locations to ensure that adequate horizontal sight distance is maintained. If alterations to the site plan or land use should occur, changes to the analysis provided within this traffic impact study may be needed.

**APPENDIX**

Conceptual Site Plan

Exhibit A1 Existing Site Traffic Removed

Exhibit A2 Pam Davis Drive Redistribution

Traffic Count Data

Existing Year (2022) Capacity Reports

CMAP Year 2050 Traffic Projections

Future (2029) Turn Lane Warrants

Data from ITE Trip Generation Manual, 11<sup>th</sup> Edition


Future Year (2029) No-Build Capacity Reports


Future Year (2029) Build Capacity Reports

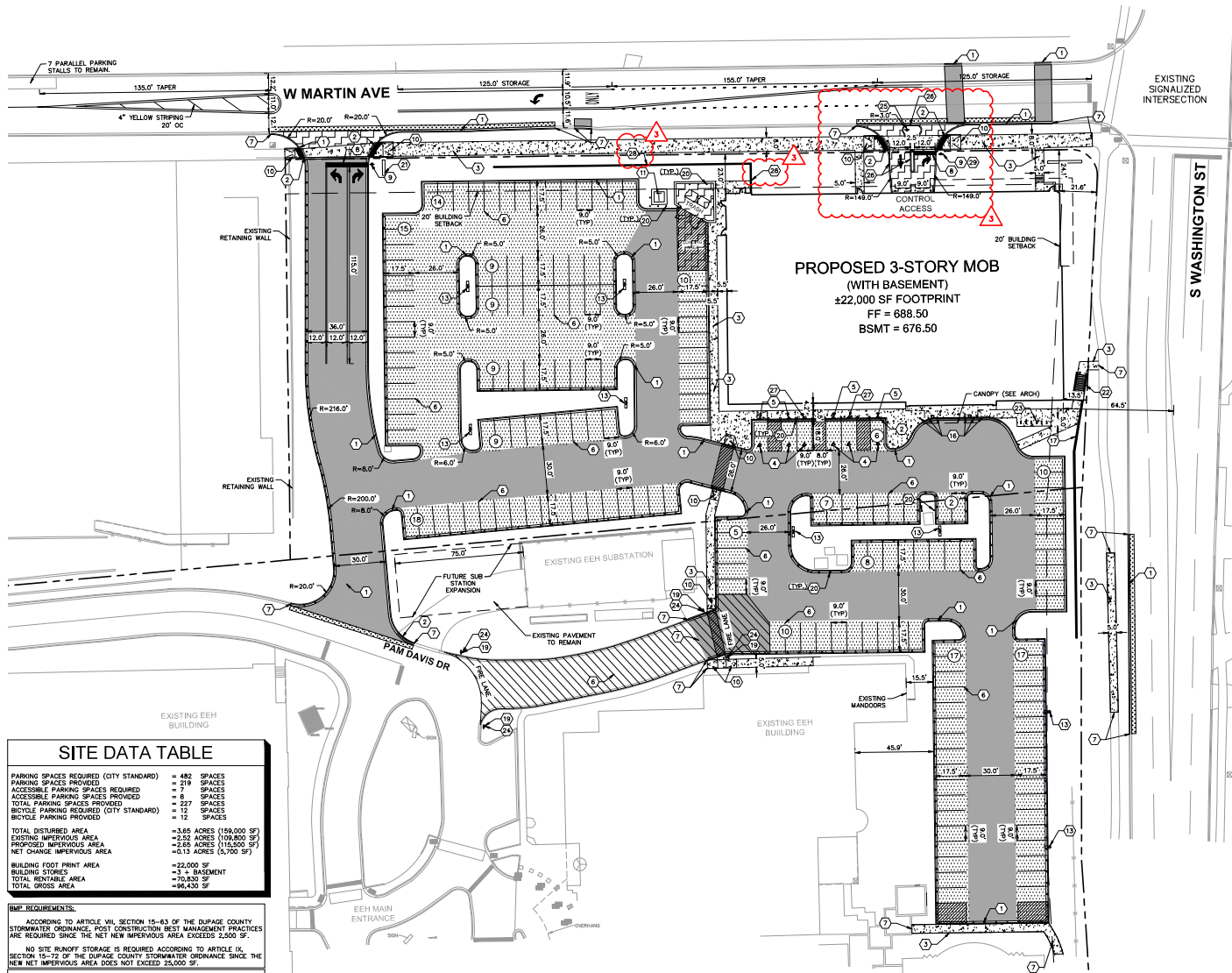


*CONCEPTUAL SITE PLAN*

Drawing name: \\USL\USL\1680107\2024\KHA\MOB\_NAPERVILLE\_132.dwg, User: kha, Date: 04/21/2025, 3:28pm, No. 1680107-02  
 This document, together with the contract and design permit(s) herein, is intended only for the specific project and site for which it was prepared. reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

  
 Call Before You Dig  
 1-800-892-0123

  
 GRAPHIC SCALE IN FEET  
 0 15 30 60











**PROPOSED 3-STORY MOB  
 (WITH BASEMENT)**  
 ±22,000 SF FOOTPRINT  
 FF = 688.50  
 BSMT = 676.50

- ### GENERAL NOTES
1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
  2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
  3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
  4. RADI ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3'-FEET, TYPICAL.
  5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
  6. ALL PROPOSED ON-SITE STRIPINGS SHALL BE PAINTED UNLESS OTHERWISE NOTED.

- ### KEY NOTES
- ① 86.12 CONCRETE CURB AND GUTTER, TYP. (SEE DETAILS)
  - ② DEPRESSED CURB AND GUTTER
  - ③ CONCRETE SIDEWALK, TYP. (SEE DETAILS)
  - ④ ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS)
  - ⑤ ACCESSIBLE PARKING SIGN, TYP. (MUTCD R7-8 & R7-10)
  - ⑥ 4" WIDE PAINTED SOLID LINE, TYP.
  - ⑦ CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
  - ⑧ 24" WIDE STOP BAR, TYP. (SEE DETAILS)
  - ⑨ STOP SIGN, TYP. (MUTCD R1-1)
  - ⑩ ACCESSIBLE RAMP W/ DETECTABLE WARNING PANELS (SEE DETAILS)
  - ⑪ TRANSFORMER PAD (FOR REFERENCE ONLY)
  - ⑫ MONUMENT SIGN
  - ⑬ LIGHT POLES SHOWN FOR COORDINATION ONLY (SEE SITE LIGHTING PLANS)
  - ⑭ SCREEN WALL (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - ⑮ 3-FT TRANSITION CURB
  - ⑯ DECORATIVE BOLLARD (REFERENCE ARCH PLANS)
  - ⑰ SITE RETAINING (ROCKWOOD CLASSIC 8 STRAIGHT SPLIT CHARCOAL BLOCK)
  - ⑱ ARCHITECTURAL RETAINING WALL (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - ⑲ FIRE LANE SIGN
  - ⑳ BOLLARD, TYP. (SEE DETAILS)
  - ㉑ WAY FINDING SIGN
  - ㉒ STAIRS (SEE ARCHITECTURAL PLANS FOR DETAILS)
  - ㉓ BIKE PARKING (HOOP RACK - PARKS 2 BIKES EACH)
  - ㉔ DO NOT ENTER SIGN
  - ㉕ DOUBLE SIDED "NO LEFT TURN" SIGN (MUTCD R3-2)
  - ㉖ 6" BARRIER CURB
  - ㉗ VAN ACCESSIBLE PARKING SIGN (SEE C6.0 FOR DETAILS)
  - ㉘ CAST IN PLACE CONCRETE WALL (SEE STRUCTURAL PLANS FOR DETAILS)
  - ㉙ "RIGHT TURN ONLY" SIGN (PLACED BELOW STOP SIGN)

### PAVING AND CURB LEGEND

|   |   |
|---|---|
|  | STANDARD DUTY ASPHALT PAVEMENT<br>SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION |
|  | HEAVY DUTY ASPHALT PAVEMENT<br>SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION    |
|  | CONCRETE SIDEWALK<br>SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION              |
|  | HEAVY DUTY CONCRETE PAVEMENT<br>SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION   |
|  | 8" MILL AND OVERLAY<br>SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION            |
|  | STANDARD PITCH CONCRETE CURB AND GUTTER   |
|  | REVERSE PITCH CONCRETE CURB AND GUTTER  |
|  | CONCRETE DEPRESSED CURB AND GUTTER  |

### SITE DATA TABLE

|  |                           |
|--|---------------------------|
| PARKING SPACES REQUIRED (CITY STANDARD)  | = 482 SPACES              |
| PARKING SPACES PROVIDED                  | = 219 SPACES              |
| ACCESSIBLE PARKING SPACES REQUIRED       | = 7 SPACES                |
| ACCESSIBLE PARKING SPACES PROVIDED       | = 6 SPACES                |
| TOTAL PARKING SPACES PROVIDED            | = 227 SPACES              |
| BICYCLE PARKING REQUIRED (CITY STANDARD) | = 12 SPACES               |
| BICYCLE PARKING PROVIDED                 | = 12 SPACES               |
| TOTAL DISTURBED AREA                     | = 3.65 ACRES (159,000 SF) |
| EXISTING IMPERVIOUS AREA                 | = 2.52 ACRES (109,800 SF) |
| PROPOSED IMPERVIOUS AREA                 | = 2.69 ACRES (118,500 SF) |
| NET CHANGE IMPERVIOUS AREA               | = 0.13 ACRES (5,700 SF)   |
| BUILDING FOOT PRINT AREA                 | = 22,000 SF               |
| BUILDING STORES                          | = 3 + BASEMENT            |
| TOTAL RETAILABLE AREA                    | = 70,800 SF               |
| TOTAL GROSS AREA                         | = 96,430 SF               |

**SFP REQUIREMENTS:**

ACCORDING TO ARTICLE VII, SECTION 15-63 OF THE DUPAGE COUNTY STORMWATER ORDINANCE, POST CONSTRUCTION BEST MANAGEMENT PRACTICES ARE REQUIRED SINCE THE NET NEW IMPERVIOUS AREA EXCEEDS 2,500 SF.

NO SITE RUNOFF STORAGE IS REQUIRED ACCORDING TO ARTICLE IV, SECTION 15-72 OF THE DUPAGE COUNTY STORMWATER ORDINANCE SINCE THE NEW NET IMPERVIOUS AREA DOES NOT EXCEED 25,000 SF.

### IMPERVIOUS

|             | EXISTING (2.52 AC) | EXISTING (112,800 SF) |
|-------------|--------------------|-----------------------|
| BUILDING    | 0.35 AC            | 15,246 SF             |
| PARKING LOT | 1.72 AC            | 74,923 SF             |
| DRIVEWAY    | 0.30 AC            | 13,088 SF             |
| SIDEWALK    | 0.22 AC            | 9,483 SF              |
|             | PROPOSED (2.65 AC) | PROPOSED (115,434 SF) |
| BUILDING    | 0.55 AC            | 23,958 SF             |
| PARKING LOT | 1.58 AC            | 68,825 SF             |
| DRIVEWAY    | 0.32 AC            | 13,939 SF             |
| SIDEWALK    | 0.20 AC            | 8,712 SF              |

| NO. | REVISIONS                 | DATE       | BY  |
|-----|---------------------------|------------|-----|
| 1   | REVISED PER CITY COMMENTS | 7/15/2025  | MKH |
| 2   | REVISED PER CITY COMMENTS | 10/10/2025 | MKH |
| 3   | REVISED PER CITY COMMENTS | 10/10/2025 | MKH |

**Kimley-Horn**  
 CONSULTING ENGINEERS, INC.  
 500 W. WASHINGTON ST., SUITE 200  
 NAPERVILLE, IL 60563  
 WWW.KIMLEY-HORN.COM

SCALE: AS NOTED  
 DESIGNED BY: SWM  
 DRAWN BY: MKH  
 CHECKED BY: SWM

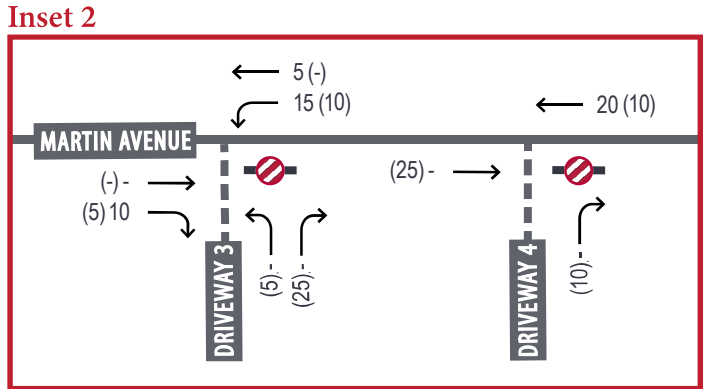
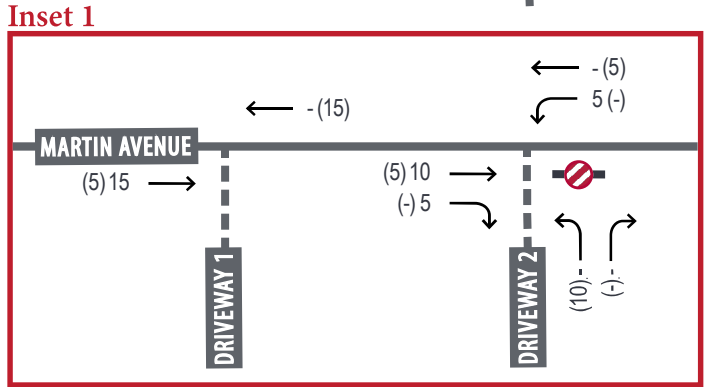
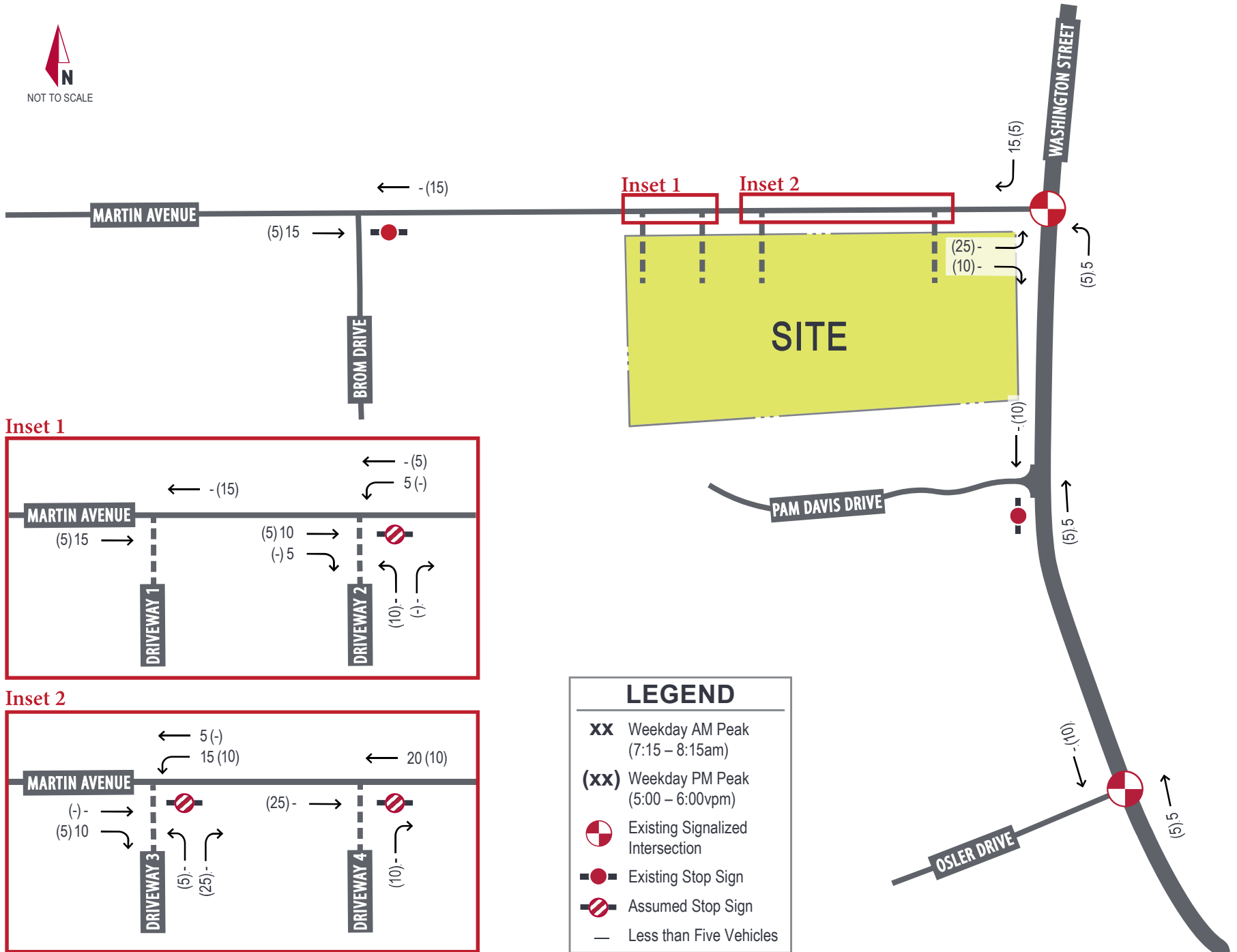


**SITE & PAVING  
 PLAN**

**NAPERVILLE MOB**  
 10 MARTIN AVE  
 NAPERVILLE, IL 60563

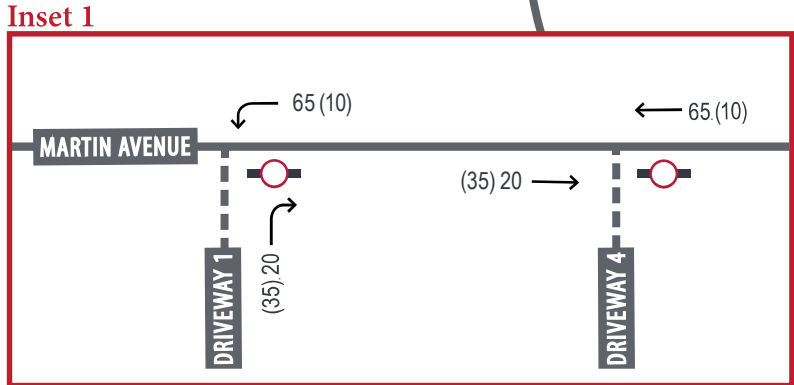
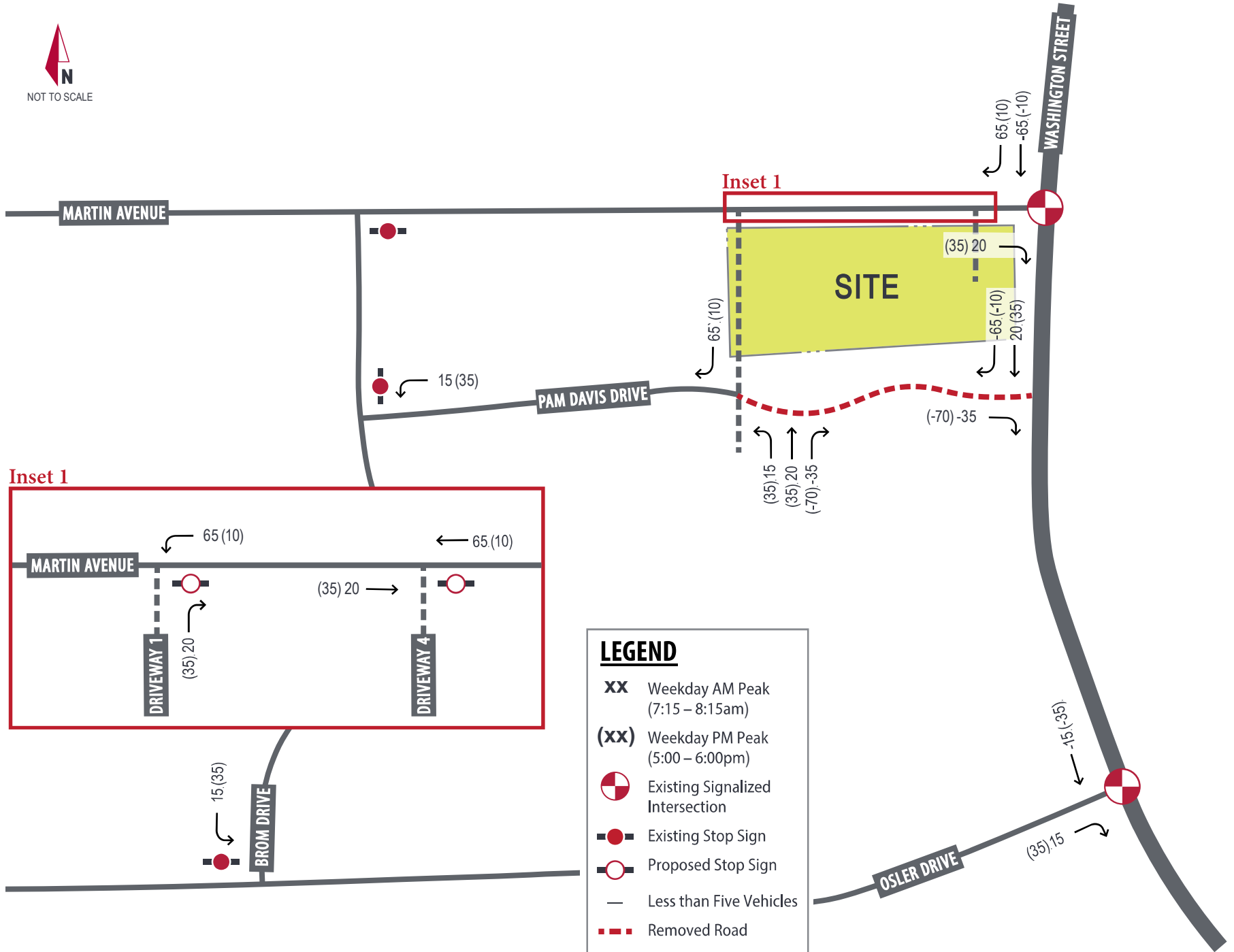
ORIGINAL ISSUE: 4/21/22  
 KHA PROJECT NO. 16801017  
 SHEET NUMBER C2.0

*EXHIBIT A1 EXISTING SITE TRAFFIC – REMOVED*



| LEGEND      |                                     |
|-------------|-------------------------------------|
| <b>xx</b>   | Weekday AM Peak<br>(7:15 – 8:15am)  |
| <b>(xx)</b> | Weekday PM Peak<br>(5:00 – 6:00vpm) |
|             | Existing Signalized Intersection    |
|             | Existing Stop Sign                  |
|             | Assumed Stop Sign                   |
| —           | Less than Five Vehicles             |

*EXHIBIT A2 PAM DAVIS DRIVE REDISTRIBUTION*



*TRAFFIC COUNT DATA*

1\_Martin Avenue & Brom Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929945, Location: 41.763008, -88.153309



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |       |    |       |      | Martin<br>Westbound |       |    |       |      | Brom<br>Northbound |       |    |       |      | Int   |
|---------------------------------------|---------------------|-------|----|-------|------|---------------------|-------|----|-------|------|--------------------|-------|----|-------|------|-------|
|                                       | T                   | R     | U  | App   | Ped* | L                   | T     | U  | App   | Ped* | L                  | R     | U  | App   | Ped* |       |
| Time                                  |                     |       |    |       |      |                     |       |    |       |      |                    |       |    |       |      |       |
| 2022-03-17 7:15AM                     | 62                  | 27    | 0  | 89    | 0    | 21                  | 60    | 0  | 81    | 0    | 11                 | 5     | 0  | 16    | 0    | 186   |
| 7:30AM                                | 77                  | 38    | 0  | 115   | 0    | 29                  | 83    | 0  | 112   | 0    | 16                 | 14    | 0  | 30    | 0    | 257   |
| 7:45AM                                | 72                  | 52    | 0  | 124   | 0    | 41                  | 36    | 0  | 77    | 0    | 12                 | 11    | 0  | 23    | 0    | 224   |
| 8:00AM                                | 75                  | 22    | 0  | 97    | 0    | 33                  | 26    | 0  | 59    | 0    | 13                 | 14    | 0  | 27    | 0    | 183   |
| <b>Total</b>                          | 286                 | 139   | 0  | 425   | 0    | 124                 | 205   | 0  | 329   | 0    | 52                 | 44    | 0  | 96    | 0    | 850   |
| <b>% Approach</b>                     | 67.3%               | 32.7% | 0% | -     | -    | 37.7%               | 62.3% | 0% | -     | -    | 54.2%              | 45.8% | 0% | -     | -    | -     |
| <b>% Total</b>                        | 33.6%               | 16.4% | 0% | 50.0% | -    | 14.6%               | 24.1% | 0% | 38.7% | -    | 6.1%               | 5.2%  | 0% | 11.3% | -    | -     |
| <b>PHF</b>                            | 0.929               | 0.668 | -  | 0.857 | -    | 0.756               | 0.617 | -  | 0.734 | -    | 0.813              | 0.786 | -  | 0.800 | -    | 0.827 |
| <b>Lights</b>                         | 279                 | 136   | 0  | 415   | -    | 124                 | 202   | 0  | 326   | -    | 49                 | 44    | 0  | 93    | -    | 834   |
| <b>% Lights</b>                       | 97.6%               | 97.8% | 0% | 97.6% | -    | 100%                | 98.5% | 0% | 99.1% | -    | 94.2%              | 100%  | 0% | 96.9% | -    | 98.1% |
| <b>Articulated Trucks</b>             | 0                   | 0     | 0  | 0     | -    | 0                   | 1     | 0  | 1     | -    | 0                  | 0     | 0  | 0     | -    | 1     |
| <b>% Articulated Trucks</b>           | 0%                  | 0%    | 0% | 0%    | -    | 0%                  | 0.5%  | 0% | 0.3%  | -    | 0%                 | 0%    | 0% | 0%    | -    | 0.1%  |
| <b>Buses and Single-Unit Trucks</b>   | 7                   | 3     | 0  | 10    | -    | 0                   | 2     | 0  | 2     | -    | 3                  | 0     | 0  | 3     | -    | 15    |
| <b>% Buses and Single-Unit Trucks</b> | 2.4%                | 2.2%  | 0% | 2.4%  | -    | 0%                  | 1.0%  | 0% | 0.6%  | -    | 5.8%               | 0%    | 0% | 3.1%  | -    | 1.8%  |
| <b>Bicycles on Road</b>               | 0                   | 0     | 0  | 0     | -    | 0                   | 0     | 0  | 0     | -    | 0                  | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0%    | 0% | 0%    | -    | 0%                  | 0%    | 0% | 0%    | -    | 0%                 | 0%    | 0% | 0%    | -    | 0%    |
| Pedestrians                           | -                   | -     | -  | -     | 0    | -                   | -     | -  | -     | 0    | -                  | -     | -  | -     | 0    | -     |
| % Pedestrians                         | -                   | -     | -  | -     | -    | -                   | -     | -  | -     | -    | -                  | -     | -  | -     | -    | -     |
| Bicycles on Crosswalk                 | -                   | -     | -  | -     | 0    | -                   | -     | -  | -     | 0    | -                  | -     | -  | -     | 0    | -     |
| % Bicycles on Crosswalk               | -                   | -     | -  | -     | -    | -                   | -     | -  | -     | -    | -                  | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



1\_Martin Avenue & Brom Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

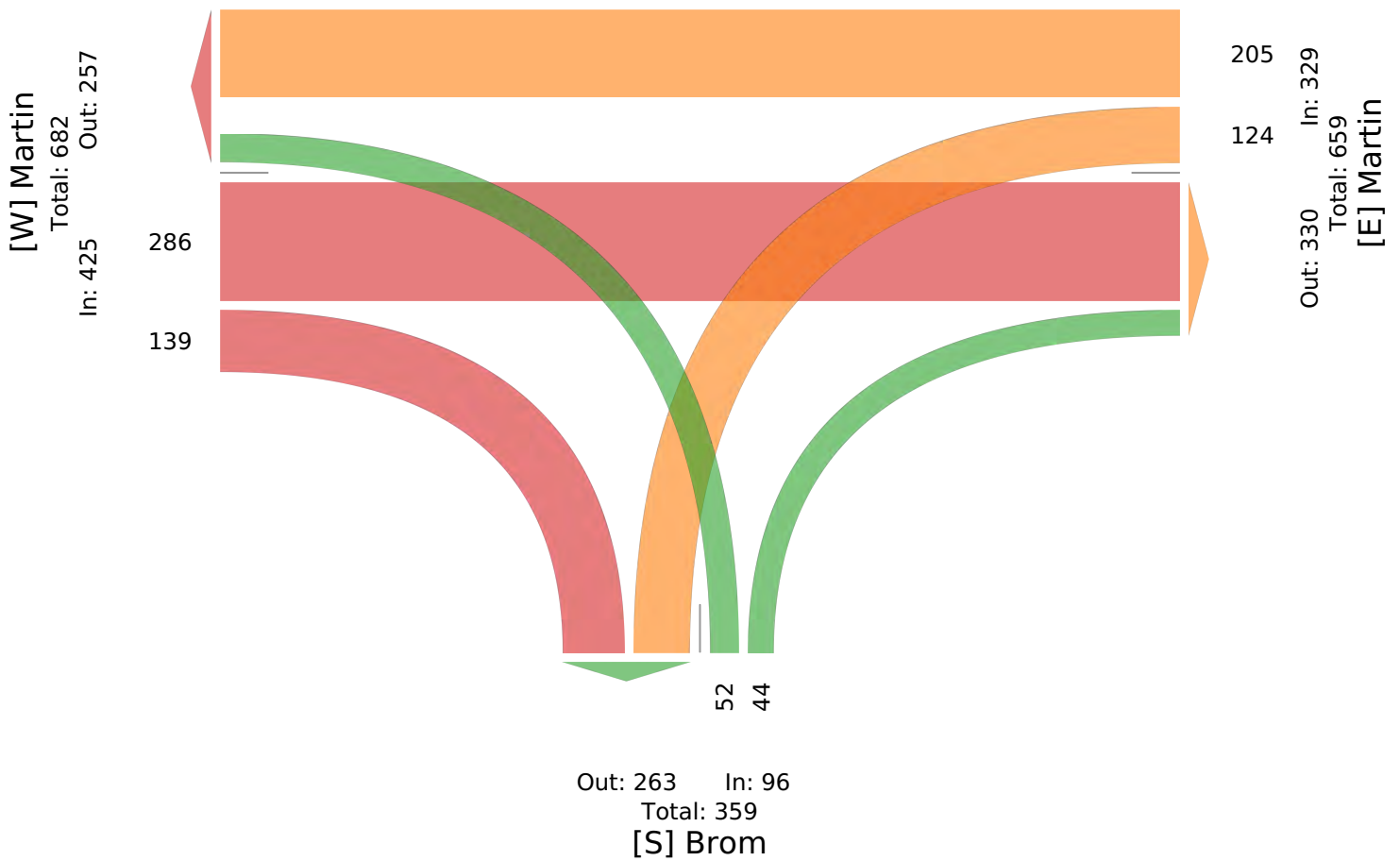
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929945, Location: 41.763008, -88.153309



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



1\_Martin Avenue & Brom Drive - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929945, Location: 41.763008, -88.153309



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |       |    |       |      | Martin<br>Westbound |       |    |       |      | Brom<br>Northbound |       |    |       |      | Int   |
|---------------------------------------|---------------------|-------|----|-------|------|---------------------|-------|----|-------|------|--------------------|-------|----|-------|------|-------|
|                                       | T                   | R     | U  | App   | Ped* | L                   | T     | U  | App   | Ped* | L                  | R     | U  | App   | Ped* |       |
| Time                                  |                     |       |    |       |      |                     |       |    |       |      |                    |       |    |       |      |       |
| 2022-03-17 5:00PM                     | 66                  | 4     | 0  | 70    | 0    | 5                   | 59    | 0  | 64    | 0    | 28                 | 27    | 0  | 55    | 0    | 189   |
| 5:15PM                                | 83                  | 4     | 0  | 87    | 0    | 6                   | 45    | 0  | 51    | 0    | 21                 | 28    | 0  | 49    | 1    | 187   |
| 5:30PM                                | 67                  | 5     | 0  | 72    | 0    | 9                   | 72    | 0  | 81    | 0    | 18                 | 18    | 0  | 36    | 0    | 189   |
| 5:45PM                                | 66                  | 6     | 0  | 72    | 0    | 13                  | 70    | 0  | 83    | 0    | 15                 | 10    | 0  | 25    | 3    | 180   |
| <b>Total</b>                          | 282                 | 19    | 0  | 301   | 0    | 33                  | 246   | 0  | 279   | 0    | 82                 | 83    | 0  | 165   | 4    | 745   |
| <b>% Approach</b>                     | 93.7%               | 6.3%  | 0% | -     | -    | 11.8%               | 88.2% | 0% | -     | -    | 49.7%              | 50.3% | 0% | -     | -    | -     |
| <b>% Total</b>                        | 37.9%               | 2.6%  | 0% | 40.4% | -    | 4.4%                | 33.0% | 0% | 37.4% | -    | 11.0%              | 11.1% | 0% | 22.1% | -    | -     |
| <b>PHF</b>                            | 0.849               | 0.792 | -  | 0.865 | -    | 0.635               | 0.851 | -  | 0.848 | -    | 0.732              | 0.741 | -  | 0.750 | -    | 0.984 |
| <b>Lights</b>                         | 280                 | 17    | 0  | 297   | -    | 33                  | 244   | 0  | 277   | -    | 80                 | 83    | 0  | 163   | -    | 737   |
| <b>% Lights</b>                       | 99.3%               | 89.5% | 0% | 98.7% | -    | 100%                | 99.2% | 0% | 99.3% | -    | 97.6%              | 100%  | 0% | 98.8% | -    | 98.9% |
| <b>Articulated Trucks</b>             | 0                   | 0     | 0  | 0     | -    | 0                   | 0     | 0  | 0     | -    | 0                  | 0     | 0  | 0     | -    | 0     |
| <b>% Articulated Trucks</b>           | 0%                  | 0%    | 0% | 0%    | -    | 0%                  | 0%    | 0% | 0%    | -    | 0%                 | 0%    | 0% | 0%    | -    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 2                   | 2     | 0  | 4     | -    | 0                   | 1     | 0  | 1     | -    | 2                  | 0     | 0  | 2     | -    | 7     |
| <b>% Buses and Single-Unit Trucks</b> | 0.7%                | 10.5% | 0% | 1.3%  | -    | 0%                  | 0.4%  | 0% | 0.4%  | -    | 2.4%               | 0%    | 0% | 1.2%  | -    | 0.9%  |
| <b>Bicycles on Road</b>               | 0                   | 0     | 0  | 0     | -    | 0                   | 1     | 0  | 1     | -    | 0                  | 0     | 0  | 0     | -    | 1     |
| <b>% Bicycles on Road</b>             | 0%                  | 0%    | 0% | 0%    | -    | 0%                  | 0.4%  | 0% | 0.4%  | -    | 0%                 | 0%    | 0% | 0%    | -    | 0.1%  |
| <b>Pedestrians</b>                    | -                   | -     | -  | -     | 0    | -                   | -     | -  | -     | 0    | -                  | -     | -  | -     | 4    | -     |
| <b>% Pedestrians</b>                  | -                   | -     | -  | -     | -    | -                   | -     | -  | -     | -    | -                  | -     | -  | -     | 100% | -     |
| <b>Bicycles on Crosswalk</b>          | -                   | -     | -  | -     | 0    | -                   | -     | -  | -     | 0    | -                  | -     | -  | -     | 0    | -     |
| <b>% Bicycles on Crosswalk</b>        | -                   | -     | -  | -     | -    | -                   | -     | -  | -     | -    | -                  | -     | -  | -     | 0%   | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1\_Martin Avenue & Brom Drive - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

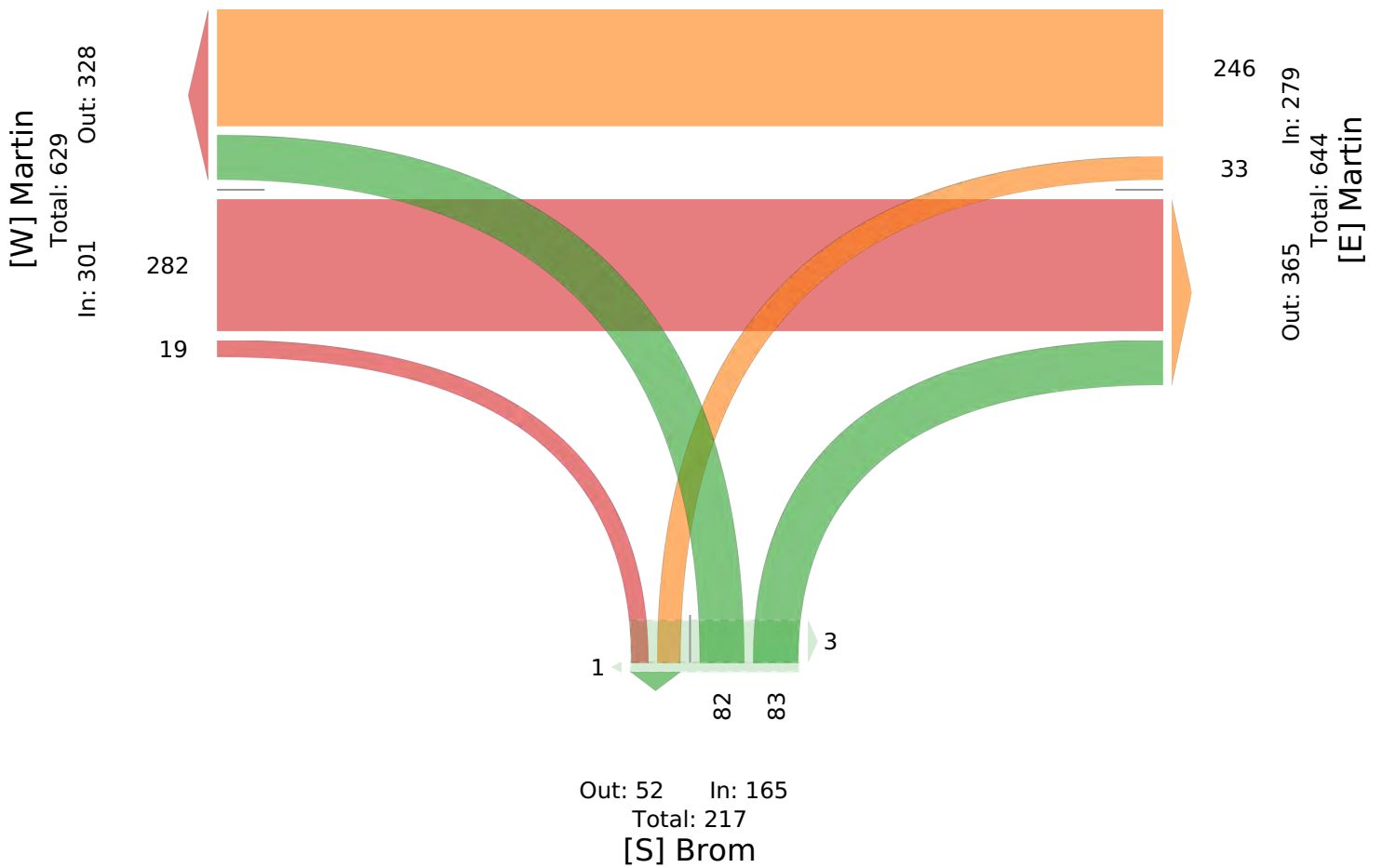
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929945, Location: 41.763008, -88.153309



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



2\_Martin Avenue & Washington Street - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929946, Location: 41.76307, -88.149196



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |       |    |       |      | Washington<br>Northbound |       |    |       |      | Washington<br>Southbound |       |    |       |      | Int   |
|---------------------------------------|---------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|-------|
|                                       | L                   | R     | U  | App   | Ped* | L                        | T     | U  | App   | Ped* | T                        | R     | U  | App   | Ped* |       |
| Time                                  |                     |       |    |       |      |                          |       |    |       |      |                          |       |    |       |      |       |
| 2022-03-17 7:15AM                     | 23                  | 29    | 0  | 52    | 2    | 74                       | 444   | 0  | 518   | 0    | 213                      | 12    | 0  | 225   | 0    | 795   |
| 7:30AM                                | 56                  | 37    | 0  | 93    | 0    | 83                       | 415   | 0  | 498   | 2    | 296                      | 27    | 0  | 323   | 0    | 914   |
| 7:45AM                                | 31                  | 52    | 0  | 83    | 0    | 58                       | 266   | 0  | 324   | 0    | 263                      | 30    | 0  | 293   | 0    | 700   |
| 8:00AM                                | 33                  | 57    | 0  | 90    | 0    | 44                       | 268   | 0  | 312   | 0    | 189                      | 22    | 0  | 211   | 0    | 613   |
| <b>Total</b>                          | 143                 | 175   | 0  | 318   | 2    | 259                      | 1393  | 0  | 1652  | 2    | 961                      | 91    | 0  | 1052  | 0    | 3022  |
| <b>% Approach</b>                     | 45.0%               | 55.0% | 0% | -     | -    | 15.7%                    | 84.3% | 0% | -     | -    | 91.3%                    | 8.7%  | 0% | -     | -    | -     |
| <b>% Total</b>                        | 4.7%                | 5.8%  | 0% | 10.5% | -    | 8.6%                     | 46.1% | 0% | 54.7% | -    | 31.8%                    | 3.0%  | 0% | 34.8% | -    | -     |
| <b>PHF</b>                            | 0.638               | 0.768 | -  | 0.855 | -    | 0.780                    | 0.784 | -  | 0.797 | -    | 0.812                    | 0.758 | -  | 0.814 | -    | 0.827 |
| <b>Lights</b>                         | 143                 | 167   | 0  | 310   | -    | 257                      | 1352  | 0  | 1609  | -    | 935                      | 90    | 0  | 1025  | -    | 2944  |
| <b>% Lights</b>                       | 100%                | 95.4% | 0% | 97.5% | -    | 99.2%                    | 97.1% | 0% | 97.4% | -    | 97.3%                    | 98.9% | 0% | 97.4% | -    | 97.4% |
| <b>Articulated Trucks</b>             | 0                   | 1     | 0  | 1     | -    | 0                        | 4     | 0  | 4     | -    | 4                        | 1     | 0  | 5     | -    | 10    |
| <b>% Articulated Trucks</b>           | 0%                  | 0.6%  | 0% | 0.3%  | -    | 0%                       | 0.3%  | 0% | 0.2%  | -    | 0.4%                     | 1.1%  | 0% | 0.5%  | -    | 0.3%  |
| <b>Buses and Single-Unit Trucks</b>   | 0                   | 7     | 0  | 7     | -    | 2                        | 37    | 0  | 39    | -    | 22                       | 0     | 0  | 22    | -    | 68    |
| <b>% Buses and Single-Unit Trucks</b> | 0%                  | 4.0%  | 0% | 2.2%  | -    | 0.8%                     | 2.7%  | 0% | 2.4%  | -    | 2.3%                     | 0%    | 0% | 2.1%  | -    | 2.3%  |
| <b>Bicycles on Road</b>               | 0                   | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%    |
| <b>Pedestrians</b>                    | -                   | -     | -  | -     | 2    | -                        | -     | -  | -     | 2    | -                        | -     | -  | -     | 0    | -     |
| <b>% Pedestrians</b>                  | -                   | -     | -  | -     | 100% | -                        | -     | -  | -     | 100% | -                        | -     | -  | -     | -    | -     |
| <b>Bicycles on Crosswalk</b>          | -                   | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -     |
| <b>% Bicycles on Crosswalk</b>        | -                   | -     | -  | -     | 0%   | -                        | -     | -  | -     | 0%   | -                        | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2\_Martin Avenue & Washington Street - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929946, Location: 41.76307, -88.149196



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

[N] Washington

Total: 2588

In: 1052

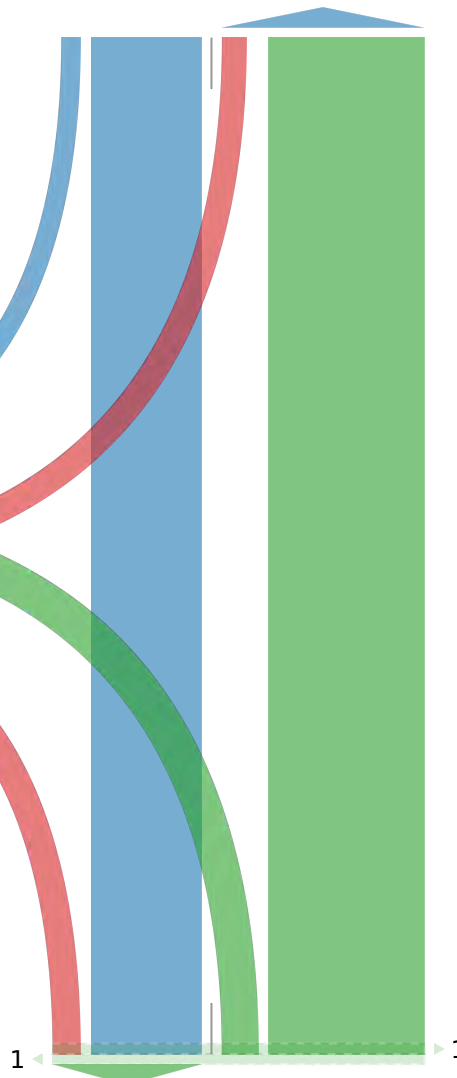
Out: 1536

[W] Martin  
Total: 668  
In: 318 Out: 350

2  
143  
175

91

961



1

1

259

1393

Out: 1136

In: 1652

Total: 2788

[S] Washington

2\_Martin Avenue & Washington Street - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929946, Location: 41.76307, -88.149196



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg Direction                         | Martin Eastbound |       |    |       |       | Washington Northbound |       |    |       |      | Washington Southbound |       |    |       |      | Int   |
|---------------------------------------|------------------|-------|----|-------|-------|-----------------------|-------|----|-------|------|-----------------------|-------|----|-------|------|-------|
|                                       | L                | R     | U  | App   | Ped*  | L                     | T     | U  | App   | Ped* | T                     | R     | U  | App   | Ped* |       |
| Time                                  |                  |       |    |       |       |                       |       |    |       |      |                       |       |    |       |      |       |
| 2022-03-17 5:00PM                     | 41               | 54    | 0  | 95    | 1     | 42                    | 252   | 0  | 294   | 0    | 347                   | 25    | 0  | 372   | 0    | 761   |
| 5:15PM                                | 56               | 75    | 0  | 131   | 0     | 30                    | 249   | 0  | 279   | 0    | 313                   | 19    | 0  | 332   | 0    | 742   |
| 5:30PM                                | 36               | 47    | 0  | 83    | 4     | 51                    | 272   | 0  | 323   | 0    | 293                   | 24    | 0  | 317   | 0    | 723   |
| 5:45PM                                | 28               | 57    | 0  | 85    | 2     | 58                    | 256   | 0  | 314   | 1    | 334                   | 23    | 0  | 357   | 0    | 756   |
| <b>Total</b>                          | 161              | 233   | 0  | 394   | 7     | 181                   | 1029  | 0  | 1210  | 1    | 1287                  | 91    | 0  | 1378  | 0    | 2982  |
| <b>% Approach</b>                     | 40.9%            | 59.1% | 0% | -     | -     | 15.0%                 | 85.0% | 0% | -     | -    | 93.4%                 | 6.6%  | 0% | -     | -    | -     |
| <b>% Total</b>                        | 5.4%             | 7.8%  | 0% | 13.2% | -     | 6.1%                  | 34.5% | 0% | 40.6% | -    | 43.2%                 | 3.1%  | 0% | 46.2% | -    | -     |
| <b>PHF</b>                            | 0.719            | 0.777 | -  | 0.752 | -     | 0.780                 | 0.946 | -  | 0.937 | -    | 0.927                 | 0.910 | -  | 0.926 | -    | 0.980 |
| <b>Lights</b>                         | 161              | 231   | 0  | 392   | -     | 180                   | 1022  | 0  | 1202  | -    | 1279                  | 90    | 0  | 1369  | -    | 2963  |
| <b>% Lights</b>                       | 100%             | 99.1% | 0% | 99.5% | -     | 99.4%                 | 99.3% | 0% | 99.3% | -    | 99.4%                 | 98.9% | 0% | 99.3% | -    | 99.4% |
| <b>Articulated Trucks</b>             | 0                | 0     | 0  | 0     | -     | 0                     | 0     | 0  | 0     | -    | 0                     | 0     | 0  | 0     | -    | 0     |
| <b>% Articulated Trucks</b>           | 0%               | 0%    | 0% | 0%    | -     | 0%                    | 0%    | 0% | 0%    | -    | 0%                    | 0%    | 0% | 0%    | -    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 0                | 2     | 0  | 2     | -     | 1                     | 7     | 0  | 8     | -    | 8                     | 1     | 0  | 9     | -    | 19    |
| <b>% Buses and Single-Unit Trucks</b> | 0%               | 0.9%  | 0% | 0.5%  | -     | 0.6%                  | 0.7%  | 0% | 0.7%  | -    | 0.6%                  | 1.1%  | 0% | 0.7%  | -    | 0.6%  |
| <b>Bicycles on Road</b>               | 0                | 0     | 0  | 0     | -     | 0                     | 0     | 0  | 0     | -    | 0                     | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%               | 0%    | 0% | 0%    | -     | 0%                    | 0%    | 0% | 0%    | -    | 0%                    | 0%    | 0% | 0%    | -    | 0%    |
| <b>Pedestrians</b>                    | -                | -     | -  | -     | 6     | -                     | -     | -  | -     | 0    | -                     | -     | -  | -     | 0    | -     |
| <b>% Pedestrians</b>                  | -                | -     | -  | -     | 85.7% | -                     | -     | -  | -     | 0%   | -                     | -     | -  | -     | -    | -     |
| <b>Bicycles on Crosswalk</b>          | -                | -     | -  | -     | 1     | -                     | -     | -  | -     | 1    | -                     | -     | -  | -     | 0    | -     |
| <b>% Bicycles on Crosswalk</b>        | -                | -     | -  | -     | 14.3% | -                     | -     | -  | -     | 100% | -                     | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2\_Martin Avenue & Washington Street - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM)

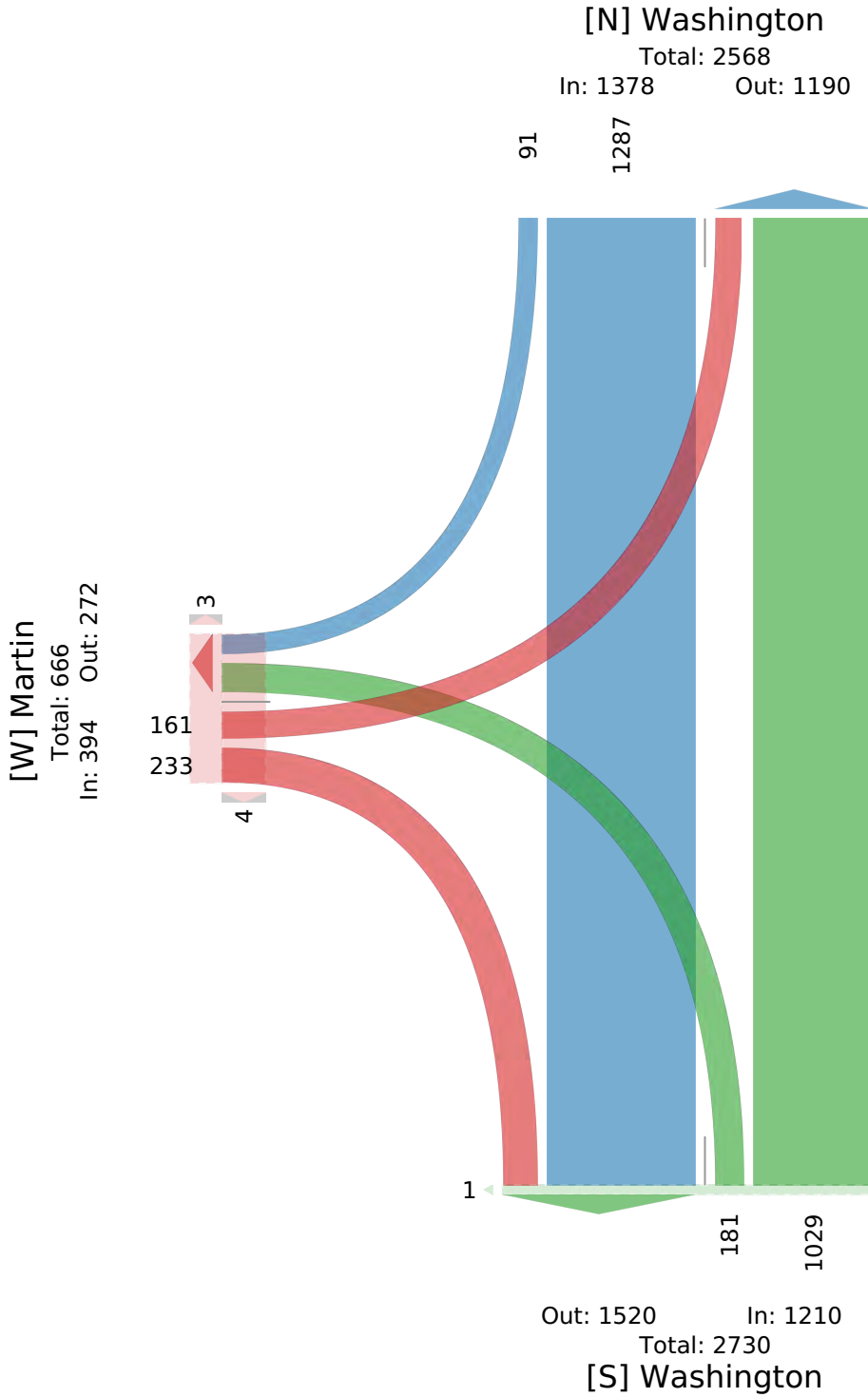
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929946, Location: 41.76307, -88.149196



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



### 3\_Washington Street & Pam Davis Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929947, Location: 41.762202, -88.149212



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg Direction                         | Pam Davis Eastbound |       |    |       |      | Washington Northbound |       |    |       |      | Washington Southbound |       |    |       |      |       |
|---------------------------------------|---------------------|-------|----|-------|------|-----------------------|-------|----|-------|------|-----------------------|-------|----|-------|------|-------|
| Time                                  | L                   | R     | U  | App   | Ped* | L                     | T     | U  | App   | Ped* | T                     | R     | U  | App   | Ped* | Int   |
| 2022-03-17 7:15AM                     | 2                   | 5     | 0  | 7     | 2    | 0                     | 453   | 0  | 453   | 0    | 222                   | 15    | 0  | 237   | 0    | 697   |
| 7:30AM                                | 1                   | 10    | 0  | 11    | 0    | 1                     | 433   | 0  | 434   | 0    | 314                   | 14    | 0  | 328   | 0    | 773   |
| 7:45AM                                | 1                   | 15    | 0  | 16    | 0    | 1                     | 310   | 0  | 311   | 0    | 295                   | 23    | 0  | 318   | 0    | 645   |
| 8:00AM                                | 0                   | 6     | 0  | 6     | 0    | 0                     | 308   | 0  | 308   | 0    | 230                   | 14    | 0  | 244   | 0    | 558   |
| <b>Total</b>                          | 4                   | 36    | 0  | 40    | 2    | 2                     | 1504  | 0  | 1506  | 0    | 1061                  | 66    | 0  | 1127  | 0    | 2673  |
| <b>% Approach</b>                     | 10.0%               | 90.0% | 0% | -     | -    | 0.1%                  | 99.9% | 0% | -     | -    | 94.1%                 | 5.9%  | 0% | -     | -    | -     |
| <b>% Total</b>                        | 0.1%                | 1.3%  | 0% | 1.5%  | -    | 0.1%                  | 56.3% | 0% | 56.3% | -    | 39.7%                 | 2.5%  | 0% | 42.2% | -    | -     |
| <b>PHF</b>                            | 0.500               | 0.600 | -  | 0.625 | -    | 0.500                 | 0.830 | -  | 0.831 | -    | 0.845                 | 0.717 | -  | 0.859 | -    | 0.864 |
| <b>Lights</b>                         | 4                   | 34    | 0  | 38    | -    | 1                     | 1462  | 0  | 1463  | -    | 1026                  | 66    | 0  | 1092  | -    | 2593  |
| <b>% Lights</b>                       | 100%                | 94.4% | 0% | 95.0% | -    | 50.0%                 | 97.2% | 0% | 97.1% | -    | 96.7%                 | 100%  | 0% | 96.9% | -    | 97.0% |
| <b>Articulated Trucks</b>             | 0                   | 0     | 0  | 0     | -    | 0                     | 4     | 0  | 4     | -    | 5                     | 0     | 0  | 5     | -    | 9     |
| <b>% Articulated Trucks</b>           | 0%                  | 0%    | 0% | 0%    | -    | 0%                    | 0.3%  | 0% | 0.3%  | -    | 0.5%                  | 0%    | 0% | 0.4%  | -    | 0.3%  |
| <b>Buses and Single-Unit Trucks</b>   | 0                   | 2     | 0  | 2     | -    | 1                     | 38    | 0  | 39    | -    | 30                    | 0     | 0  | 30    | -    | 71    |
| <b>% Buses and Single-Unit Trucks</b> | 0%                  | 5.6%  | 0% | 5.0%  | -    | 50.0%                 | 2.5%  | 0% | 2.6%  | -    | 2.8%                  | 0%    | 0% | 2.7%  | -    | 2.7%  |
| <b>Bicycles on Road</b>               | 0                   | 0     | 0  | 0     | -    | 0                     | 0     | 0  | 0     | -    | 0                     | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0%    | 0% | 0%    | -    | 0%                    | 0%    | 0% | 0%    | -    | 0%                    | 0%    | 0% | 0%    | -    | 0%    |
| Pedestrians                           | -                   | -     | -  | -     | 2    | -                     | -     | -  | -     | 0    | -                     | -     | -  | -     | 0    | -     |
| % Pedestrians                         | -                   | -     | -  | -     | 100% | -                     | -     | -  | -     | -    | -                     | -     | -  | -     | -    | -     |
| Bicycles on Crosswalk                 | -                   | -     | -  | -     | 0    | -                     | -     | -  | -     | 0    | -                     | -     | -  | -     | 0    | -     |
| % Bicycles on Crosswalk               | -                   | -     | -  | -     | 0%   | -                     | -     | -  | -     | -    | -                     | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



### 3\_Washington Street & Pam Davis Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

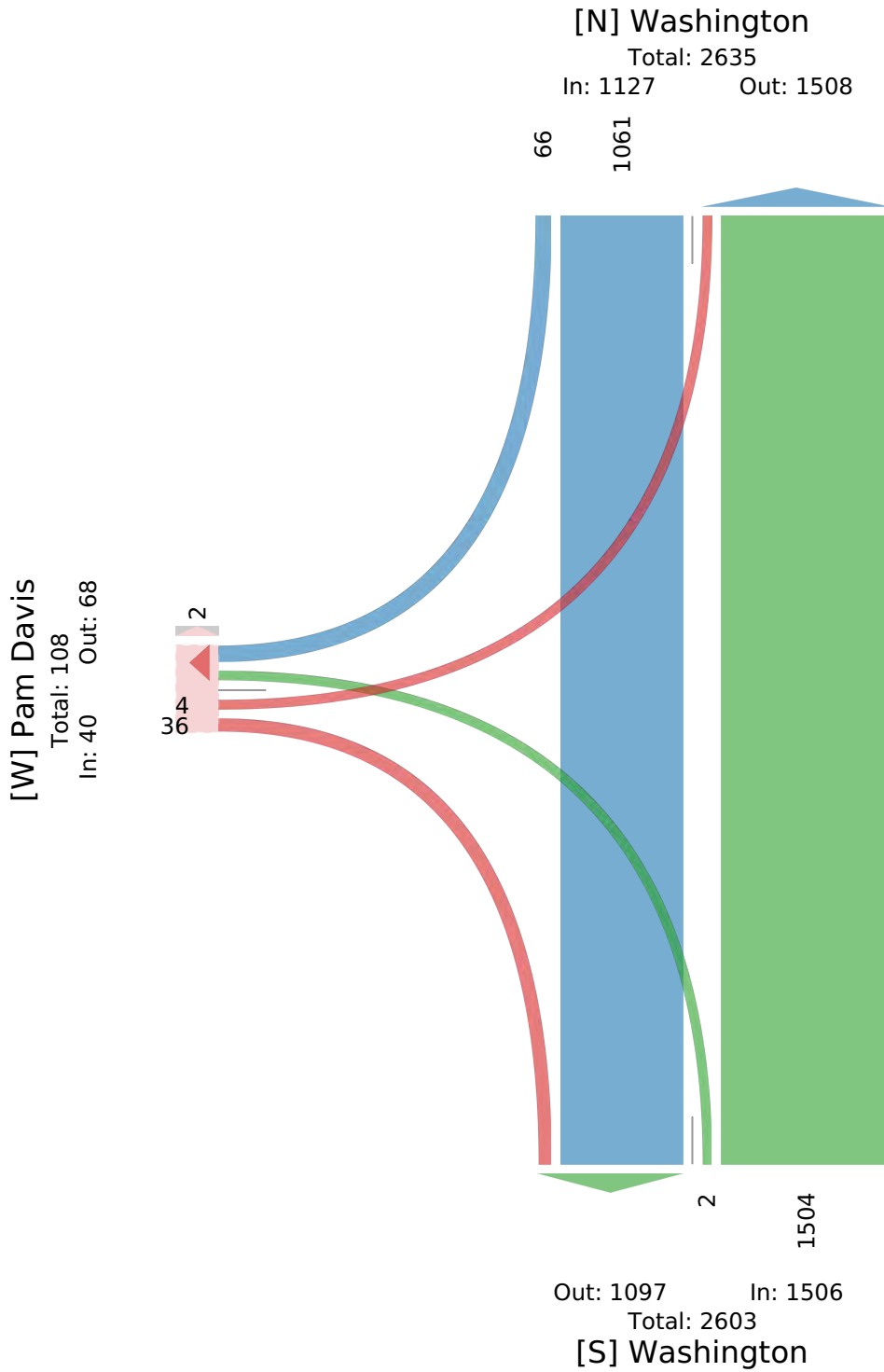
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929947, Location: 41.762202, -88.149212



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



### 3\_Washington Street & Pam Davis Drive - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929947, Location: 41.762202, -88.149212



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Pam Davis<br>Eastbound |       |    |       |      | Washington<br>Northbound |       |    |       |      | Washington<br>Southbound |       |    |       |      | Int   |
|---------------------------------------|------------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|-------|
|                                       | L                      | R     | U  | App   | Ped* | L                        | T     | U  | App   | Ped* | T                        | R     | U  | App   | Ped* |       |
| Time                                  |                        |       |    |       |      |                          |       |    |       |      |                          |       |    |       |      |       |
| 2022-03-17 5:00PM                     | 1                      | 21    | 0  | 22    | 0    | 0                        | 297   | 0  | 297   | 0    | 397                      | 3     | 0  | 400   | 0    | 719   |
| 5:15PM                                | 1                      | 20    | 0  | 21    | 0    | 0                        | 282   | 0  | 282   | 0    | 383                      | 2     | 0  | 385   | 0    | 688   |
| 5:30PM                                | 0                      | 18    | 0  | 18    | 3    | 0                        | 321   | 0  | 321   | 0    | 342                      | 2     | 0  | 344   | 0    | 683   |
| 5:45PM                                | 0                      | 10    | 0  | 10    | 7    | 0                        | 314   | 0  | 314   | 0    | 388                      | 4     | 0  | 392   | 0    | 716   |
| <b>Total</b>                          | 2                      | 69    | 0  | 71    | 10   | 0                        | 1214  | 0  | 1214  | 0    | 1510                     | 11    | 0  | 1521  | 0    | 2806  |
| <b>% Approach</b>                     | 2.8%                   | 97.2% | 0% | -     | -    | 0%                       | 100%  | 0% | -     | -    | 99.3%                    | 0.7%  | 0% | -     | -    | -     |
| <b>% Total</b>                        | 0.1%                   | 2.5%  | 0% | 2.5%  | -    | 0%                       | 43.3% | 0% | 43.3% | -    | 53.8%                    | 0.4%  | 0% | 54.2% | -    | -     |
| <b>PHF</b>                            | 0.500                  | 0.821 | -  | 0.807 | -    | -                        | 0.945 | -  | 0.945 | -    | 0.951                    | 0.688 | -  | 0.951 | -    | 0.976 |
| <b>Lights</b>                         | 2                      | 69    | 0  | 71    | -    | 0                        | 1206  | 0  | 1206  | -    | 1500                     | 11    | 0  | 1511  | -    | 2788  |
| <b>% Lights</b>                       | 100%                   | 100%  | 0% | 100%  | -    | 0%                       | 99.3% | 0% | 99.3% | -    | 99.3%                    | 100%  | 0% | 99.3% | -    | 99.4% |
| <b>Articulated Trucks</b>             | 0                      | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0     |
| <b>% Articulated Trucks</b>           | 0%                     | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 0                      | 0     | 0  | 0     | -    | 0                        | 8     | 0  | 8     | -    | 10                       | 0     | 0  | 10    | -    | 18    |
| <b>% Buses and Single-Unit Trucks</b> | 0%                     | 0%    | 0% | 0%    | -    | 0%                       | 0.7%  | 0% | 0.7%  | -    | 0.7%                     | 0%    | 0% | 0.7%  | -    | 0.6%  |
| <b>Bicycles on Road</b>               | 0                      | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%                     | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%    |
| Pedestrians                           | -                      | -     | -  | -     | 10   | -                        | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -     |
| % Pedestrians                         | -                      | -     | -  | -     | 100% | -                        | -     | -  | -     | -    | -                        | -     | -  | -     | -    | -     |
| Bicycles on Crosswalk                 | -                      | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -     |
| % Bicycles on Crosswalk               | -                      | -     | -  | -     | 0%   | -                        | -     | -  | -     | -    | -                        | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

### 3\_Washington Street & Pam Davis Drive - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM) - Overall Peak Hour

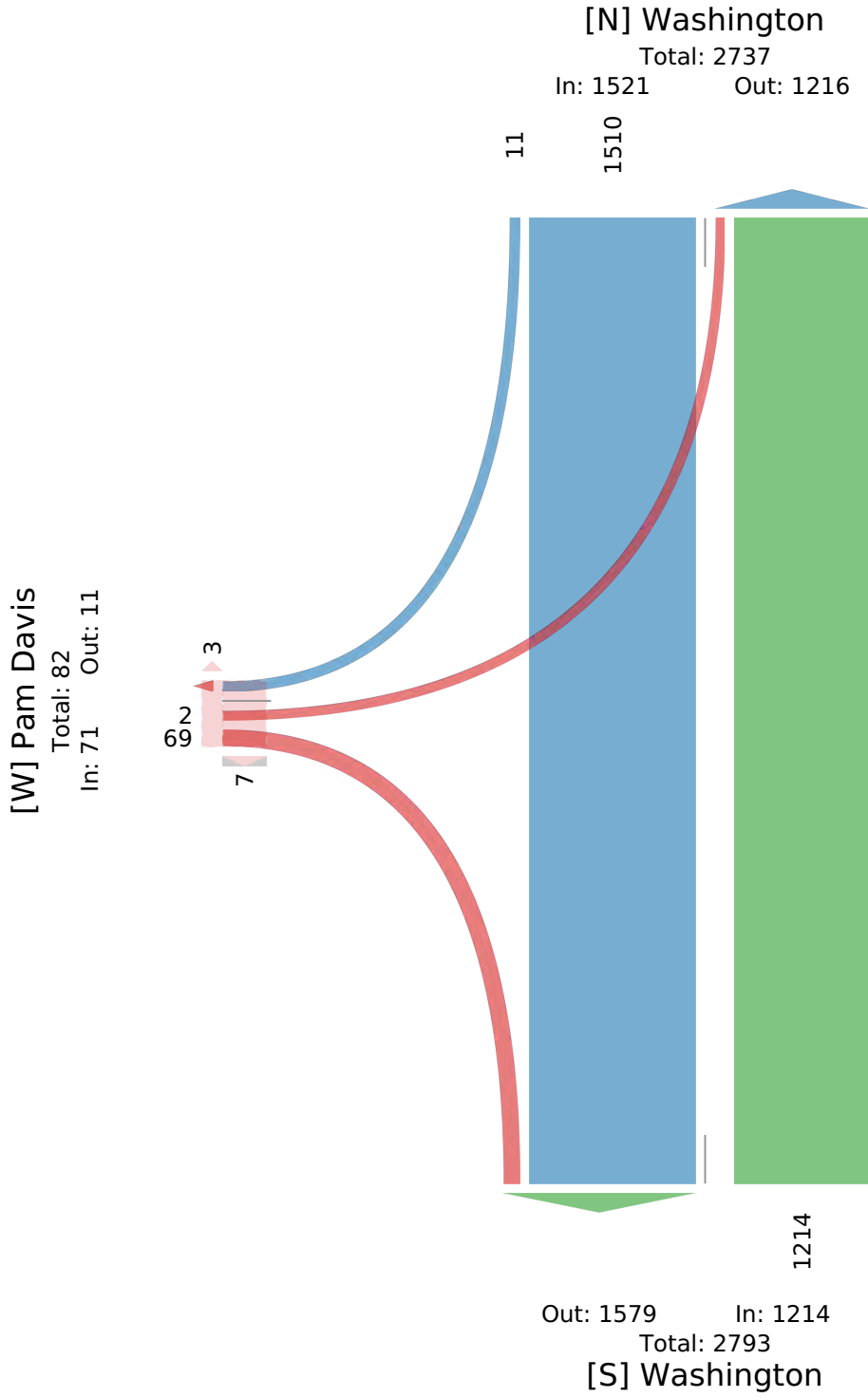
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929947, Location: 41.762202, -88.149212



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



#### 4\_Washington Street & Osler Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929948, Location: 41.760485, -88.148755



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Osler<br>Eastbound |       |    |       |      | Washington<br>Northbound |       |    |       |      | Washington<br>Southbound |       |    |       |      | Int   |
|---------------------------------------|--------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|--------------------------|-------|----|-------|------|-------|
|                                       | L                  | R     | U  | App   | Ped* | L                        | T     | U  | App   | Ped* | T                        | R     | U  | App   | Ped* |       |
| Time                                  |                    |       |    |       |      |                          |       |    |       |      |                          |       |    |       |      |       |
| 2022-03-17 7:15AM                     | 3                  | 15    | 0  | 18    | 2    | 47                       | 529   | 0  | 576   | 0    | 195                      | 21    | 0  | 216   | 0    | 810   |
| 7:30AM                                | 7                  | 29    | 0  | 36    | 0    | 40                       | 485   | 0  | 525   | 0    | 296                      | 16    | 0  | 312   | 0    | 873   |
| 7:45AM                                | 7                  | 24    | 0  | 31    | 0    | 65                       | 301   | 0  | 366   | 0    | 294                      | 25    | 0  | 319   | 0    | 716   |
| 8:00AM                                | 11                 | 13    | 0  | 24    | 1    | 36                       | 298   | 0  | 334   | 0    | 227                      | 11    | 0  | 238   | 0    | 596   |
| <b>Total</b>                          | 28                 | 81    | 0  | 109   | 3    | 188                      | 1613  | 0  | 1801  | 0    | 1012                     | 73    | 0  | 1085  | 0    | 2995  |
| <b>% Approach</b>                     | 25.7%              | 74.3% | 0% | -     | -    | 10.4%                    | 89.6% | 0% | -     | -    | 93.3%                    | 6.7%  | 0% | -     | -    | -     |
| <b>% Total</b>                        | 0.9%               | 2.7%  | 0% | 3.6%  | -    | 6.3%                     | 53.9% | 0% | 60.1% | -    | 33.8%                    | 2.4%  | 0% | 36.2% | -    | -     |
| <b>PHF</b>                            | 0.636              | 0.698 | -  | 0.757 | -    | 0.723                    | 0.762 | -  | 0.782 | -    | 0.855                    | 0.730 | -  | 0.850 | -    | 0.858 |
| <b>Lights</b>                         | 24                 | 79    | 0  | 103   | -    | 186                      | 1573  | 0  | 1759  | -    | 984                      | 67    | 0  | 1051  | -    | 2913  |
| <b>% Lights</b>                       | 85.7%              | 97.5% | 0% | 94.5% | -    | 98.9%                    | 97.5% | 0% | 97.7% | -    | 97.2%                    | 91.8% | 0% | 96.9% | -    | 97.3% |
| <b>Articulated Trucks</b>             | 0                  | 0     | 0  | 0     | -    | 1                        | 5     | 0  | 6     | -    | 4                        | 1     | 0  | 5     | -    | 11    |
| <b>% Articulated Trucks</b>           | 0%                 | 0%    | 0% | 0%    | -    | 0.5%                     | 0.3%  | 0% | 0.3%  | -    | 0.4%                     | 1.4%  | 0% | 0.5%  | -    | 0.4%  |
| <b>Buses and Single-Unit Trucks</b>   | 4                  | 2     | 0  | 6     | -    | 1                        | 35    | 0  | 36    | -    | 24                       | 5     | 0  | 29    | -    | 71    |
| <b>% Buses and Single-Unit Trucks</b> | 14.3%              | 2.5%  | 0% | 5.5%  | -    | 0.5%                     | 2.2%  | 0% | 2.0%  | -    | 2.4%                     | 6.8%  | 0% | 2.7%  | -    | 2.4%  |
| <b>Bicycles on Road</b>               | 0                  | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0                        | 0     | 0  | 0     | -    | 0     |
| <b>% Bicycles on Road</b>             | 0%                 | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%                       | 0%    | 0% | 0%    | -    | 0%    |
| <b>Pedestrians</b>                    | -                  | -     | -  | -     | 3    | -                        | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -     |
| <b>% Pedestrians</b>                  | -                  | -     | -  | -     | 100% | -                        | -     | -  | -     | -    | -                        | -     | -  | -     | -    | -     |
| <b>Bicycles on Crosswalk</b>          | -                  | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -                        | -     | -  | -     | 0    | -     |
| <b>% Bicycles on Crosswalk</b>        | -                  | -     | -  | -     | 0%   | -                        | -     | -  | -     | -    | -                        | -     | -  | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# 4\_Washington Street & Osler Drive - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

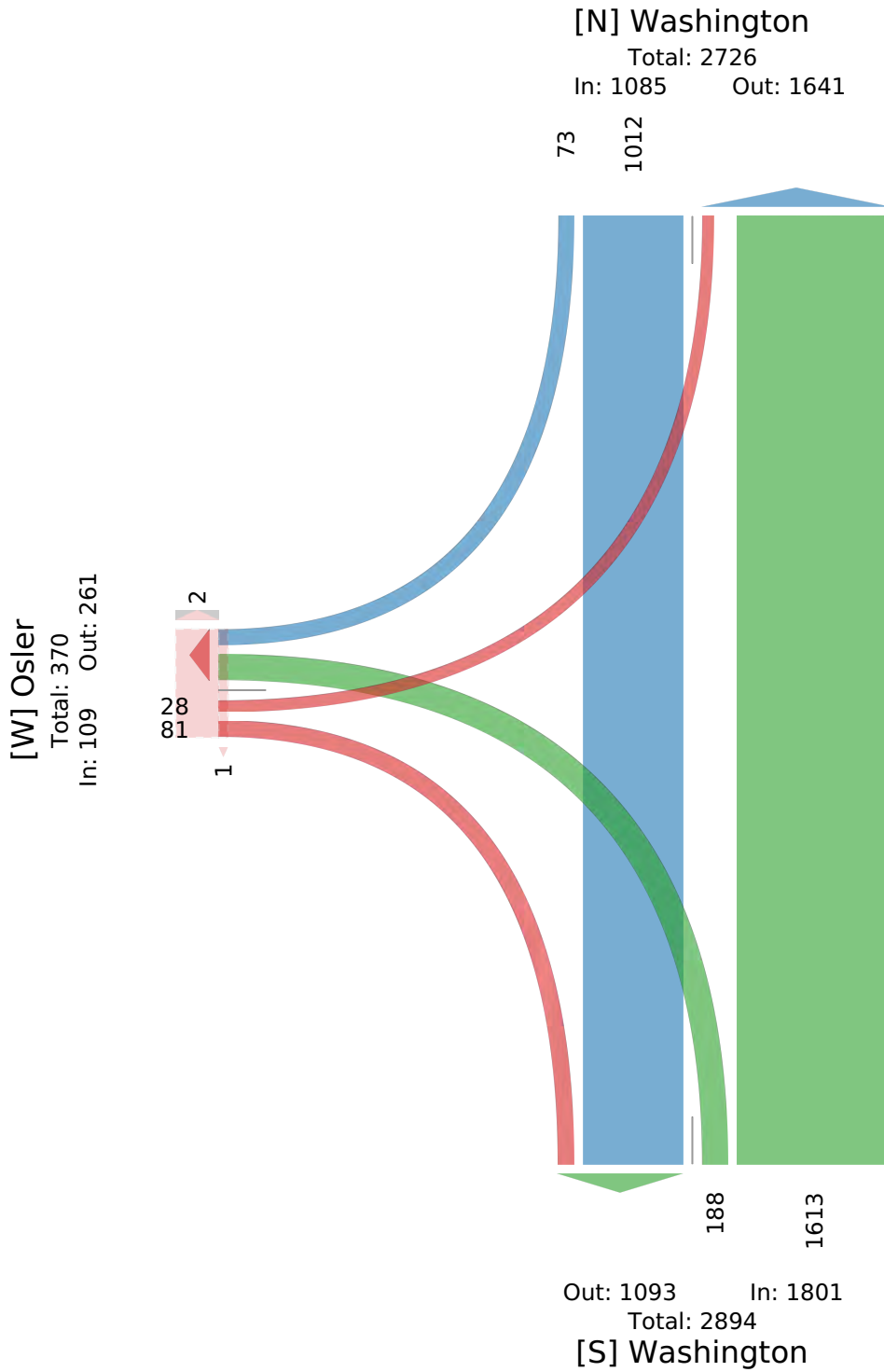
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929948, Location: 41.760485, -88.148755



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



4\_Washington Street & Osler Drive - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929948, Location: 41.760485, -88.148755



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg Direction                         | Osler Eastbound |       |    |       |      | Washington Northbound |       |    |       |      | Washington Southbound |       |       |       |      |       |
|---------------------------------------|-----------------|-------|----|-------|------|-----------------------|-------|----|-------|------|-----------------------|-------|-------|-------|------|-------|
| Time                                  | L               | R     | U  | App   | Ped* | L                     | T     | U  | App   | Ped* | T                     | R     | U     | App   | Ped* | Int   |
| 2022-03-17 5:00PM                     | 15              | 28    | 0  | 43    | 0    | 9                     | 281   | 0  | 290   | 2    | 407                   | 6     | 0     | 413   | 0    | 746   |
| 5:15PM                                | 11              | 20    | 0  | 31    | 0    | 11                    | 269   | 0  | 280   | 0    | 410                   | 5     | 1     | 416   | 0    | 727   |
| 5:30PM                                | 14              | 23    | 0  | 37    | 3    | 11                    | 303   | 0  | 314   | 0    | 323                   | 7     | 0     | 330   | 0    | 681   |
| 5:45PM                                | 11              | 19    | 0  | 30    | 5    | 13                    | 305   | 0  | 318   | 0    | 375                   | 11    | 0     | 386   | 0    | 734   |
| <b>Total</b>                          | 51              | 90    | 0  | 141   | 8    | 44                    | 1158  | 0  | 1202  | 2    | 1515                  | 29    | 1     | 1545  | 0    | 2888  |
| <b>% Approach</b>                     | 36.2%           | 63.8% | 0% | -     | -    | 3.7%                  | 96.3% | 0% | -     | -    | 98.1%                 | 1.9%  | 0.1%  | -     | -    | -     |
| <b>% Total</b>                        | 1.8%            | 3.1%  | 0% | 4.9%  | -    | 1.5%                  | 40.1% | 0% | 41.6% | -    | 52.5%                 | 1.0%  | 0%    | 53.5% | -    | -     |
| <b>PHF</b>                            | 0.850           | 0.846 | -  | 0.848 | -    | 0.846                 | 0.948 | -  | 0.943 | -    | 0.924                 | 0.659 | 0.250 | 0.928 | -    | 0.972 |
| <b>Lights</b>                         | 47              | 87    | 0  | 134   | -    | 42                    | 1152  | 0  | 1194  | -    | 1509                  | 25    | 1     | 1535  | -    | 2863  |
| <b>% Lights</b>                       | 92.2%           | 96.7% | 0% | 95.0% | -    | 95.5%                 | 99.5% | 0% | 99.3% | -    | 99.6%                 | 86.2% | 100%  | 99.4% | -    | 99.1% |
| <b>Articulated Trucks</b>             | 0               | 0     | 0  | 0     | -    | 1                     | 0     | 0  | 1     | -    | 0                     | 0     | 0     | 0     | -    | 1     |
| <b>% Articulated Trucks</b>           | 0%              | 0%    | 0% | 0%    | -    | 2.3%                  | 0%    | 0% | 0.1%  | -    | 0%                    | 0%    | 0%    | 0%    | -    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 4               | 1     | 0  | 5     | -    | 1                     | 4     | 0  | 5     | -    | 6                     | 4     | 0     | 10    | -    | 20    |
| <b>% Buses and Single-Unit Trucks</b> | 7.8%            | 1.1%  | 0% | 3.5%  | -    | 2.3%                  | 0.3%  | 0% | 0.4%  | -    | 0.4%                  | 13.8% | 0%    | 0.6%  | -    | 0.7%  |
| <b>Bicycles on Road</b>               | 0               | 2     | 0  | 2     | -    | 0                     | 2     | 0  | 2     | -    | 0                     | 0     | 0     | 0     | -    | 4     |
| <b>% Bicycles on Road</b>             | 0%              | 2.2%  | 0% | 1.4%  | -    | 0%                    | 0.2%  | 0% | 0.2%  | -    | 0%                    | 0%    | 0%    | 0%    | -    | 0.1%  |
| <b>Pedestrians</b>                    | -               | -     | -  | -     | 8    | -                     | -     | -  | -     | 0    | -                     | -     | -     | -     | 0    | -     |
| <b>% Pedestrians</b>                  | -               | -     | -  | -     | 100% | -                     | -     | -  | -     | 0%   | -                     | -     | -     | -     | -    | -     |
| <b>Bicycles on Crosswalk</b>          | -               | -     | -  | -     | 0    | -                     | -     | -  | -     | 2    | -                     | -     | -     | -     | 0    | -     |
| <b>% Bicycles on Crosswalk</b>        | -               | -     | -  | -     | 0%   | -                     | -     | -  | -     | 100% | -                     | -     | -     | -     | -    | -     |

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# 4\_Washington Street & Osler Drive - TMC

Thu Mar 17, 2022

PM Peak (5 PM - 6 PM)

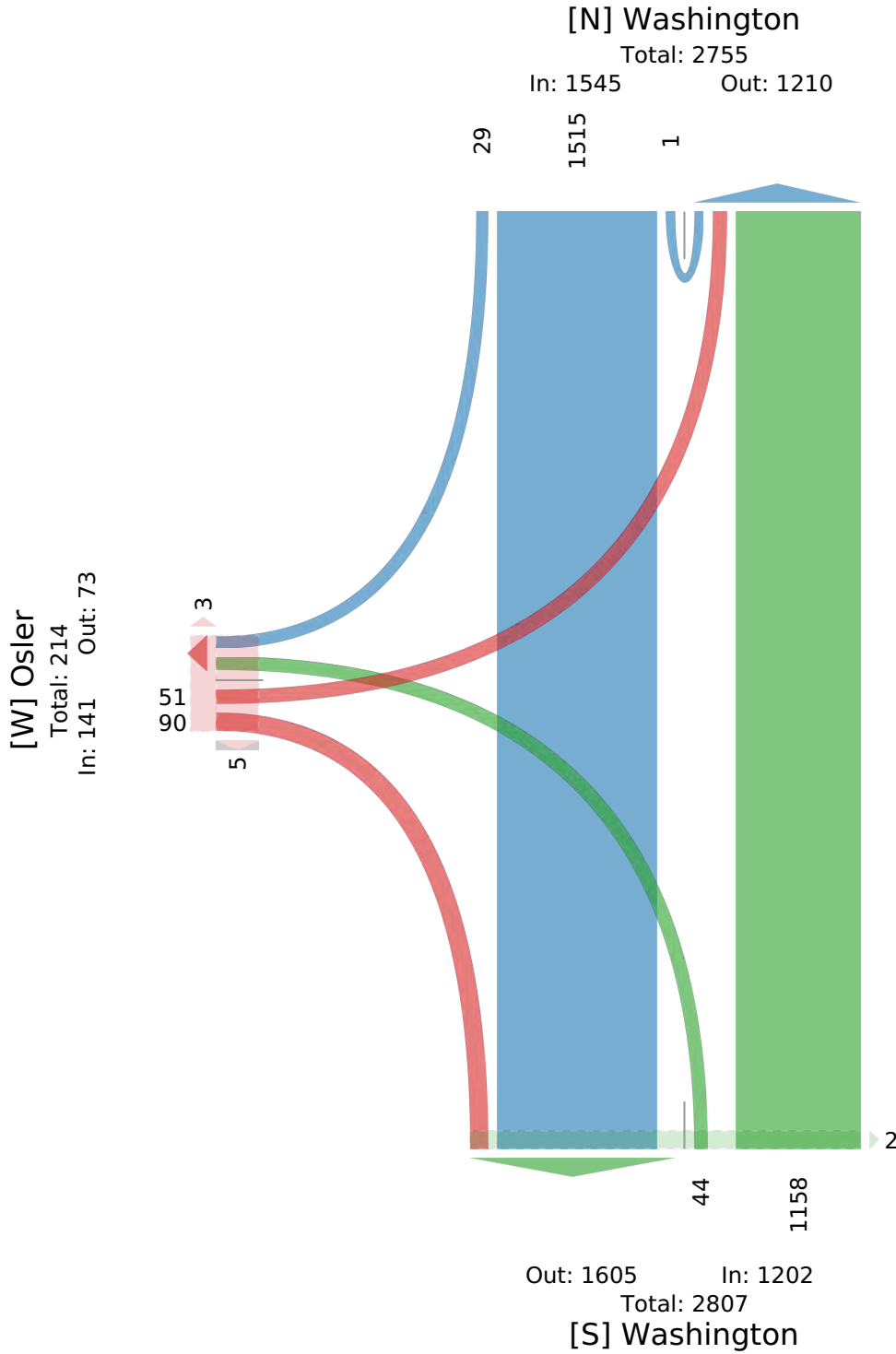
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 929948, Location: 41.760485, -88.148755



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



5\_Martin Avenue & Driveway 1 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929941, Location: 41.763038, -88.151045



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |    |    |       | Martin<br>Westbound |       |    |       | Access<br>Northbound |    |    |     | Int   |
|---------------------------------------|---------------------|----|----|-------|---------------------|-------|----|-------|----------------------|----|----|-----|-------|
|                                       | T                   | R  | U  | App   | L                   | T     | U  | App   | L                    | R  | U  | App |       |
| 2022-03-17 7:15AM                     | 65                  | 0  | 0  | 65    | 0                   | 84    | 0  | 84    | 0                    | 0  | 0  | 0   | 149   |
| 7:30AM                                | 91                  | 0  | 0  | 91    | 0                   | 109   | 0  | 109   | 0                    | 0  | 0  | 0   | 200   |
| 7:45AM                                | 89                  | 0  | 0  | 89    | 0                   | 81    | 0  | 81    | 0                    | 0  | 0  | 0   | 170   |
| 8:00AM                                | 89                  | 0  | 0  | 89    | 0                   | 60    | 0  | 60    | 0                    | 0  | 0  | 0   | 149   |
| <b>Total</b>                          | 334                 | 0  | 0  | 334   | 0                   | 334   | 0  | 334   | 0                    | 0  | 0  | 0   | 668   |
| <b>% Approach</b>                     | 100%                | 0% | 0% | -     | 0%                  | 100%  | 0% | -     | 0%                   | 0% | 0% | -   | -     |
| <b>% Total</b>                        | 50.0%               | 0% | 0% | 50.0% | 0%                  | 50.0% | 0% | 50.0% | 0%                   | 0% | 0% | 0%  | -     |
| <b>PHF</b>                            | 0.918               | -  | -  | 0.918 | -                   | 0.766 | -  | 0.766 | -                    | -  | -  | -   | 0.835 |
| <b>Lights</b>                         | 327                 | 0  | 0  | 327   | 0                   | 331   | 0  | 331   | 0                    | 0  | 0  | 0   | 658   |
| <b>% Lights</b>                       | 97.9%               | 0% | 0% | 97.9% | 0%                  | 99.1% | 0% | 99.1% | 0%                   | 0% | 0% | -   | 98.5% |
| <b>Articulated Trucks</b>             | 0                   | 0  | 0  | 0     | 0                   | 1     | 0  | 1     | 0                    | 0  | 0  | 0   | 1     |
| <b>% Articulated Trucks</b>           | 0%                  | 0% | 0% | 0%    | 0%                  | 0.3%  | 0% | 0.3%  | 0%                   | 0% | 0% | -   | 0.1%  |
| <b>Buses and Single-Unit Trucks</b>   | 7                   | 0  | 0  | 7     | 0                   | 2     | 0  | 2     | 0                    | 0  | 0  | 0   | 9     |
| <b>% Buses and Single-Unit Trucks</b> | 2.1%                | 0% | 0% | 2.1%  | 0%                  | 0.6%  | 0% | 0.6%  | 0%                   | 0% | 0% | -   | 1.3%  |
| <b>Bicycles on Road</b>               | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0  | 0  | 0   | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0% | 0% | -   | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn



5\_Martin Avenue & Driveway 1 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,  
Bicycles on Road)

All Movements

ID: 929941, Location: 41.763038, -88.151045



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



5\_Martin Avenue & Driveway 1 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929941, Location: 41.763038, -88.151045



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |    |    |       | Martin<br>Westbound |       |    |       | Access<br>Northbound |    |    |     | Int   |
|---------------------------------------|---------------------|----|----|-------|---------------------|-------|----|-------|----------------------|----|----|-----|-------|
|                                       | T                   | R  | U  | App   | L                   | T     | U  | App   | L                    | R  | U  | App |       |
| 2022-03-17 5:00PM                     | 90                  | 0  | 0  | 90    | 0                   | 68    | 0  | 68    | 0                    | 0  | 0  | 0   | 158   |
| 5:15PM                                | 115                 | 0  | 0  | 115   | 0                   | 50    | 0  | 50    | 0                    | 0  | 0  | 0   | 165   |
| 5:30PM                                | 86                  | 0  | 0  | 86    | 0                   | 78    | 0  | 78    | 0                    | 0  | 0  | 0   | 164   |
| 5:45PM                                | 79                  | 0  | 0  | 79    | 0                   | 82    | 0  | 82    | 0                    | 0  | 0  | 0   | 161   |
| <b>Total</b>                          | 370                 | 0  | 0  | 370   | 0                   | 278   | 0  | 278   | 0                    | 0  | 0  | 0   | 648   |
| <b>% Approach</b>                     | 100%                | 0% | 0% | -     | 0%                  | 100%  | 0% | -     | 0%                   | 0% | 0% | -   | -     |
| <b>% Total</b>                        | 57.1%               | 0% | 0% | 57.1% | 0%                  | 42.9% | 0% | 42.9% | 0%                   | 0% | 0% | 0%  | -     |
| <b>PHF</b>                            | 0.804               | -  | -  | 0.804 | -                   | 0.855 | -  | 0.855 | -                    | -  | -  | -   | 0.980 |
| <b>Lights</b>                         | 368                 | 0  | 0  | 368   | 0                   | 275   | 0  | 275   | 0                    | 0  | 0  | 0   | 643   |
| <b>% Lights</b>                       | 99.5%               | 0% | 0% | 99.5% | 0%                  | 98.9% | 0% | 98.9% | 0%                   | 0% | 0% | -   | 99.2% |
| <b>Articulated Trucks</b>             | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0  | 0  | 0   | 0     |
| <b>% Articulated Trucks</b>           | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0% | 0% | -   | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 2                   | 0  | 0  | 2     | 0                   | 2     | 0  | 2     | 0                    | 0  | 0  | 0   | 4     |
| <b>% Buses and Single-Unit Trucks</b> | 0.5%                | 0% | 0% | 0.5%  | 0%                  | 0.7%  | 0% | 0.7%  | 0%                   | 0% | 0% | -   | 0.6%  |
| <b>Bicycles on Road</b>               | 0                   | 0  | 0  | 0     | 0                   | 1     | 0  | 1     | 0                    | 0  | 0  | 0   | 1     |
| <b>% Bicycles on Road</b>             | 0%                  | 0% | 0% | 0%    | 0%                  | 0.4%  | 0% | 0.4%  | 0%                   | 0% | 0% | -   | 0.2%  |

\*L: Left, R: Right, T: Thru, U: U-Turn

5\_Martin Avenue & Driveway 1 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks,  
Bicycles on Road)

All Movements

ID: 929941, Location: 41.763038, -88.151045



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



6\_Martin Avenue & Driveway 2 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929942, Location: 41.763043, -88.15082



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |       |    |       | Martin<br>Westbound |       |    |       | Access<br>Northbound |    |    |     | Int   |
|---------------------------------------|---------------------|-------|----|-------|---------------------|-------|----|-------|----------------------|----|----|-----|-------|
|                                       | T                   | R     | U  | App   | L                   | T     | U  | App   | L                    | R  | U  | App |       |
| Time                                  |                     |       |    |       |                     |       |    |       |                      |    |    |     |       |
| 2022-03-17 7:15AM                     | 62                  | 3     | 0  | 65    | 0                   | 83    | 0  | 83    | 0                    | 0  | 0  | 0   | 148   |
| 7:30AM                                | 91                  | 0     | 0  | 91    | 0                   | 110   | 0  | 110   | 0                    | 0  | 0  | 0   | 201   |
| 7:45AM                                | 87                  | 1     | 0  | 88    | 0                   | 81    | 0  | 81    | 0                    | 0  | 0  | 0   | 169   |
| 8:00AM                                | 89                  | 1     | 0  | 90    | 3                   | 60    | 0  | 63    | 0                    | 0  | 0  | 0   | 153   |
| <b>Total</b>                          | 329                 | 5     | 0  | 334   | 3                   | 334   | 0  | 337   | 0                    | 0  | 0  | 0   | 671   |
| <b>% Approach</b>                     | 98.5%               | 1.5%  | 0% | -     | 0.9%                | 99.1% | 0% | -     | 0%                   | 0% | 0% | -   | -     |
| <b>% Total</b>                        | 49.0%               | 0.7%  | 0% | 49.8% | 0.4%                | 49.8% | 0% | 50.2% | 0%                   | 0% | 0% | 0%  | -     |
| <b>PHF</b>                            | 0.904               | 0.417 | -  | 0.918 | 0.250               | 0.759 | -  | 0.766 | -                    | -  | -  | -   | 0.835 |
| <b>Lights</b>                         | 321                 | 5     | 0  | 326   | 3                   | 331   | 0  | 334   | 0                    | 0  | 0  | 0   | 660   |
| <b>% Lights</b>                       | 97.6%               | 100%  | 0% | 97.6% | 100%                | 99.1% | 0% | 99.1% | 0%                   | 0% | 0% | -   | 98.4% |
| <b>Articulated Trucks</b>             | 1                   | 0     | 0  | 1     | 0                   | 1     | 0  | 1     | 0                    | 0  | 0  | 0   | 2     |
| <b>% Articulated Trucks</b>           | 0.3%                | 0%    | 0% | 0.3%  | 0%                  | 0.3%  | 0% | 0.3%  | 0%                   | 0% | 0% | -   | 0.3%  |
| <b>Buses and Single-Unit Trucks</b>   | 7                   | 0     | 0  | 7     | 0                   | 2     | 0  | 2     | 0                    | 0  | 0  | 0   | 9     |
| <b>% Buses and Single-Unit Trucks</b> | 2.1%                | 0%    | 0% | 2.1%  | 0%                  | 0.6%  | 0% | 0.6%  | 0%                   | 0% | 0% | -   | 1.3%  |
| <b>Bicycles on Road</b>               | 0                   | 0     | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0  | 0  | 0   | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0%    | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0% | 0% | -   | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn

6\_Martin Avenue & Driveway 2 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

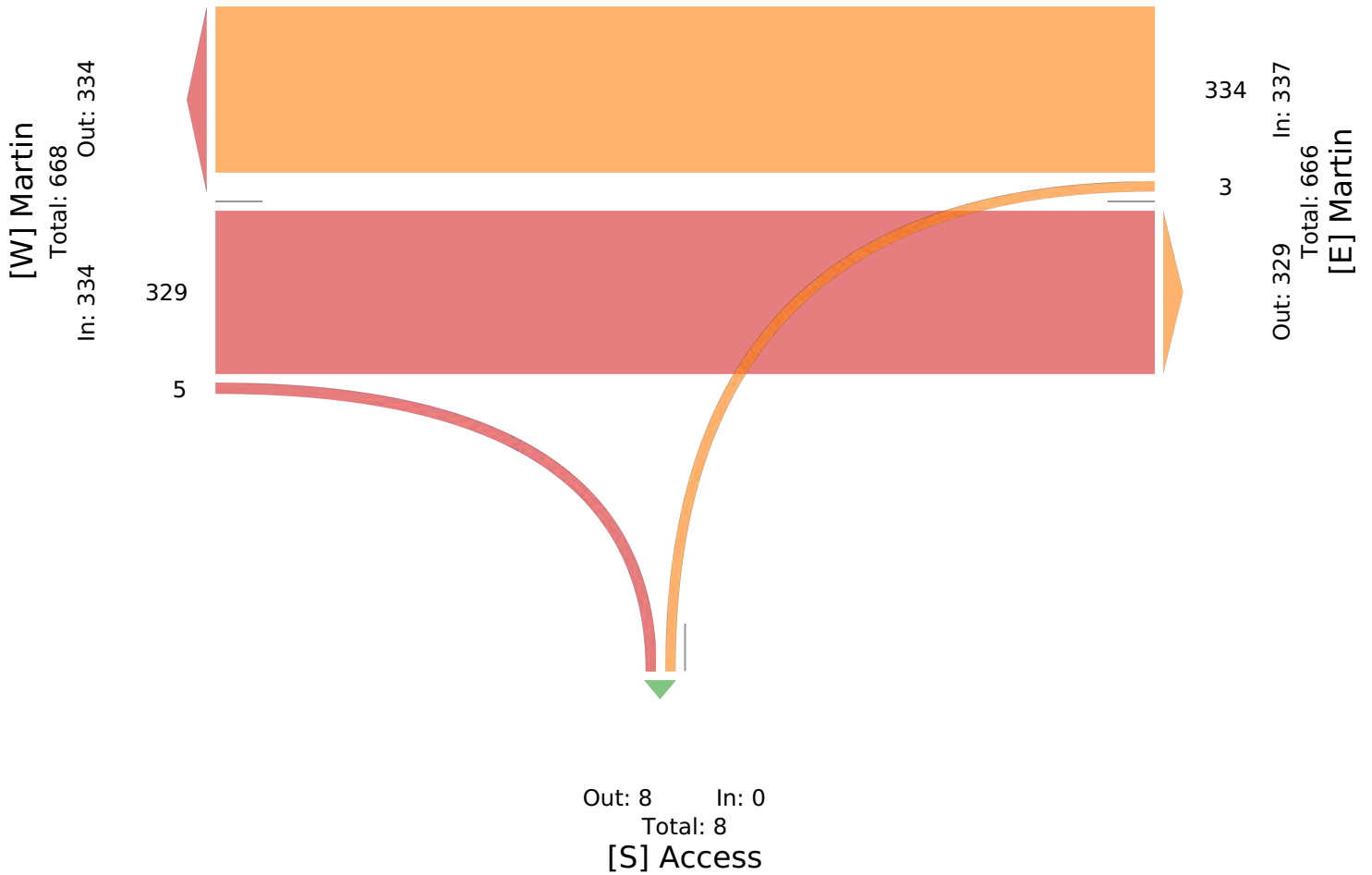
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929942, Location: 41.763043, -88.15082



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



6\_Martin Avenue & Driveway 2 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929942, Location: 41.763043, -88.15082



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Martin<br>Eastbound |    |    |       | Martin<br>Westbound |       |    |       | Access<br>Northbound |       |    |       | Int   |
|---------------------------------------|---------------------|----|----|-------|---------------------|-------|----|-------|----------------------|-------|----|-------|-------|
|                                       | T                   | R  | U  | App   | L                   | T     | U  | App   | L                    | R     | U  | App   |       |
| 2022-03-17 5:00PM                     | 91                  | 0  | 0  | 91    | 0                   | 67    | 0  | 67    | 2                    | 0     | 0  | 2     | 160   |
| 5:15PM                                | 114                 | 0  | 0  | 114   | 0                   | 49    | 0  | 49    | 1                    | 0     | 0  | 1     | 164   |
| 5:30PM                                | 87                  | 0  | 0  | 87    | 0                   | 73    | 0  | 73    | 5                    | 1     | 0  | 6     | 166   |
| 5:45PM                                | 78                  | 0  | 0  | 78    | 0                   | 82    | 0  | 82    | 0                    | 0     | 0  | 0     | 160   |
| <b>Total</b>                          | 370                 | 0  | 0  | 370   | 0                   | 271   | 0  | 271   | 8                    | 1     | 0  | 9     | 650   |
| <b>% Approach</b>                     | 100%                | 0% | 0% | -     | 0%                  | 100%  | 0% | -     | 88.9%                | 11.1% | 0% | -     | -     |
| <b>% Total</b>                        | 56.9%               | 0% | 0% | 56.9% | 0%                  | 41.7% | 0% | 41.7% | 1.2%                 | 0.2%  | 0% | 1.4%  | -     |
| <b>PHF</b>                            | 0.811               | -  | -  | 0.811 | -                   | 0.833 | -  | 0.833 | 0.400                | 0.250 | -  | 0.375 | 0.977 |
| <b>Lights</b>                         | 368                 | 0  | 0  | 368   | 0                   | 268   | 0  | 268   | 8                    | 1     | 0  | 9     | 645   |
| <b>% Lights</b>                       | 99.5%               | 0% | 0% | 99.5% | 0%                  | 98.9% | 0% | 98.9% | 100%                 | 100%  | 0% | 100%  | 99.2% |
| <b>Articulated Trucks</b>             | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0     | 0  | 0     | 0     |
| <b>% Articulated Trucks</b>           | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0%    | 0% | 0%    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 2                   | 0  | 0  | 2     | 0                   | 2     | 0  | 2     | 0                    | 0     | 0  | 0     | 4     |
| <b>% Buses and Single-Unit Trucks</b> | 0.5%                | 0% | 0% | 0.5%  | 0%                  | 0.7%  | 0% | 0.7%  | 0%                   | 0%    | 0% | 0%    | 0.6%  |
| <b>Bicycles on Road</b>               | 0                   | 0  | 0  | 0     | 0                   | 1     | 0  | 1     | 0                    | 0     | 0  | 0     | 1     |
| <b>% Bicycles on Road</b>             | 0%                  | 0% | 0% | 0%    | 0%                  | 0.4%  | 0% | 0.4%  | 0%                   | 0%    | 0% | 0%    | 0.2%  |

\*L: Left, R: Right, T: Thru, U: U-Turn

6\_Martin Avenue & Driveway 2 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

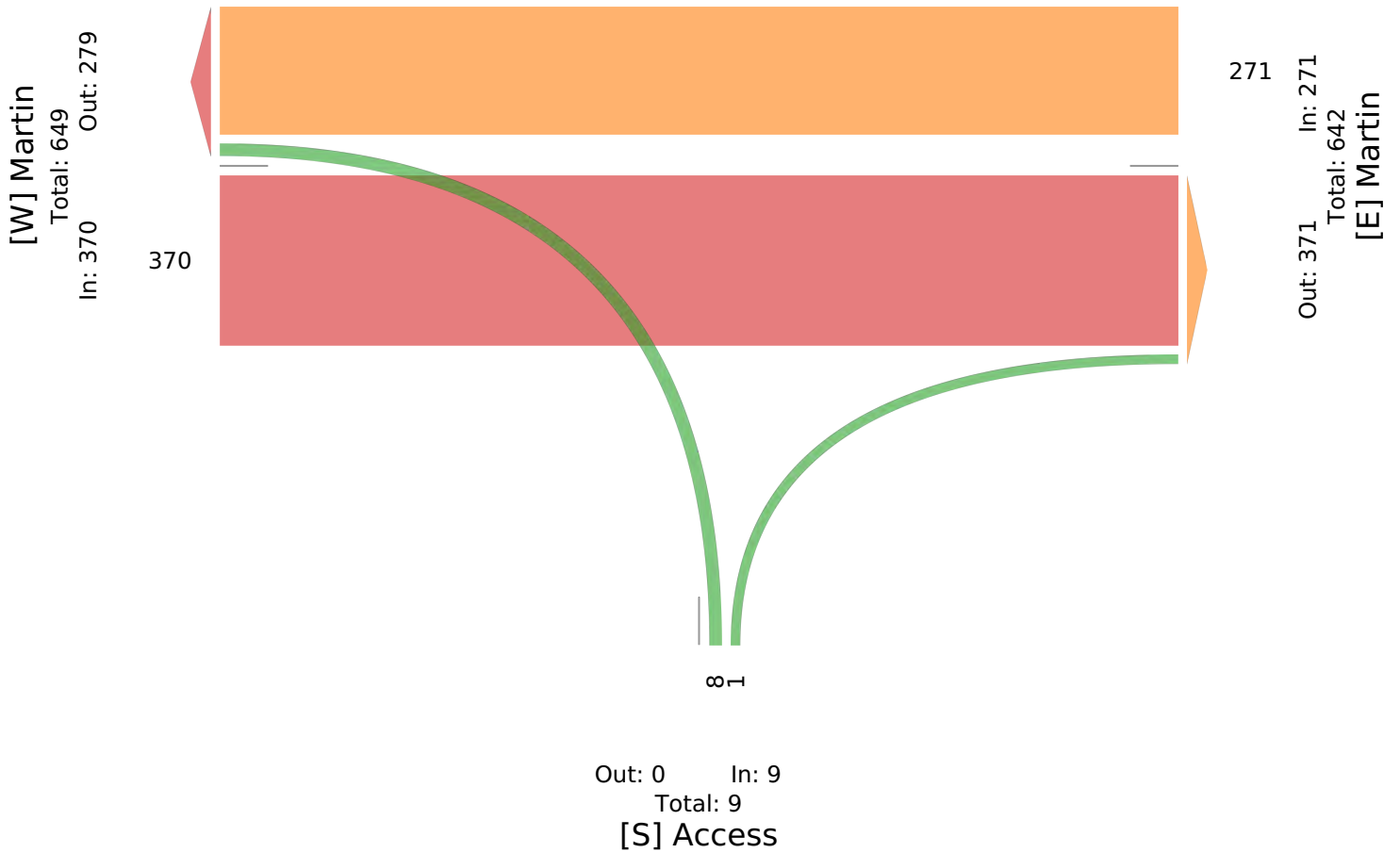
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929942, Location: 41.763043, -88.15082



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



7\_Martin Avenue & Driveway 3 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929943, Location: 41.763039, -88.150626



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg Direction                         | Martin Eastbound |       |    |       | Martin Westbound |       |    |       | Access Northbound |       |    |       |       |
|---------------------------------------|------------------|-------|----|-------|------------------|-------|----|-------|-------------------|-------|----|-------|-------|
| Time                                  | T                | R     | U  | App   | L                | T     | U  | App   | L                 | R     | U  | App   | Int   |
| 2022-03-17 7:15AM                     | 56               | 6     | 0  | 62    | 3                | 83    | 0  | 86    | 0                 | 0     | 0  | 0     | 148   |
| 7:30AM                                | 90               | 1     | 0  | 91    | 0                | 108   | 0  | 108   | 1                 | 0     | 0  | 1     | 200   |
| 7:45AM                                | 84               | 3     | 0  | 87    | 7                | 81    | 0  | 88    | 1                 | 1     | 0  | 2     | 177   |
| 8:00AM                                | 86               | 2     | 0  | 88    | 7                | 62    | 0  | 69    | 0                 | 0     | 0  | 0     | 157   |
| <b>Total</b>                          | 316              | 12    | 0  | 328   | 17               | 334   | 0  | 351   | 2                 | 1     | 0  | 3     | 682   |
| <b>% Approach</b>                     | 96.3%            | 3.7%  | 0% | -     | 4.8%             | 95.2% | 0% | -     | 66.7%             | 33.3% | 0% | -     | -     |
| <b>% Total</b>                        | 46.3%            | 1.8%  | 0% | 48.1% | 2.5%             | 49.0% | 0% | 51.5% | 0.3%              | 0.1%  | 0% | 0.4%  | -     |
| <b>PHF</b>                            | 0.878            | 0.500 | -  | 0.901 | 0.607            | 0.773 | -  | 0.813 | 0.500             | 0.250 | -  | 0.375 | 0.853 |
| <b>Lights</b>                         | 308              | 12    | 0  | 320   | 17               | 331   | 0  | 348   | 2                 | 1     | 0  | 3     | 671   |
| <b>% Lights</b>                       | 97.5%            | 100%  | 0% | 97.6% | 100%             | 99.1% | 0% | 99.1% | 100%              | 100%  | 0% | 100%  | 98.4% |
| <b>Articulated Trucks</b>             | 1                | 0     | 0  | 1     | 0                | 1     | 0  | 1     | 0                 | 0     | 0  | 0     | 2     |
| <b>% Articulated Trucks</b>           | 0.3%             | 0%    | 0% | 0.3%  | 0%               | 0.3%  | 0% | 0.3%  | 0%                | 0%    | 0% | 0%    | 0.3%  |
| <b>Buses and Single-Unit Trucks</b>   | 7                | 0     | 0  | 7     | 0                | 2     | 0  | 2     | 0                 | 0     | 0  | 0     | 9     |
| <b>% Buses and Single-Unit Trucks</b> | 2.2%             | 0%    | 0% | 2.1%  | 0%               | 0.6%  | 0% | 0.6%  | 0%                | 0%    | 0% | 0%    | 1.3%  |
| <b>Bicycles on Road</b>               | 0                | 0     | 0  | 0     | 0                | 0     | 0  | 0     | 0                 | 0     | 0  | 0     | 0     |
| <b>% Bicycles on Road</b>             | 0%               | 0%    | 0% | 0%    | 0%               | 0%    | 0% | 0%    | 0%                | 0%    | 0% | 0%    | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn



7\_Martin Avenue & Driveway 3 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

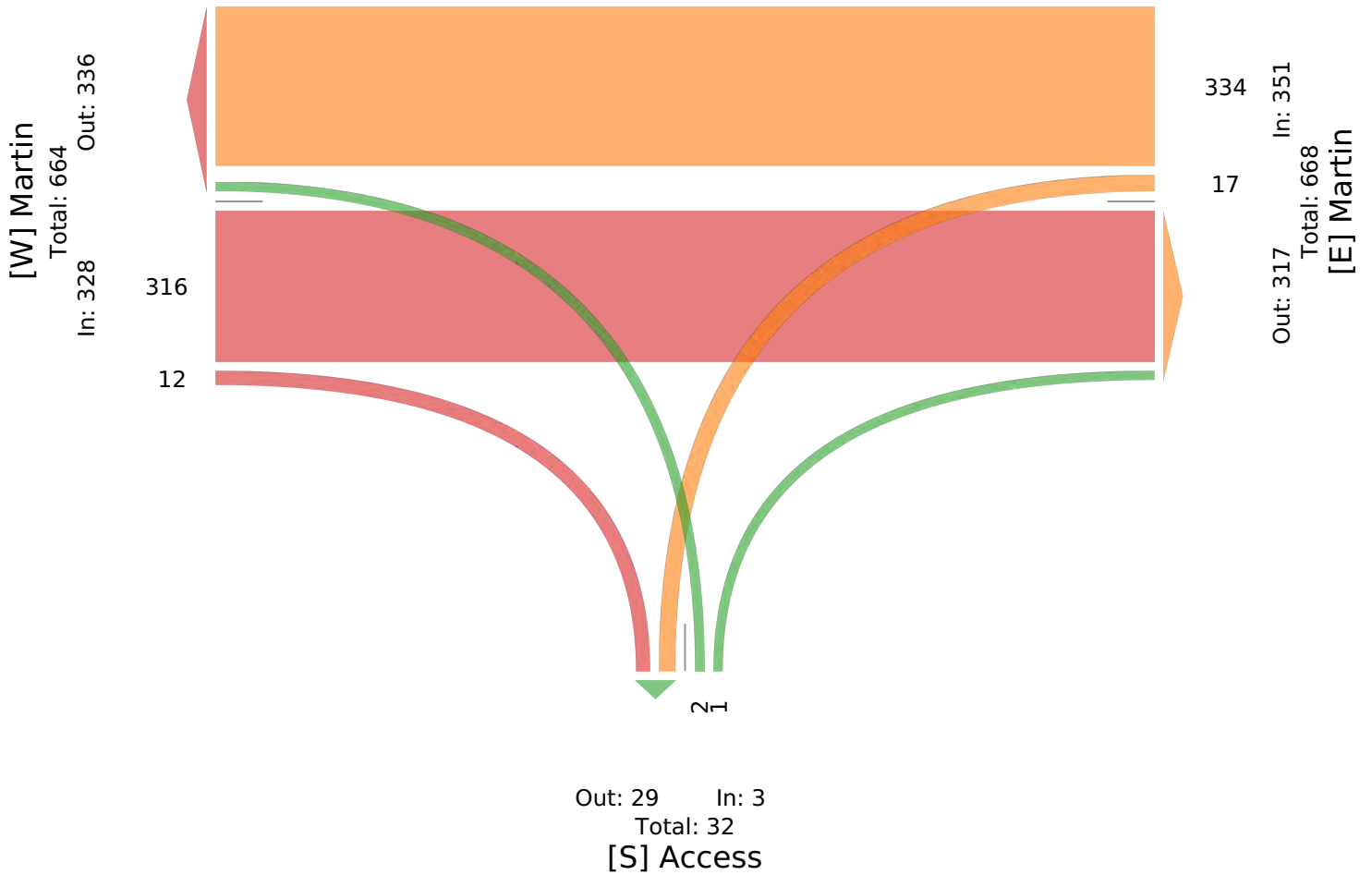
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929943, Location: 41.763039, -88.150626



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



7\_Martin Avenue & Driveway 3 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929943, Location: 41.763039, -88.150626



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg Direction                         | Martin Eastbound |       |    |       | Martin Westbound |       |    |       | Access Northbound |       |    |       |       |
|---------------------------------------|------------------|-------|----|-------|------------------|-------|----|-------|-------------------|-------|----|-------|-------|
| Time                                  | T                | R     | U  | App   | L                | T     | U  | App   | L                 | R     | U  | App   | Int   |
| 2022-03-17 5:00PM                     | 91               | 1     | 0  | 92    | 2                | 67    | 0  | 69    | 1                 | 7     | 0  | 8     | 169   |
| 5:15PM                                | 111              | 2     | 0  | 113   | 1                | 48    | 0  | 49    | 0                 | 9     | 0  | 9     | 171   |
| 5:30PM                                | 86               | 2     | 0  | 88    | 2                | 72    | 0  | 74    | 0                 | 5     | 0  | 5     | 167   |
| 5:45PM                                | 77               | 2     | 0  | 79    | 5                | 77    | 0  | 82    | 3                 | 3     | 0  | 6     | 167   |
| <b>Total</b>                          | 365              | 7     | 0  | 372   | 10               | 264   | 0  | 274   | 4                 | 24    | 0  | 28    | 674   |
| <b>% Approach</b>                     | 98.1%            | 1.9%  | 0% | -     | 3.6%             | 96.4% | 0% | -     | 14.3%             | 85.7% | 0% | -     | -     |
| <b>% Total</b>                        | 54.2%            | 1.0%  | 0% | 55.2% | 1.5%             | 39.2% | 0% | 40.7% | 0.6%              | 3.6%  | 0% | 4.2%  | -     |
| <b>PHF</b>                            | 0.822            | 0.875 | -  | 0.823 | 0.500            | 0.857 | -  | 0.835 | 0.333             | 0.667 | -  | 0.778 | 0.985 |
| <b>Lights</b>                         | 363              | 7     | 0  | 370   | 10               | 262   | 0  | 272   | 4                 | 24    | 0  | 28    | 670   |
| <b>% Lights</b>                       | 99.5%            | 100%  | 0% | 99.5% | 100%             | 99.2% | 0% | 99.3% | 100%              | 100%  | 0% | 100%  | 99.4% |
| <b>Articulated Trucks</b>             | 0                | 0     | 0  | 0     | 0                | 0     | 0  | 0     | 0                 | 0     | 0  | 0     | 0     |
| <b>% Articulated Trucks</b>           | 0%               | 0%    | 0% | 0%    | 0%               | 0%    | 0% | 0%    | 0%                | 0%    | 0% | 0%    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 2                | 0     | 0  | 2     | 0                | 2     | 0  | 2     | 0                 | 0     | 0  | 0     | 4     |
| <b>% Buses and Single-Unit Trucks</b> | 0.5%             | 0%    | 0% | 0.5%  | 0%               | 0.8%  | 0% | 0.7%  | 0%                | 0%    | 0% | 0%    | 0.6%  |
| <b>Bicycles on Road</b>               | 0                | 0     | 0  | 0     | 0                | 0     | 0  | 0     | 0                 | 0     | 0  | 0     | 0     |
| <b>% Bicycles on Road</b>             | 0%               | 0%    | 0% | 0%    | 0%               | 0%    | 0% | 0%    | 0%                | 0%    | 0% | 0%    | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn

7\_Martin Avenue & Driveway 3 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

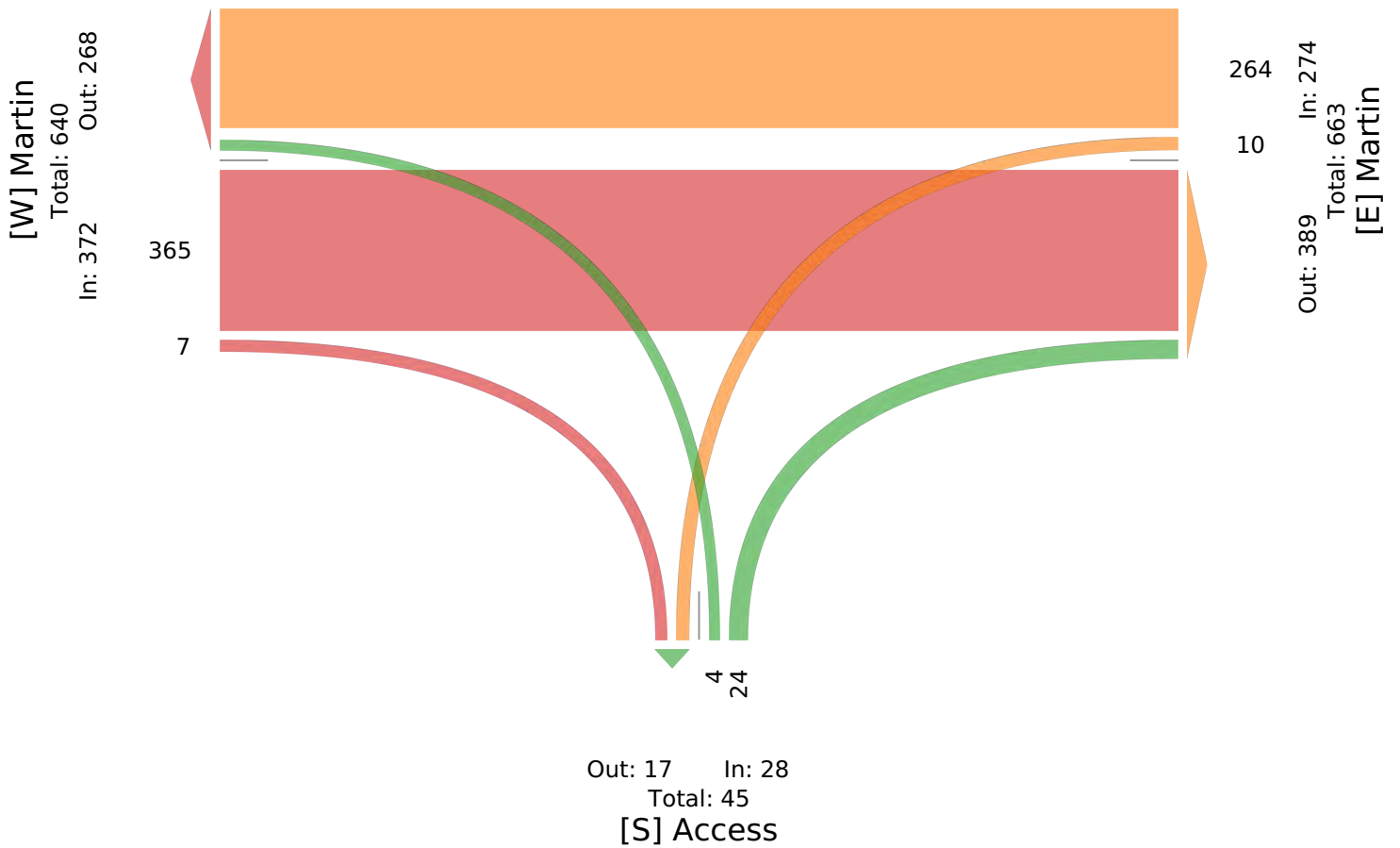
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929943, Location: 41.763039, -88.150626



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



8\_Martin Avenue & Driveway 4 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929944, Location: 41.763067, -88.149598



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Marion<br>Eastbound |    |    |       | Marion<br>Westbound |       |    |       | Access<br>Northbound |       |    |       | Int   |
|---------------------------------------|---------------------|----|----|-------|---------------------|-------|----|-------|----------------------|-------|----|-------|-------|
|                                       | T                   | R  | U  | App   | L                   | T     | U  | App   | L                    | R     | U  | App   |       |
| 2022-03-17 7:15AM                     | 55                  | 0  | 0  | 55    | 0                   | 86    | 0  | 86    | 0                    | 0     | 0  | 0     | 141   |
| 7:30AM                                | 90                  | 0  | 0  | 90    | 0                   | 115   | 0  | 115   | 0                    | 0     | 0  | 0     | 205   |
| 7:45AM                                | 85                  | 0  | 0  | 85    | 0                   | 86    | 0  | 86    | 0                    | 1     | 0  | 1     | 172   |
| 8:00AM                                | 86                  | 0  | 0  | 86    | 0                   | 67    | 0  | 67    | 0                    | 1     | 0  | 1     | 154   |
| <b>Total</b>                          | 316                 | 0  | 0  | 316   | 0                   | 354   | 0  | 354   | 0                    | 2     | 0  | 2     | 672   |
| <b>% Approach</b>                     | 100%                | 0% | 0% | -     | 0%                  | 100%  | 0% | -     | 0%                   | 100%  | 0% | -     | -     |
| <b>% Total</b>                        | 47.0%               | 0% | 0% | 47.0% | 0%                  | 52.7% | 0% | 52.7% | 0%                   | 0.3%  | 0% | 0.3%  | -     |
| <b>PHF</b>                            | 0.878               | -  | -  | 0.878 | -                   | 0.770 | -  | 0.770 | -                    | 0.500 | -  | 0.500 | 0.820 |
| <b>Lights</b>                         | 309                 | 0  | 0  | 309   | 0                   | 351   | 0  | 351   | 0                    | 2     | 0  | 2     | 662   |
| <b>% Lights</b>                       | 97.8%               | 0% | 0% | 97.8% | 0%                  | 99.2% | 0% | 99.2% | 0%                   | 100%  | 0% | 100%  | 98.5% |
| <b>Articulated Trucks</b>             | 0                   | 0  | 0  | 0     | 0                   | 1     | 0  | 1     | 0                    | 0     | 0  | 0     | 1     |
| <b>% Articulated Trucks</b>           | 0%                  | 0% | 0% | 0%    | 0%                  | 0.3%  | 0% | 0.3%  | 0%                   | 0%    | 0% | 0%    | 0.1%  |
| <b>Buses and Single-Unit Trucks</b>   | 7                   | 0  | 0  | 7     | 0                   | 2     | 0  | 2     | 0                    | 0     | 0  | 0     | 9     |
| <b>% Buses and Single-Unit Trucks</b> | 2.2%                | 0% | 0% | 2.2%  | 0%                  | 0.6%  | 0% | 0.6%  | 0%                   | 0%    | 0% | 0%    | 1.3%  |
| <b>Bicycles on Road</b>               | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0     | 0  | 0     | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0%    | 0% | 0%    | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn

8\_Martin Avenue & Driveway 4 - TMC

Thu Mar 17, 2022

AM Peak (7:15 AM - 8:15 AM)

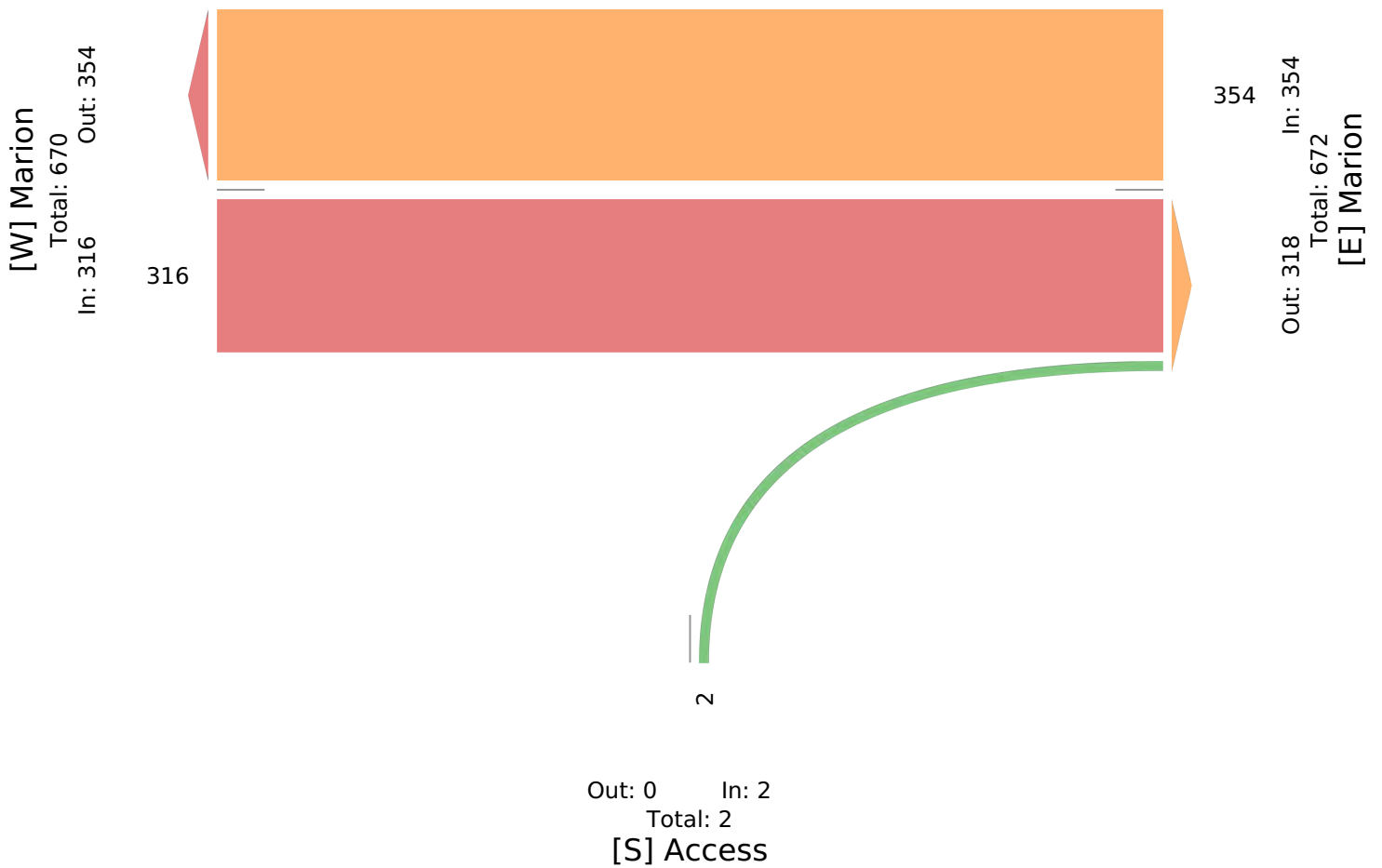
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929944, Location: 41.763067, -88.149598



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



8\_Martin Avenue & Driveway 4 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929944, Location: 41.763067, -88.149598



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

| Leg<br>Direction                      | Marion<br>Eastbound |    |    |       | Marion<br>Westbound |       |    |       | Access<br>Northbound |       |    |       | Int   |
|---------------------------------------|---------------------|----|----|-------|---------------------|-------|----|-------|----------------------|-------|----|-------|-------|
|                                       | T                   | R  | U  | App   | L                   | T     | U  | App   | L                    | R     | U  | App   |       |
| 2022-03-17 5:00PM                     | 91                  | 0  | 0  | 91    | 0                   | 67    | 0  | 67    | 2                    | 7     | 0  | 9     | 167   |
| 5:15PM                                | 126                 | 0  | 0  | 126   | 0                   | 49    | 0  | 49    | 0                    | 4     | 0  | 4     | 179   |
| 5:30PM                                | 87                  | 0  | 0  | 87    | 0                   | 76    | 0  | 76    | 0                    | 0     | 0  | 0     | 163   |
| 5:45PM                                | 83                  | 0  | 0  | 83    | 0                   | 81    | 0  | 81    | 0                    | 0     | 0  | 0     | 164   |
| <b>Total</b>                          | 387                 | 0  | 0  | 387   | 0                   | 273   | 0  | 273   | 2                    | 11    | 0  | 13    | 673   |
| <b>% Approach</b>                     | 100%                | 0% | 0% | -     | 0%                  | 100%  | 0% | -     | 15.4%                | 84.6% | 0% | -     | -     |
| <b>% Total</b>                        | 57.5%               | 0% | 0% | 57.5% | 0%                  | 40.6% | 0% | 40.6% | 0.3%                 | 1.6%  | 0% | 1.9%  | -     |
| <b>PHF</b>                            | 0.768               | -  | -  | 0.768 | -                   | 0.843 | -  | 0.843 | 0.250                | 0.393 | -  | 0.361 | 0.940 |
| <b>Lights</b>                         | 385                 | 0  | 0  | 385   | 0                   | 271   | 0  | 271   | 2                    | 11    | 0  | 13    | 669   |
| <b>% Lights</b>                       | 99.5%               | 0% | 0% | 99.5% | 0%                  | 99.3% | 0% | 99.3% | 100%                 | 100%  | 0% | 100%  | 99.4% |
| <b>Articulated Trucks</b>             | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0     | 0  | 0     | 0     |
| <b>% Articulated Trucks</b>           | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0%    | 0% | 0%    | 0%    |
| <b>Buses and Single-Unit Trucks</b>   | 2                   | 0  | 0  | 2     | 0                   | 2     | 0  | 2     | 0                    | 0     | 0  | 0     | 4     |
| <b>% Buses and Single-Unit Trucks</b> | 0.5%                | 0% | 0% | 0.5%  | 0%                  | 0.7%  | 0% | 0.7%  | 0%                   | 0%    | 0% | 0%    | 0.6%  |
| <b>Bicycles on Road</b>               | 0                   | 0  | 0  | 0     | 0                   | 0     | 0  | 0     | 0                    | 0     | 0  | 0     | 0     |
| <b>% Bicycles on Road</b>             | 0%                  | 0% | 0% | 0%    | 0%                  | 0%    | 0% | 0%    | 0%                   | 0%    | 0% | 0%    | 0%    |

\*L: Left, R: Right, T: Thru, U: U-Turn

8\_Martin Avenue & Driveway 4 - TMC

Thu Mar 17, 2022

Forced Peak (5 PM - 6 PM)

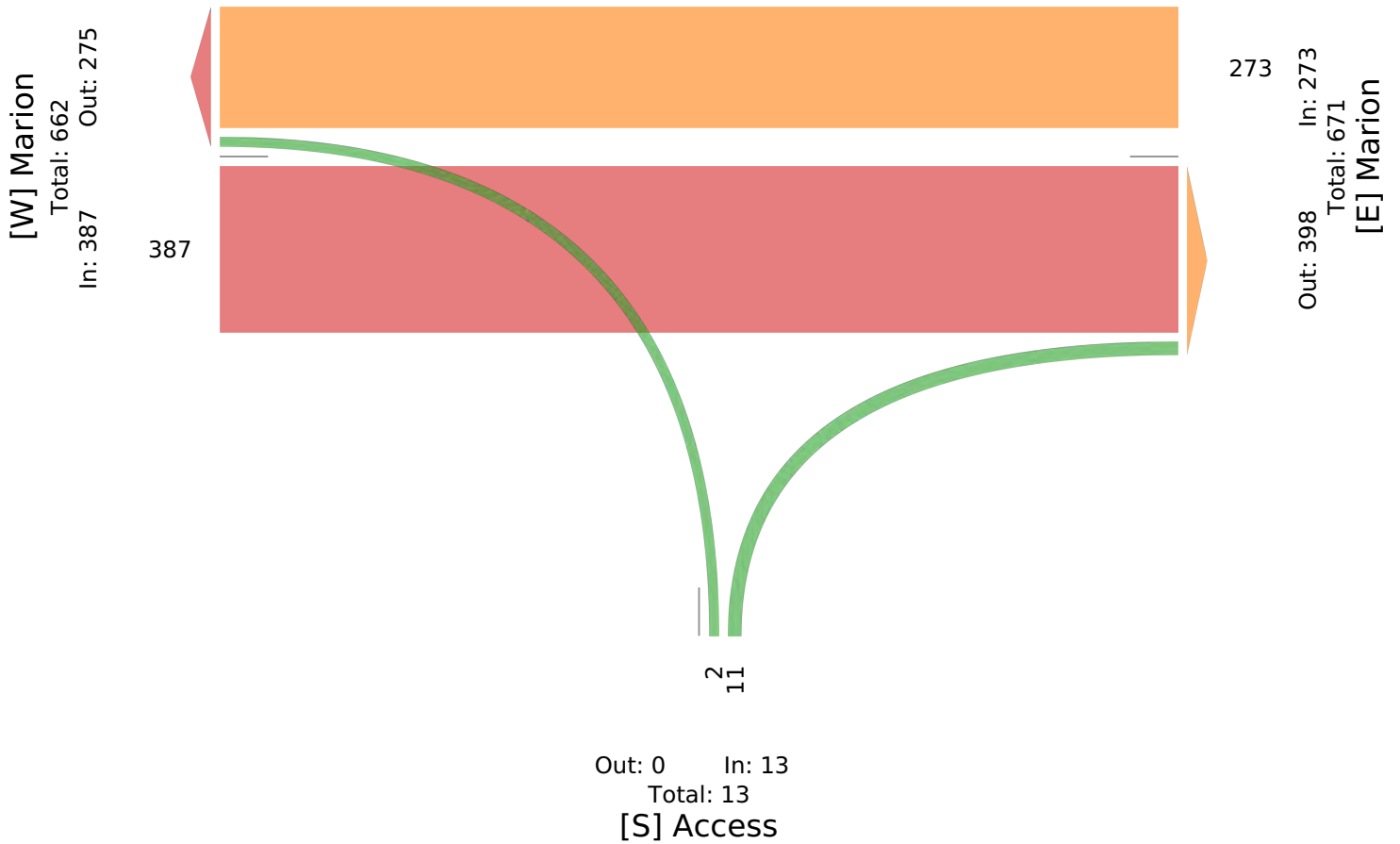
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Bicycles on Road)

All Movements

ID: 929944, Location: 41.763067, -88.149598



Provided by: Gewalt Hamilton Associates Inc.  
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



*EXISTING YEAR (2022) CAPACITY REPORTS*



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 290  | 140  | 125  | 210  | 50   | 45   |
| Future Vol, veh/h        | 290  | 140  | 125  | 210  | 50   | 45   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 6    | 2    |
| Mvmt Flow                | 305  | 147  | 132  | 221  | 53   | 47   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 452    | 0 | 864   |
| Stage 1              | -      | -      | -      | - | 379   |
| Stage 2              | -      | -      | -      | - | 485   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.46  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.46  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.46  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.554 |
| Pot Cap-1 Maneuver   | -      | -      | 1109   | - | 319   |
| Stage 1              | -      | -      | -      | - | 683   |
| Stage 2              | -      | -      | -      | - | 611   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1109   | - | 276   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 276   |
| Stage 1              | -      | -      | -      | - | 683   |
| Stage 2              | -      | -      | -      | - | 528   |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.2 | 16.2 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 276   | 668   | -   | -   | 1109  | -   |
| HCM Lane V/C Ratio    | 0.191 | 0.071 | -   | -   | 0.119 | -   |
| HCM Control Delay (s) | 21.1  | 10.8  | -   | -   | 8.7   | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.7   | 0.2   | -   | -   | 0.4   | -   |

HCM 6th Signalized Intersection Summary  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 AM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 145  | 175  | 260  | 1390 | 960  | 95   |
| Future Volume (veh/h)        | 145  | 175  | 260  | 1390 | 960  | 95   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1826 | 1870 | 1953 | 1856 | 1870 |
| Adj Flow Rate, veh/h         | 153  | 184  | 274  | 1463 | 1011 | 100  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 5    | 2    | 3    | 3    | 2    |
| Cap, veh/h                   | 236  | 303  | 450  | 2895 | 2228 | 220  |
| Arrive On Green              | 0.13 | 0.13 | 0.06 | 0.78 | 0.69 | 0.69 |
| Sat Flow, veh/h              | 1781 | 1547 | 1781 | 3809 | 3333 | 320  |
| Grp Volume(v), veh/h         | 153  | 184  | 274  | 1463 | 550  | 561  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1547 | 1781 | 1856 | 1763 | 1798 |
| Q Serve(g_s), s              | 9.8  | 13.0 | 5.1  | 17.2 | 17.0 | 17.0 |
| Cycle Q Clear(g_c), s        | 9.8  | 13.0 | 5.1  | 17.2 | 17.0 | 17.0 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.18 |
| Lane Grp Cap(c), veh/h       | 236  | 303  | 450  | 2895 | 1212 | 1236 |
| V/C Ratio(X)                 | 0.65 | 0.61 | 0.61 | 0.51 | 0.45 | 0.45 |
| Avail Cap(c_a), veh/h        | 408  | 453  | 567  | 2895 | 1212 | 1236 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 49.4 | 44.1 | 7.1  | 4.8  | 8.5  | 8.5  |
| Incr Delay (d2), s/veh       | 3.0  | 2.0  | 1.3  | 0.6  | 1.2  | 1.2  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 8.1  | 16.7 | 3.1  | 9.5  | 10.6 | 10.7 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 52.4 | 46.0 | 8.4  | 5.4  | 9.7  | 9.7  |
| LnGrp LOS                    | D    | D    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 337  |      |      | 1737 | 1111 |      |
| Approach Delay, s/veh        | 48.9 |      |      | 5.9  | 9.7  |      |
| Approach LOS                 | D    |      |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 99.6 |      | 20.4 | 11.1 | 88.5 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 15.5 | 63.0 |
| Max Q Clear Time (g_c+l1), s |      | 19.2 |      | 15.0 | 7.1  | 19.0 |
| Green Ext Time (p_c), s      |      | 50.2 |      | 0.9  | 0.5  | 29.3 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 11.8 |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 AM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT  | SBT        | SBR  |      |   |   |
|---------------------------------|------|------|------|------|------------|------|------|---|---|
| Lane Configurations             |      |      |      |      |            |      |      |   |   |
| Traffic Volume (veh/h)          | 145  | 175  | 260  | 1390 | 960        | 95   |      |   |   |
| Future Volume (veh/h)           | 145  | 175  | 260  | 1390 | 960        | 95   |      |   |   |
| Number                          | 7    | 14   | 5    | 2    | 6          | 16   |      |   |   |
| Initial Q, veh                  | 0    | 0    | 0    | 0    | 0          | 0    |      |   |   |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |      |            | 1.00 |      |   |   |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 |      |   |   |
| Work Zone On Approach           | No   |      |      | No   | No         |      |      |   |   |
| Lanes Open During Work Zone     |      |      |      |      |            |      |      |   |   |
| Adj Sat Flow, veh/h/ln          | 1870 | 1826 | 1870 | 1953 | 1856       | 1870 |      |   |   |
| Adj Flow Rate, veh/h            | 153  | 184  | 274  | 1463 | 1011       | 100  |      |   |   |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 |      |   |   |
| Percent Heavy Veh, %            | 2    | 5    | 2    | 3    | 3          | 2    |      |   |   |
| Opposing Right Turn Influence   | Yes  |      | Yes  |      |            |      |      |   |   |
| Cap, veh/h                      | 236  | 303  | 450  | 2895 | 2228       | 220  |      |   |   |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 |      |   |   |
| Prop Arrive On Green            | 0.13 | 0.13 | 0.06 | 0.78 | 0.69       | 0.69 |      |   |   |
| Unsig. Movement Delay           |      |      |      |      |            |      |      |   |   |
| Ln Grp Delay, s/veh             | 52.4 | 46.0 | 8.4  | 5.4  | 9.7        | 9.7  |      |   |   |
| Ln Grp LOS                      | D    | D    | A    | A    | A          | A    |      |   |   |
| Approach Vol, veh/h             | 337  |      |      | 1737 | 1111       |      |      |   |   |
| Approach Delay, s/veh           | 48.9 |      |      | 5.9  | 9.7        |      |      |   |   |
| Approach LOS                    | D    |      |      | A    | A          |      |      |   |   |
| Timer:                          |      | 1    | 2    | 3    | 4          | 5    | 6    | 7 | 8 |
| Assigned Phs                    |      |      | 2    |      | 4          | 5    | 6    |   |   |
| Case No                         |      |      | 4.0  |      | 9.0        | 1.2  | 8.0  |   |   |
| Phs Duration (G+Y+Rc), s        |      |      | 99.6 |      | 20.4       | 11.1 | 88.5 |   |   |
| Change Period (Y+Rc), s         |      |      | 6.0  |      | 4.5        | 3.5  | 6.0  |   |   |
| Max Green (Gmax), s             |      |      | 82.0 |      | 27.5       | 15.5 | 63.0 |   |   |
| Max Allow Headway (MAH), s      |      |      | 9.2  |      | 3.9        | 3.8  | 9.3  |   |   |
| Max Q Clear (g_c+I1), s         |      |      | 19.2 |      | 15.0       | 7.1  | 19.0 |   |   |
| Green Ext Time (g_e), s         |      |      | 50.2 |      | 0.9        | 0.5  | 29.3 |   |   |
| Prob of Phs Call (p_c)          |      |      | 1.00 |      | 1.00       | 1.00 | 1.00 |   |   |
| Prob of Max Out (p_x)           |      |      | 0.69 |      | 0.01       | 0.05 | 0.58 |   |   |
| <b>Left-Turn Movement Data</b>  |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      |      |      | 7          | 5    | 1    |   |   |
| Mvmt Sat Flow, veh/h            |      |      |      |      | 1781       | 1781 | 0    |   |   |
| <b>Through Movement Data</b>    |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      | 2    |      | 4          |      | 6    |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 3809 |      | 0          |      | 3333 |   |   |
| <b>Right-Turn Movement Data</b> |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      | 12   |      | 14         |      | 16   |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 0    |      | 1547       |      | 320  |   |   |
| <b>Left Lane Group Data</b>     |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      | 0    | 0    | 0    | 7          | 5    | 1    | 0 | 0 |
| Lane Assignment                 |      |      |      |      | LL (Pr/Pm) |      |      |   |   |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 153  | 274  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 9.8  | 5.1  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 9.8  | 5.1  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 507  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 84.5 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 65.5 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 22.3 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 82.5 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 236  | 450  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.65 | 0.61 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 567  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 49.4 | 7.1  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 3.0  | 1.3  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 52.4 | 8.4  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 4.4  | 1.6  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.2  | 0.2  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.77 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 8.1  | 3.1  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 3.72 | 0.75 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1463 | 0    | 0    | 0    | 550  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 17.2 | 0.0  | 0.0  | 0.0  | 17.0 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 17.2 | 0.0  | 0.0  | 0.0  | 17.0 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2895 | 0    | 0    | 0    | 1212 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.51 | 0.00 | 0.00 | 0.00 | 0.45 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2895 | 0    | 0    | 0    | 1212 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 4.8  | 0.0  | 0.0  | 0.0  | 8.5  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.6  | 0.0  | 0.0  | 0.0  | 1.2  | 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  |
| Control Delay (d), s/veh            | 0.0  | 5.4  | 0.0  | 0.0  | 0.0  | 9.7  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 5.4  | 0.0  | 0.0  | 0.0  | 6.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.3  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
AM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.69 | 0.00 | 1.00 | 0.00 | 1.65 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 9.5  | 0.0  | 0.0  | 0.0  | 10.6 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 1.02 | 0.00 | 0.00 | 0.00 | 0.51 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 184    | 0    | 561  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1547   | 0    | 1798 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 13.0   | 0.0  | 17.0 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 13.0   | 0.0  | 17.0 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1547.4 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 7.6    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.18 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 303    | 0    | 1236 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.61   | 0.00 | 0.45 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 453    | 0    | 1236 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 44.1   | 0.0  | 8.5  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 2.0    | 0.0  | 1.2  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 46.0   | 0.0  | 9.7  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 11.1   | 0.0  | 6.1  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.2    | 0.0  | 0.4  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.49   | 0.00 | 1.64 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 16.7   | 0.0  | 10.7 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 7.90   | 0.00 | 0.51 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 11.8 |
| HCM 6th LOS        | B    |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 0    | 35   | 0    | 1650 | 1070 | 65   |
| Future Vol, veh/h        | 0    | 35   | 0    | 1650 | 1070 | 65   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | Stop | -    | None | -    | Free |
| Storage Length           | -    | 0    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 6    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 0    | 37   | 0    | 1737 | 1126 | 68   |

| Major/Minor          | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | -      | 563    | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 7.02   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 3.36   | -      |
| Pot Cap-1 Maneuver   | 0      | 460    | 0      |
| Stage 1              | 0      | -      | 0      |
| Stage 2              | 0      | -      | 0      |
| Platoon blocked, %   |        |        | -      |
| Mov Cap-1 Maneuver   | -      | 460    | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.5 | 0  | 0  |
| HCM LOS              | B    |    |    |

| Minor Lane/Major Mvmt | NBT EBLn1 | SBT |
|-----------------------|-----------|-----|
| Capacity (veh/h)      | - 460     | -   |
| HCM Lane V/C Ratio    | - 0.08    | -   |
| HCM Control Delay (s) | - 13.5    | -   |
| HCM Lane LOS          | - B       | -   |
| HCM 95th %tile Q(veh) | - 0.3     | -   |

HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
AM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 30   | 80    | 190  | 1620 | 1030 | 75   |
| Future Volume (veh/h)        | 30   | 80    | 190  | 1620 | 1030 | 75   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |       |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1693 | 1856  | 1870 | 1953 | 1856 | 1781 |
| Adj Flow Rate, veh/h         | 32   | 84    | 200  | 1705 | 1084 | 79   |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 14   | 3     | 2    | 3    | 3    | 8    |
| Cap, veh/h                   | 113  | 110   | 508  | 3127 | 2568 | 187  |
| Arrive On Green              | 0.07 | 0.07  | 0.04 | 0.84 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1612 | 1572  | 1781 | 3809 | 3425 | 243  |
| Grp Volume(v), veh/h         | 32   | 84    | 200  | 1705 | 573  | 590  |
| Grp Sat Flow(s),veh/h/ln     | 1612 | 1572  | 1781 | 1856 | 1763 | 1812 |
| Q Serve(g_s), s              | 2.3  | 6.3   | 2.6  | 16.1 | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 6.3   | 2.6  | 16.1 | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.13 |
| Lane Grp Cap(c), veh/h       | 113  | 110   | 508  | 3127 | 1359 | 1396 |
| V/C Ratio(X)                 | 0.28 | 0.76  | 0.39 | 0.55 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h        | 343  | 334   | 840  | 3127 | 1359 | 1396 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 1.33 | 1.33 |
| Upstream Filter(l)           | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 52.9 | 54.8  | 2.0  | 2.8  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.4  | 10.4  | 0.5  | 0.7  | 1.0  | 0.9  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 1.7  | 9.6   | 1.2  | 7.2  | 0.7  | 0.7  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 54.3 | 65.2  | 2.5  | 3.4  | 1.0  | 0.9  |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A    |
| Approach Vol, veh/h          | 116  |       |      | 1905 | 1163 |      |
| Approach Delay, s/veh        | 62.2 |       |      | 3.3  | 1.0  |      |
| Approach LOS                 | E    |       |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 107.1 |      | 12.9 | 8.6  | 98.5 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 27.5 | 53.0 |
| Max Q Clear Time (g_c+l1), s |      | 18.1  |      | 8.3  | 4.6  | 2.0  |
| Green Ext Time (p_c), s      |      | 58.4  |      | 0.3  | 0.5  | 34.1 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 4.6  |      |      |      |
| HCM 6th LOS                  |      |       | A    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
AM Peak Hour



| Movement                        | EBL  | EBR  | NBL   | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|-------|------------|------|------|------|---|---|--|
| Lane Configurations             | ↶    | ↷    | ↶     | ↕          | ↕    | ↷    |      |   |   |  |
| Traffic Volume (veh/h)          | 30   | 80   | 190   | 1620       | 1030 | 75   |      |   |   |  |
| Future Volume (veh/h)           | 30   | 80   | 190   | 1620       | 1030 | 75   |      |   |   |  |
| Number                          | 7    | 14   | 5     | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0     | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00  |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |       | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |       |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1693 | 1856 | 1870  | 1953       | 1856 | 1781 |      |   |   |  |
| Adj Flow Rate, veh/h            | 32   | 84   | 200   | 1705       | 1084 | 79   |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95  | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 14   | 3    | 2     | 3          | 3    | 8    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes   |            |      |      |      |   |   |  |
| Cap, veh/h                      | 113  | 110  | 508   | 3127       | 2568 | 187  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00  | 1.00       | 1.33 | 1.33 |      |   |   |  |
| Prop Arrive On Green            | 0.07 | 0.07 | 0.04  | 0.84       | 1.00 | 1.00 |      |   |   |  |
| Unsig. Movement Delay           |      |      |       |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 54.3 | 65.2 | 2.5   | 3.4        | 1.0  | 0.9  |      |   |   |  |
| Ln Grp LOS                      | D    | E    | A     | A          | A    | A    |      |   |   |  |
| Approach Vol, veh/h             | 116  |      |       | 1905       | 1163 |      |      |   |   |  |
| Approach Delay, s/veh           | 62.2 |      |       | 3.3        | 1.0  |      |      |   |   |  |
| Approach LOS                    | E    |      |       | A          | A    |      |      |   |   |  |
| Timer:                          |      | 1    | 2     | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2     |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0   |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 107.1 |            | 12.9 | 8.6  | 98.5 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0   |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 84.0  |            | 25.5 | 27.5 | 53.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2   |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 18.1  |            | 8.3  | 4.6  | 2.0  |   |   |  |
| Green Ext Time (g_e), s         |      |      | 58.4  |            | 0.3  | 0.5  | 34.1 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00  |            | 0.98 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.82  |            | 0.00 | 0.00 | 0.56 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |       |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |       |            | 1612 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2     |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3809  |            | 0    |      | 3425 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12    |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0     |            | 1572 |      | 243  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0     | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |       | LL (Pr/Pm) |      |      |      |   |   |  |



HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 32   | 200  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1612 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 2.3  | 2.6  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 2.3  | 2.6  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1612 | 483  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 94.5 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 92.5 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 1.4  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 92.5 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 113  | 508  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.28 | 0.39 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 343  | 840  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 52.9 | 2.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.4  | 0.5  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 54.3 | 2.5  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 0.9  | 0.6  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 1.7  | 1.2  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.48 | 0.25 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1705 | 0    | 0    | 0    | 573  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 16.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 16.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3127 | 0    | 0    | 0    | 1359 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.55 | 0.00 | 0.00 | 0.00 | 0.42 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3127 | 0    | 0    | 0    | 1359 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 2.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.7  | 0.0  | 0.0  | 0.0  | 1.0  | 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  |
| Control Delay (d), s/veh            | 0.0  | 3.4  | 0.0  | 0.0  | 0.0  | 1.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 3.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.3  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
AM Peak Hour

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.80 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 7.2  | 0.0  | 0.0  | 0.0  | 0.7  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Right Lane Group Data</b>     |      |      |      |      |      |      |      |      |
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 84   | 0    | 590  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1812 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 6.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 6.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.13 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 110  | 0    | 1396 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.76 | 0.00 | 0.42 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1396 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 54.8 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 10.4 | 0.0  | 0.9  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 65.2 | 0.0  | 0.9  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 5.4  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.3  | 0.0  | 0.4  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.69 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 9.6  | 0.0  | 0.7  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Intersection Summary</b>      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay               | 4.6  |      |      |      |      |      |      |      |
| HCM 6th LOS                      | A    |      |      |      |      |      |      |      |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 335  | 0    | 0    | 335  | 0    | 0    |
| Future Vol, veh/h        | 335  | 0    | 0    | 335  | 0    | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 353  | 0    | 0    | 353  | 0    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 353    | 0 | 706 353     |
| Stage 1              | -      | -      | -      | - | 353 -       |
| Stage 2              | -      | -      | -      | - | 353 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1206   | - | 402 691     |
| Stage 1              | -      | -      | -      | - | 711 -       |
| Stage 2              | -      | -      | -      | - | 711 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1206   | - | 402 691     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 402 -       |
| Stage 1              | -      | -      | -      | - | 711 -       |
| Stage 2              | -      | -      | -      | - | 711 -       |

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

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | -     | -   | -   | 1206 | -   |
| HCM Lane V/C Ratio    | -     | -   | -   | -    | -   |
| HCM Control Delay (s) | 0     | -   | -   | 0    | -   |
| HCM Lane LOS          | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | -     | -   | -   | 0    | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 330  | 5    | 5    | 335  | 1    | 1    |
| Future Vol, veh/h        | 330  | 5    | 5    | 335  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 347  | 5    | 5    | 353  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 |
|----------------------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 352    | 0      |
| Stage 1              | -      | -      | -      | 350    |
| Stage 2              | -      | -      | -      | 363    |
| Critical Hdwy        | -      | -      | 4.12   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42   |
| Follow-up Hdwy       | -      | -      | 2.218  | -      |
| Pot Cap-1 Maneuver   | -      | -      | 1207   | -      |
| Stage 1              | -      | -      | -      | 713    |
| Stage 2              | -      | -      | -      | 704    |
| Platoon blocked, %   | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1207   | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      | 396    |
| Stage 1              | -      | -      | -      | 713    |
| Stage 2              | -      | -      | -      | 700    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.1 | 12.2 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 504   | -   | -   | 1207  | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   | 0.004 | -   |
| HCM Control Delay (s) | 12.2  | -   | -   | 8     | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 320  | 10   | 15   | 340  | 1    | 1    |
| Future Vol, veh/h        | 320  | 10   | 15   | 340  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 3    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 337  | 11   | 16   | 358  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 348    | 0 | 733   |
| Stage 1              | -      | -      | -      | - | 343   |
| Stage 2              | -      | -      | -      | - | 390   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1211   | - | 388   |
| Stage 1              | -      | -      | -      | - | 719   |
| Stage 2              | -      | -      | -      | - | 684   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1211   | - | 382   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 382   |
| Stage 1              | -      | -      | -      | - | 719   |
| Stage 2              | -      | -      | -      | - | 673   |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.3 | 12.3 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 494   | -   | -   | 1211  | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   | 0.013 | -   |
| HCM Control Delay (s) | 12.3  | -   | -   | 8     | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    | ↑    |      |
| Traffic Vol, veh/h       | 320  | 0    | 0    | 355  | 1    | 1    |
| Future Vol, veh/h        | 320  | 0    | 0    | 355  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 337  | 0    | 0    | 374  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | -      | -      | - | 711 169     |
| Stage 1              | -      | -      | -      | - | 337 -       |
| Stage 2              | -      | -      | -      | - | 374 -       |
| Critical Hdwy        | -      | -      | -      | - | 6.63 6.93   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.83 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.43 -      |
| Follow-up Hdwy       | -      | -      | -      | - | 3.519 3.319 |
| Pot Cap-1 Maneuver   | -      | 0      | 0      | - | 383 846     |
| Stage 1              | -      | 0      | 0      | - | 696 -       |
| Stage 2              | -      | 0      | 0      | - | 695 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | 383 846     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 383 -       |
| Stage 1              | -      | -      | -      | - | 696 -       |
| Stage 2              | -      | -      | -      | - | 695 -       |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 0  | 11.9 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | WBT |
|-----------------------|-------|-----|-----|
| Capacity (veh/h)      | 527   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   |
| HCM Control Delay (s) | 11.9  | -   | -   |
| HCM Lane LOS          | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 285  | 20   | 35   | 245  | 80   | 85   |
| Future Vol, veh/h        | 285  | 20   | 35   | 245  | 80   | 85   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 11   | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 300  | 21   | 37   | 258  | 84   | 89   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 321    | 0 | 643   |
| Stage 1              | -      | -      | -      | - | 311   |
| Stage 2              | -      | -      | -      | - | 332   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1239   | - | 438   |
| Stage 1              | -      | -      | -      | - | 743   |
| Stage 2              | -      | -      | -      | - | 727   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1239   | - | 423   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 423   |
| Stage 1              | -      | -      | -      | - | 743   |
| Stage 2              | -      | -      | -      | - | 702   |

| Approach             | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0  | 1  | 13 |
| HCM LOS              |    |    | B  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 423   | 729   | -   | -   | 1239 | -   |
| HCM Lane V/C Ratio    | 0.199 | 0.123 | -   | -   | 0.03 | -   |
| HCM Control Delay (s) | 15.6  | 10.6  | -   | -   | 8    | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 0.7   | 0.4   | -   | -   | 0.1  | -   |

HCM 6th Signalized Intersection Summary  
200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
PM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 165  | 235  | 180  | 1035 | 1285 | 95   |
| Future Volume (veh/h)        | 165  | 235  | 180  | 1035 | 1285 | 95   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1969 | 1870 | 1870 |
| Adj Flow Rate, veh/h         | 174  | 247  | 189  | 1089 | 1353 | 100  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 2    | 2    |
| Cap, veh/h                   | 300  | 347  | 310  | 2783 | 2228 | 164  |
| Arrive On Green              | 0.17 | 0.17 | 0.05 | 0.74 | 0.66 | 0.66 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3839 | 3449 | 247  |
| Grp Volume(v), veh/h         | 174  | 247  | 189  | 1089 | 715  | 738  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1870 | 1777 | 1826 |
| Q Serve(g_s), s              | 10.8 | 17.3 | 3.8  | 12.6 | 27.1 | 27.4 |
| Cycle Q Clear(g_c), s        | 10.8 | 17.3 | 3.8  | 12.6 | 27.1 | 27.4 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.14 |
| Lane Grp Cap(c), veh/h       | 300  | 347  | 310  | 2783 | 1180 | 1213 |
| V/C Ratio(X)                 | 0.58 | 0.71 | 0.61 | 0.39 | 0.61 | 0.61 |
| Avail Cap(c_a), veh/h        | 408  | 444  | 405  | 2783 | 1180 | 1213 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 46.0 | 43.3 | 12.3 | 5.5  | 11.3 | 11.4 |
| Incr Delay (d2), s/veh       | 1.8  | 3.8  | 1.9  | 0.4  | 2.3  | 2.3  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 8.6  | 21.4 | 4.0  | 8.0  | 16.1 | 16.5 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 47.7 | 47.1 | 14.2 | 6.0  | 13.6 | 13.6 |
| LnGrp LOS                    | D    | D    | B    | A    | B    | B    |
| Approach Vol, veh/h          | 421  |      |      | 1278 | 1453 |      |
| Approach Delay, s/veh        | 47.4 |      |      | 7.2  | 13.6 |      |
| Approach LOS                 | D    |      |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 95.3 |      | 24.7 | 9.6  | 85.7 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 12.5 | 66.0 |
| Max Q Clear Time (g_c+l1), s |      | 14.6 |      | 19.3 | 5.8  | 29.4 |
| Green Ext Time (p_c), s      |      | 38.0 |      | 0.9  | 0.3  | 31.7 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 15.5 |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |



HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 PM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT  | SBT        | SBR  |      |   |   |
|---------------------------------|------|------|------|------|------------|------|------|---|---|
| Lane Configurations             |      |      |      |      |            |      |      |   |   |
| Traffic Volume (veh/h)          | 165  | 235  | 180  | 1035 | 1285       | 95   |      |   |   |
| Future Volume (veh/h)           | 165  | 235  | 180  | 1035 | 1285       | 95   |      |   |   |
| Number                          | 7    | 14   | 5    | 2    | 6          | 16   |      |   |   |
| Initial Q, veh                  | 0    | 0    | 0    | 0    | 0          | 0    |      |   |   |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |      |            | 1.00 |      |   |   |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 |      |   |   |
| Work Zone On Approach           | No   |      |      | No   | No         |      |      |   |   |
| Lanes Open During Work Zone     |      |      |      |      |            |      |      |   |   |
| Adj Sat Flow, veh/h/ln          | 1870 | 1870 | 1870 | 1969 | 1870       | 1870 |      |   |   |
| Adj Flow Rate, veh/h            | 174  | 247  | 189  | 1089 | 1353       | 100  |      |   |   |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 |      |   |   |
| Percent Heavy Veh, %            | 2    | 2    | 2    | 2    | 2          | 2    |      |   |   |
| Opposing Right Turn Influence   | Yes  |      | Yes  |      |            |      |      |   |   |
| Cap, veh/h                      | 300  | 347  | 310  | 2783 | 2228       | 164  |      |   |   |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 |      |   |   |
| Prop Arrive On Green            | 0.17 | 0.17 | 0.05 | 0.74 | 0.66       | 0.66 |      |   |   |
| Unsig. Movement Delay           |      |      |      |      |            |      |      |   |   |
| Ln Grp Delay, s/veh             | 47.7 | 47.1 | 14.2 | 6.0  | 13.6       | 13.6 |      |   |   |
| Ln Grp LOS                      | D    | D    | B    | A    | B          | B    |      |   |   |
| Approach Vol, veh/h             | 421  |      |      | 1278 | 1453       |      |      |   |   |
| Approach Delay, s/veh           | 47.4 |      |      | 7.2  | 13.6       |      |      |   |   |
| Approach LOS                    | D    |      |      | A    | B          |      |      |   |   |
| Timer:                          |      | 1    | 2    | 3    | 4          | 5    | 6    | 7 | 8 |
| Assigned Phs                    |      |      | 2    |      | 4          | 5    | 6    |   |   |
| Case No                         |      |      | 4.0  |      | 9.0        | 1.2  | 8.0  |   |   |
| Phs Duration (G+Y+Rc), s        |      |      | 95.3 |      | 24.7       | 9.6  | 85.7 |   |   |
| Change Period (Y+Rc), s         |      |      | 6.0  |      | 4.5        | 3.5  | 6.0  |   |   |
| Max Green (Gmax), s             |      |      | 82.0 |      | 27.5       | 12.5 | 66.0 |   |   |
| Max Allow Headway (MAH), s      |      |      | 9.2  |      | 4.0        | 3.8  | 9.3  |   |   |
| Max Q Clear (g_c+I1), s         |      |      | 14.6 |      | 19.3       | 5.8  | 29.4 |   |   |
| Green Ext Time (g_e), s         |      |      | 38.0 |      | 0.9        | 0.3  | 31.7 |   |   |
| Prob of Phs Call (p_c)          |      |      | 1.00 |      | 1.00       | 1.00 | 1.00 |   |   |
| Prob of Max Out (p_x)           |      |      | 0.34 |      | 0.13       | 0.10 | 0.85 |   |   |
| <b>Left-Turn Movement Data</b>  |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      |      |      | 7          | 5    | 1    |   |   |
| Mvmt Sat Flow, veh/h            |      |      |      |      | 1781       | 1781 | 0    |   |   |
| <b>Through Movement Data</b>    |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      | 2    |      | 4          |      | 6    |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 3839 |      | 0          |      | 3449 |   |   |
| <b>Right-Turn Movement Data</b> |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      |      | 12   |      | 14         |      | 16   |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 0    |      | 1585       |      | 247  |   |   |
| <b>Left Lane Group Data</b>     |      |      |      |      |            |      |      |   |   |
| Assigned Mvmt                   |      | 0    | 0    | 0    | 7          | 5    | 1    | 0 | 0 |
| Lane Assignment                 |      |      |      |      | LL (Pr/Pm) |      |      |   |   |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 174  | 189  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 10.8 | 3.8  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 10.8 | 3.8  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 366  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 81.7 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 52.3 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 31.3 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 79.7 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 300  | 310  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.58 | 0.61 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 405  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 46.0 | 12.3 | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.8  | 1.9  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 47.7 | 14.2 | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 4.8  | 2.1  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.1  | 0.2  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.74 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 8.6  | 4.0  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 3.96 | 0.97 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1089 | 0    | 0    | 0    | 715  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 12.6 | 0.0  | 0.0  | 0.0  | 27.1 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 12.6 | 0.0  | 0.0  | 0.0  | 27.1 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2783 | 0    | 0    | 0    | 1180 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.39 | 0.00 | 0.00 | 0.00 | 0.61 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2783 | 0    | 0    | 0    | 1180 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 5.5  | 0.0  | 0.0  | 0.0  | 11.3 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  | 2.3  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh            | 0.0  | 6.0  | 0.0  | 0.0  | 0.0  | 13.6 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 4.3  | 0.0  | 0.0  | 0.0  | 9.9  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.8  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Existing (2022) Traffic Volumes  
 PM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.77 | 0.00 | 1.00 | 0.00 | 1.50 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 8.0  | 0.0  | 0.0  | 0.0  | 16.1 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.85 | 0.00 | 0.00 | 0.00 | 0.76 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 247    | 0    | 738  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1585   | 0    | 1826 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 17.3   | 0.0  | 27.4 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 17.3   | 0.0  | 27.4 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1585.1 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 6.1    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.14 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 347    | 0    | 1213 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.71   | 0.00 | 0.61 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 444    | 0    | 1213 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 43.3   | 0.0  | 11.4 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 3.8    | 0.0  | 2.3  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh      | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 47.1   | 0.0  | 13.6 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 14.7   | 0.0  | 10.3 | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.4    | 0.0  | 0.8  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.42   | 0.00 | 1.49 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 21.4   | 0.0  | 16.5 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 9.87   | 0.00 | 0.79 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 15.5 |
| HCM 6th LOS        | B    |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 0    | 70   | 0    | 1215 | 1510 | 10   |
| Future Vol, veh/h        | 0    | 70   | 0    | 1215 | 1510 | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | Stop | -    | None | -    | Free |
| Storage Length           | -    | 0    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 74   | 0    | 1279 | 1589 | 11   |

| Major/Minor          | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | -      | 795    | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 6.94   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 3.32   | -      |
| Pot Cap-1 Maneuver   | 0      | 330    | 0      |
| Stage 1              | 0      | -      | 0      |
| Stage 2              | 0      | -      | 0      |
| Platoon blocked, %   |        |        | -      |
| Mov Cap-1 Maneuver   | -      | 330    | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | NB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 19 | 0  | 0  |
| HCM LOS              | C  |    |    |

| Minor Lane/Major Mvmt | NBT EBLn1 | SBT |
|-----------------------|-----------|-----|
| Capacity (veh/h)      | - 330     | -   |
| HCM Lane V/C Ratio    | - 0.223   | -   |
| HCM Control Delay (s) | - 19      | -   |
| HCM Lane LOS          | - C       | -   |
| HCM 95th %tile Q(veh) | - 0.8     | -   |

HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
PM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 50   | 90    | 45   | 1165 | 1550 | 30    |
| Future Volume (veh/h)        | 50   | 90    | 45   | 1165 | 1550 | 30    |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0     |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Work Zone On Approach        | No   |       |      | No   | No   |       |
| Adj Sat Flow, veh/h/ln       | 1781 | 1856  | 1826 | 1969 | 1870 | 1693  |
| Adj Flow Rate, veh/h         | 53   | 95    | 47   | 1226 | 1632 | 32    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95  |
| Percent Heavy Veh, %         | 8    | 3     | 5    | 2    | 2    | 14    |
| Cap, veh/h                   | 133  | 123   | 323  | 3120 | 2799 | 55    |
| Arrive On Green              | 0.08 | 0.08  | 0.02 | 0.83 | 1.00 | 1.00  |
| Sat Flow, veh/h              | 1697 | 1572  | 1739 | 3839 | 3658 | 70    |
| Grp Volume(v), veh/h         | 53   | 95    | 47   | 1226 | 812  | 852   |
| Grp Sat Flow(s),veh/h/ln     | 1697 | 1572  | 1739 | 1870 | 1777 | 1858  |
| Q Serve(g_s), s              | 3.6  | 7.1   | 0.6  | 9.7  | 0.0  | 0.0   |
| Cycle Q Clear(g_c), s        | 3.6  | 7.1   | 0.6  | 9.7  | 0.0  | 0.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.04  |
| Lane Grp Cap(c), veh/h       | 133  | 123   | 323  | 3120 | 1395 | 1459  |
| V/C Ratio(X)                 | 0.40 | 0.77  | 0.15 | 0.39 | 0.58 | 0.58  |
| Avail Cap(c_a), veh/h        | 361  | 334   | 456  | 3120 | 1395 | 1459  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 2.00 | 2.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 52.6 | 54.2  | 2.0  | 2.5  | 0.0  | 0.0   |
| Incr Delay (d2), s/veh       | 1.9  | 9.7   | 0.2  | 0.4  | 1.8  | 1.7   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(95%),veh/ln     | 2.9  | 10.6  | 0.3  | 4.6  | 1.2  | 1.3   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 54.5 | 63.9  | 2.2  | 2.8  | 1.8  | 1.7   |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 148  |       |      | 1273 | 1664 |       |
| Approach Delay, s/veh        | 60.6 |       |      | 2.8  | 1.7  |       |
| Approach LOS                 | E    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 106.1 |      | 13.9 | 5.9  | 100.2 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0   |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 11.5 | 69.0  |
| Max Q Clear Time (g_c+l1), s |      | 11.7  |      | 9.1  | 2.6  | 2.0   |
| Green Ext Time (p_c), s      |      | 46.2  |      | 0.4  | 0.0  | 58.9  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 5.0  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
PM Peak Hour



| Movement                        | EBL  | EBR  | NBL   | NBT  | SBT        | SBR  |       |   |   |
|---------------------------------|------|------|-------|------|------------|------|-------|---|---|
| Lane Configurations             |      |      |       |      |            |      |       |   |   |
| Traffic Volume (veh/h)          | 50   | 90   | 45    | 1165 | 1550       | 30   |       |   |   |
| Future Volume (veh/h)           | 50   | 90   | 45    | 1165 | 1550       | 30   |       |   |   |
| Number                          | 7    | 14   | 5     | 2    | 6          | 16   |       |   |   |
| Initial Q, veh                  | 0    | 0    | 0     | 0    | 0          | 0    |       |   |   |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00  |      |            | 1.00 |       |   |   |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00  | 1.00 | 1.00       | 1.00 |       |   |   |
| Work Zone On Approach           | No   |      |       | No   | No         |      |       |   |   |
| Lanes Open During Work Zone     |      |      |       |      |            |      |       |   |   |
| Adj Sat Flow, veh/h/ln          | 1781 | 1856 | 1826  | 1969 | 1870       | 1693 |       |   |   |
| Adj Flow Rate, veh/h            | 53   | 95   | 47    | 1226 | 1632       | 32   |       |   |   |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95  | 0.95 | 0.95       | 0.95 |       |   |   |
| Percent Heavy Veh, %            | 8    | 3    | 5     | 2    | 2          | 14   |       |   |   |
| Opposing Right Turn Influence   | Yes  |      | Yes   |      |            |      |       |   |   |
| Cap, veh/h                      | 133  | 123  | 323   | 3120 | 2799       | 55   |       |   |   |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00  | 1.00 | 2.00       | 2.00 |       |   |   |
| Prop Arrive On Green            | 0.08 | 0.08 | 0.02  | 0.83 | 1.00       | 1.00 |       |   |   |
| Unsig. Movement Delay           |      |      |       |      |            |      |       |   |   |
| Ln Grp Delay, s/veh             | 54.5 | 63.9 | 2.2   | 2.8  | 1.8        | 1.7  |       |   |   |
| Ln Grp LOS                      | D    | E    | A     | A    | A          | A    |       |   |   |
| Approach Vol, veh/h             | 148  |      |       | 1273 | 1664       |      |       |   |   |
| Approach Delay, s/veh           | 60.6 |      |       | 2.8  | 1.7        |      |       |   |   |
| Approach LOS                    | E    |      |       | A    | A          |      |       |   |   |
| Timer:                          |      | 1    | 2     | 3    | 4          | 5    | 6     | 7 | 8 |
| Assigned Phs                    |      |      | 2     |      | 4          | 5    | 6     |   |   |
| Case No                         |      |      | 4.0   |      | 9.0        | 1.2  | 8.0   |   |   |
| Phs Duration (G+Y+Rc), s        |      |      | 106.1 |      | 13.9       | 5.9  | 100.2 |   |   |
| Change Period (Y+Rc), s         |      |      | 6.0   |      | 4.5        | 3.5  | 6.0   |   |   |
| Max Green (Gmax), s             |      |      | 84.0  |      | 25.5       | 11.5 | 69.0  |   |   |
| Max Allow Headway (MAH), s      |      |      | 9.2   |      | 4.0        | 3.8  | 9.2   |   |   |
| Max Q Clear (g_c+I1), s         |      |      | 11.7  |      | 9.1        | 2.6  | 2.0   |   |   |
| Green Ext Time (g_e), s         |      |      | 46.2  |      | 0.4        | 0.0  | 58.9  |   |   |
| Prob of Phs Call (p_c)          |      |      | 1.00  |      | 0.99       | 0.79 | 1.00  |   |   |
| Prob of Max Out (p_x)           |      |      | 0.43  |      | 0.00       | 0.00 | 0.84  |   |   |
| <b>Left-Turn Movement Data</b>  |      |      |       |      |            |      |       |   |   |
| Assigned Mvmt                   |      |      |       |      | 7          | 5    | 1     |   |   |
| Mvmt Sat Flow, veh/h            |      |      |       |      | 1697       | 1739 | 0     |   |   |
| <b>Through Movement Data</b>    |      |      |       |      |            |      |       |   |   |
| Assigned Mvmt                   |      |      | 2     |      | 4          |      | 6     |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 3839  |      | 0          |      | 3658  |   |   |
| <b>Right-Turn Movement Data</b> |      |      |       |      |            |      |       |   |   |
| Assigned Mvmt                   |      |      | 12    |      | 14         |      | 16    |   |   |
| Mvmt Sat Flow, veh/h            |      |      | 0     |      | 1572       |      | 70    |   |   |
| <b>Left Lane Group Data</b>     |      |      |       |      |            |      |       |   |   |
| Assigned Mvmt                   |      | 0    | 0     | 0    | 7          | 5    | 1     | 0 | 0 |
| Lane Assignment                 |      |      |       |      | LL (Pr/Pm) |      |       |   |   |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 53   | 47   | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1697 | 1739 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 3.6  | 0.6  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 3.6  | 0.6  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1697 | 292  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 96.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 94.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 94.2 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 133  | 323  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.40 | 0.15 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 361  | 456  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 52.6 | 2.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.9  | 0.2  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 54.5 | 2.2  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 1.5  | 0.1  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 2.9  | 0.3  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.77 | 0.06 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1226 | 0    | 0    | 0    | 812  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 9.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 9.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3120 | 0    | 0    | 0    | 1395 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.39 | 0.00 | 0.00 | 0.00 | 0.58 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3120 | 0    | 0    | 0    | 1395 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  | 1.8  | 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  |
| Control Delay (d), s/veh            | 0.0  | 2.8  | 0.0  | 0.0  | 0.0  | 1.8  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 2.4  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.7  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Existing (2022) Traffic Volumes  
PM Peak Hour

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.80 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 4.6  | 0.0  | 0.0  | 0.0  | 1.2  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Right Lane Group Data</b>     |      |      |      |      |      |      |      |      |
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 95   | 0    | 852  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1858 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 7.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 7.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 123  | 0    | 1459 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 | 0.58 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1459 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 54.2 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 9.7  | 0.0  | 1.7  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 63.9 | 0.0  | 1.7  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 6.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.3  | 0.0  | 0.7  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.65 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 10.6 | 0.0  | 1.3  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.05 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Intersection Summary</b>      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay               | 5.0  |      |      |      |      |      |      |      |
| HCM 6th LOS                      | A    |      |      |      |      |      |      |      |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 370  | 0    | 0    | 280  | 0    | 0    |
| Future Vol, veh/h        | 370  | 0    | 0    | 280  | 0    | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 389  | 0    | 0    | 295  | 0    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 389    | 0 | 684   |
| Stage 1              | -      | -      | -      | - | 389   |
| Stage 2              | -      | -      | -      | - | 295   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1170   | - | 414   |
| Stage 1              | -      | -      | -      | - | 685   |
| Stage 2              | -      | -      | -      | - | 755   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1170   | - | 414   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 414   |
| Stage 1              | -      | -      | -      | - | 685   |
| Stage 2              | -      | -      | -      | - | 755   |

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

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | -     | -   | -   | 1170 | -   |
| HCM Lane V/C Ratio    | -     | -   | -   | -    | -   |
| HCM Control Delay (s) | 0     | -   | -   | 0    | -   |
| HCM Lane LOS          | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | -     | -   | -   | 0    | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 370  | 1    | 1    | 270  | 10   | 1    |
| Future Vol, veh/h        | 370  | 1    | 1    | 270  | 10   | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 389  | 1    | 1    | 284  | 11   | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 390    | 0 | 676 390     |
| Stage 1              | -      | -      | -      | - | 390 -       |
| Stage 2              | -      | -      | -      | - | 286 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1169   | - | 419 658     |
| Stage 1              | -      | -      | -      | - | 684 -       |
| Stage 2              | -      | -      | -      | - | 763 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1169   | - | 419 658     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 419 -       |
| Stage 1              | -      | -      | -      | - | 684 -       |
| Stage 2              | -      | -      | -      | - | 762 -       |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 0  | 13.5 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 433   | -   | -   | 1169  | -   |
| HCM Lane V/C Ratio    | 0.027 | -   | -   | 0.001 | -   |
| HCM Control Delay (s) | 13.5  | -   | -   | 8.1   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 365  | 5    | 10   | 265  | 5    | 25   |
| Future Vol, veh/h        | 365  | 5    | 10   | 265  | 5    | 25   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 384  | 5    | 11   | 279  | 5    | 26   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 389    | 0 | 688 387     |
| Stage 1              | -      | -      | -      | - | 387 -       |
| Stage 2              | -      | -      | -      | - | 301 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1170   | - | 412 661     |
| Stage 1              | -      | -      | -      | - | 686 -       |
| Stage 2              | -      | -      | -      | - | 751 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1170   | - | 407 661     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 407 -       |
| Stage 1              | -      | -      | -      | - | 686 -       |
| Stage 2              | -      | -      | -      | - | 743 -       |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.3 | 11.3 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 599   | -   | -   | 1170  | -   |
| HCM Lane V/C Ratio    | 0.053 | -   | -   | 0.009 | -   |
| HCM Control Delay (s) | 11.3  | -   | -   | 8.1   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    | ↑    |      |
| Traffic Vol, veh/h       | 390  | 0    | 0    | 275  | 1    | 10   |
| Future Vol, veh/h        | 390  | 0    | 0    | 275  | 1    | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 411  | 0    | 0    | 289  | 1    | 11   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | -      | -      | - | 700 206     |
| Stage 1              | -      | -      | -      | - | 411 -       |
| Stage 2              | -      | -      | -      | - | 289 -       |
| Critical Hdwy        | -      | -      | -      | - | 6.63 6.93   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.83 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.43 -      |
| Follow-up Hdwy       | -      | -      | -      | - | 3.519 3.319 |
| Pot Cap-1 Maneuver   | -      | 0      | 0      | - | 389 801     |
| Stage 1              | -      | 0      | 0      | - | 638 -       |
| Stage 2              | -      | 0      | 0      | - | 759 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | 389 801     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 389 -       |
| Stage 1              | -      | -      | -      | - | 638 -       |
| Stage 2              | -      | -      | -      | - | 759 -       |

| Approach             | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0  | 0  | 10 |
| HCM LOS              |    |    | B  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | WBT |
|-----------------------|-------|-----|-----|
| Capacity (veh/h)      | 731   | -   | -   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   |
| HCM Control Delay (s) | 10    | -   | -   |
| HCM Lane LOS          | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   |

*CMAP YEAR 2050 TRAFFIC PROJECTIONS*



Chicago Metropolitan Agency for Planning

433 West Van Buren Street  
Suite 450  
Chicago, IL 60607  
312-454-0400  
cmap.illinois.gov

April 4, 2022

Sami Bijonowski  
Kimley-Horn  
4201 Winfield Road  
Suite 600  
Warrenville, IL 60555

**Subject: Washington Street - West Street**  
IDOT

Dear Ms. Bijonowski:

In response to a request made on your behalf and dated March 30, 2022, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

| ROAD SEGMENT                         | 2016 ADT | Year 2050 ADT |
|--------------------------------------|----------|---------------|
| S Washington St, south of Aurora Ave | 29,900   | 32,300        |
| S West St, north of Martin Ave       | 17,300   | 21,200        |
| S West St, south of Martin Ave       | 12,700   | 15,600        |

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2021 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP  
Senior Planner, Research & Analysis

cc: Hoxsie (Kimley-Horn); Rios (IDOT)  
2022\_ForecastTraffic\Naperville\du-16-22\du-16-22.docx



March 30, 2022

Mr. Jose Rodriguez  
Chicago Metropolitan Agency for Planning  
233 S. Wacker Drive, Suite 800  
Chicago, IL 60606

RE: Request for 2050 Traffic Projections  
S Washington Street / Martin Avenue  
Naperville, Illinois

Dear Mr. Rodriguez:

Per requirements of the Illinois Department of Transportation (IDOT), Kimley-Horn is formally requesting Year 2050 traffic projections for the following roadway segments in Naperville, Illinois for use in developing an annual growth rate for area traffic volumes. For your use, the existing Average Daily Traffic volume (Year 2016 and 2020) on the relevant roadway segments are identified by IDOT as follows:

|   |                              |
|---|------------------------------|
| S Washington Street, south of Aurora Avenue | 16,800 (2020), 29,900 (2016) |
| S West Street, north of Martin Avenue       | 9,250 (2020), 17,300 (2016)  |
| S West Street, south of Martin Avenue       | 7,450 (2020), 12,700 (2016)  |

Please do not hesitate to contact me at (630) 447-4125 or via email at [Sami.Bijonowski@kimley-horn.com](mailto:Sami.Bijonowski@kimley-horn.com) should you have any questions on this matter.

Sincerely,

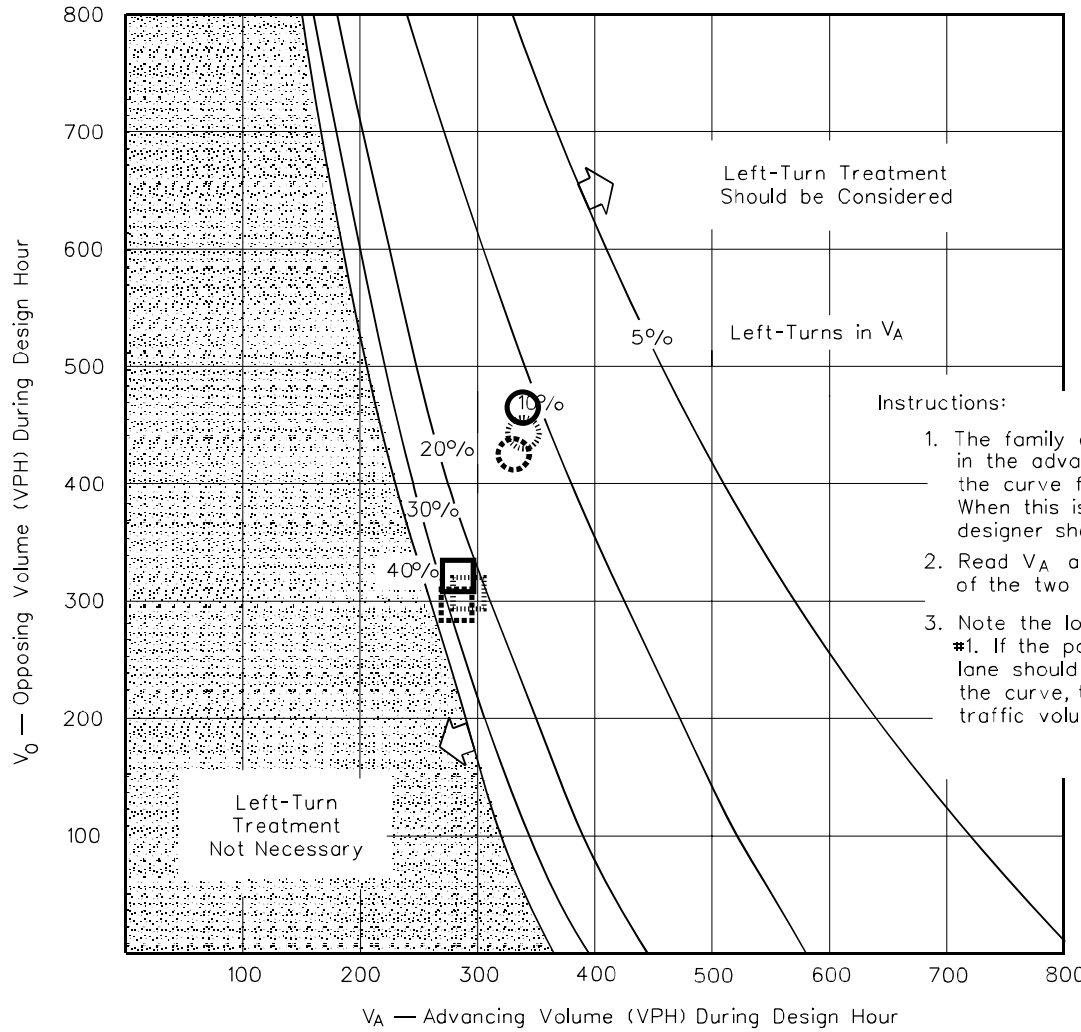
Sami Bijonowski

*FUTURE (2029) TURN LANE WARRANTS*



Martin Avenue / Brom Drive - Westbound Left-Turn Lane

36-3.13  
HARD COPIES UNCONTROLLED



$V_A$  = Total advancing traffic volume which includes all turning traffic

$V_O$  = Total opposing traffic volume which includes all turning traffic

- Instructions:
1. The family of curves represent the percent of left turns in the advancing volume ( $V_A$ ). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of five, the designer should estimate where the curve lies.
  2. Read  $V_A$  and  $V_O$  into the chart and locate the intersection of the two volumes.
  3. Note the location of the point in #2 relative to the curve in #1. If the point is to the right of the curve, then a left-turn lane should be considered. If the point is to the left of the curve, then a left-turn lane is not warranted based on traffic volumes.

|            | $V_A$ AM(PM) | $V_O$ AM(PM) |
|------------|--------------|--------------|
| Build      | 340 (270)    | 485 (325)    |
| Left Turns | 58% (10%)    |              |
| No Build   | 340 (285)    | 435 (310)    |
| Left Turns | 37% (11%)    |              |
| Existing   | 335 (280)    | 430 (305)    |
| Left Turns | 37% (13%)    |              |

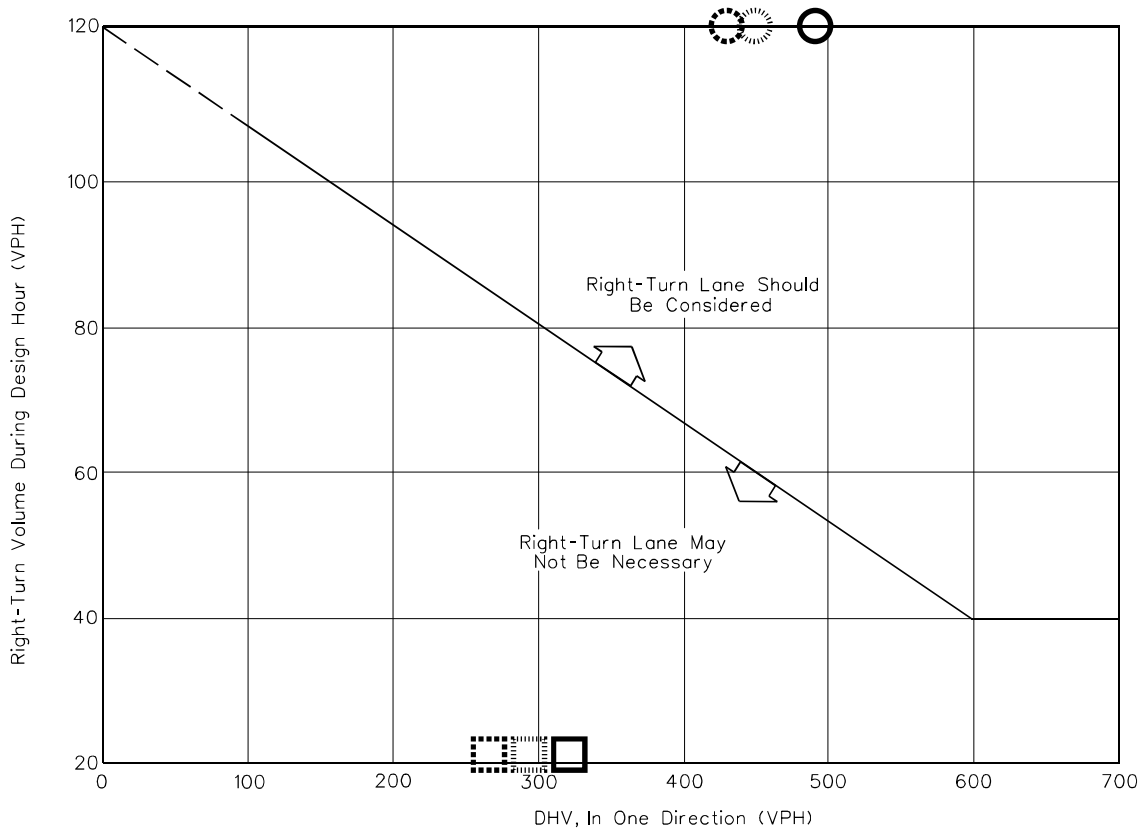
**LEGEND**

|    |    |          |
|----|----|----------|
| AM | PM |          |
| ○  | □  | Build    |
| ⊙  | ⊠  | No Build |
| ⊘  | ⊡  | Existing |

**VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph Design Speed)**

Figure 36-3.G

Illinois  
INTERSECTIONS  
August 2018



*Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.*

**Example**

Given: Design Speed = 35 mph (60 km/hr)  
 DHV (in one direction) = 250 vph  
 Right Turns = 100 vph

Problem: Determine if a right-turn lane is warranted.

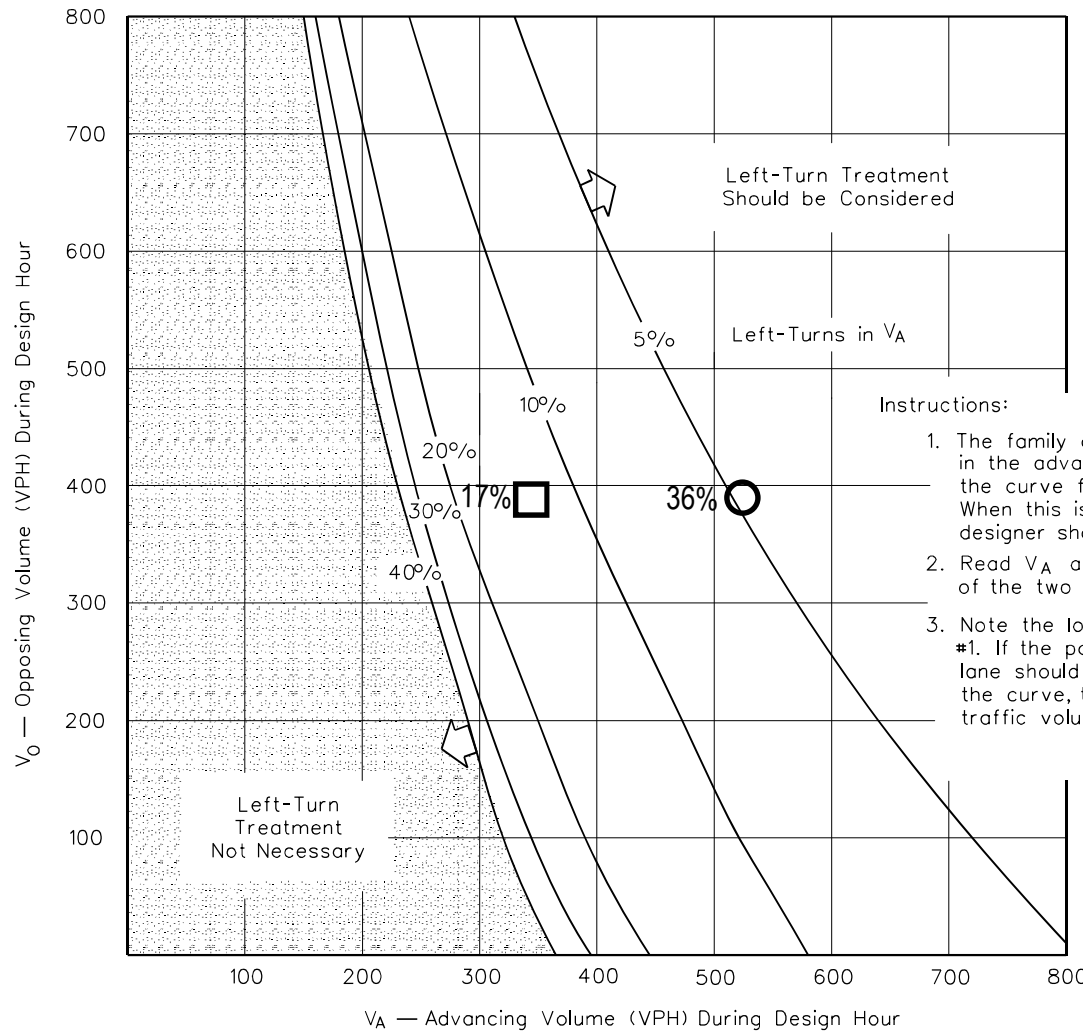
Solution: To read the vertical axis, use  $100 - 20 = 80$  vph. The figure indicates that right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

| LEGEND |    |          |
|--------|----|----------|
| AM     | PM |          |
|        |    | Build    |
|        |    | No Build |
|        |    | Existing |

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS**

Figure 36-3.A

**Martin Avenue / Driveway 1 - Westbound Left-Turn Lane**



$V_A$  = Total advancing traffic volume which includes all turning traffic

$V_O$  = Total opposing traffic volume which includes all turning traffic

**Instructions:**

1. The family of curves represent the percent of left turns in the advancing volume ( $V_A$ ). The designer should locate the curve for the actual percentage of left turns. When this is not an even increment of five, the designer should estimate where the curve lies.
2. Read  $V_A$  and  $V_O$  into the chart and locate the intersection of the two volumes.
3. Note the location of the point in #2 relative to the curve in #1. If the point is to the right of the curve, then a left-turn lane should be considered. If the point is to the left of the curve, then a left-turn lane is not warranted based on traffic volumes.

|                 | $V_A$ AM(PM) | $V_O$ AM(PM) |
|-----------------|--------------|--------------|
| <b>Build</b>    | 535 (325)    | 405 (395)    |
| <b>No Build</b> | 340 (285)    | 340 (375)    |
| <b>Existing</b> | 335 (280)    | 335 (370)    |

No left-turn volumes for No Build/Existing.

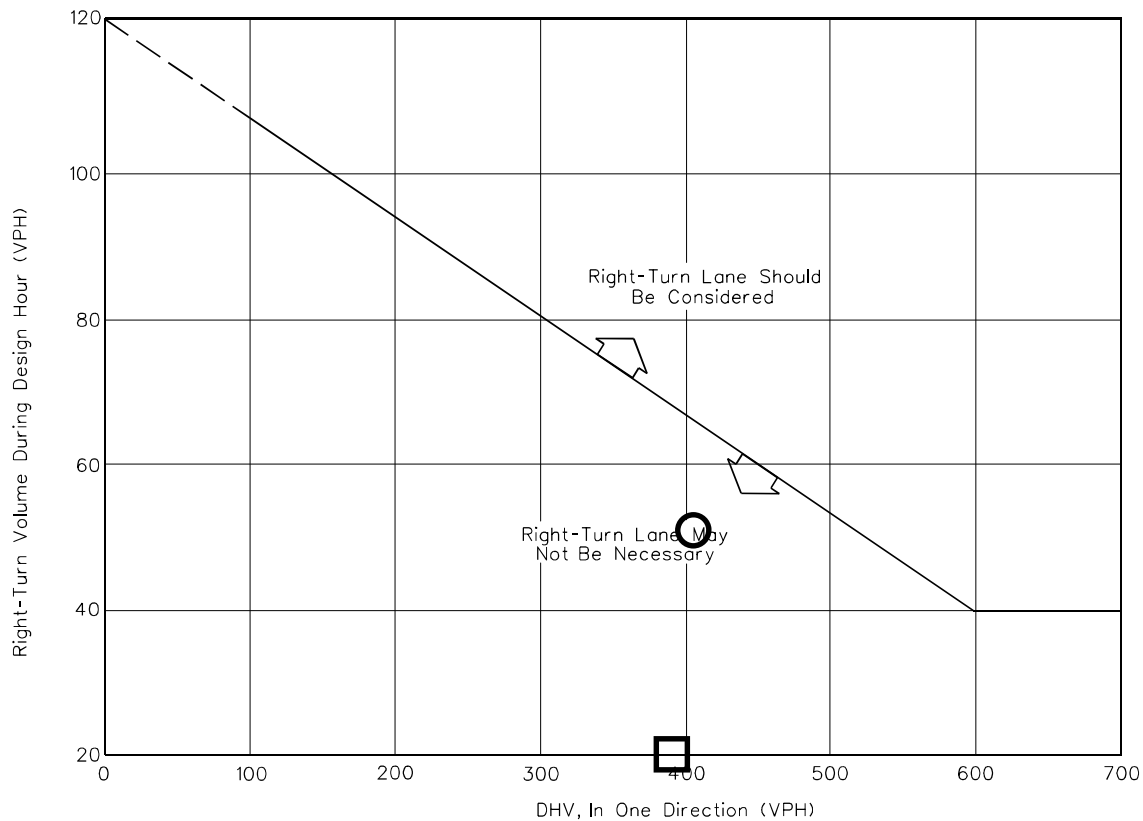
**LEGEND**

| AM | PM |          |
|----|----|----------|
| ○  | □  | Build    |
| ⊙  | ⊠  | No Build |
| ⊙  | ⊠  | Existing |

**VOLUME GUIDELINES FOR LEFT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS (40 mph Design Speed)**

**Figure 36-3.G**

**Martin Avenue / Driveway 1 - Eastbound Right-Turn Lane**



*Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.*

**Example**

Given: Design Speed = 35 mph (60 km/hr)  
 DHV (in one direction) = 250 vph  
 Right Turns = 100 vph

| <b>LEGEND</b> |    |
|---------------|----|
| AM            | PM |
| ○             | □  |
| Build         |    |

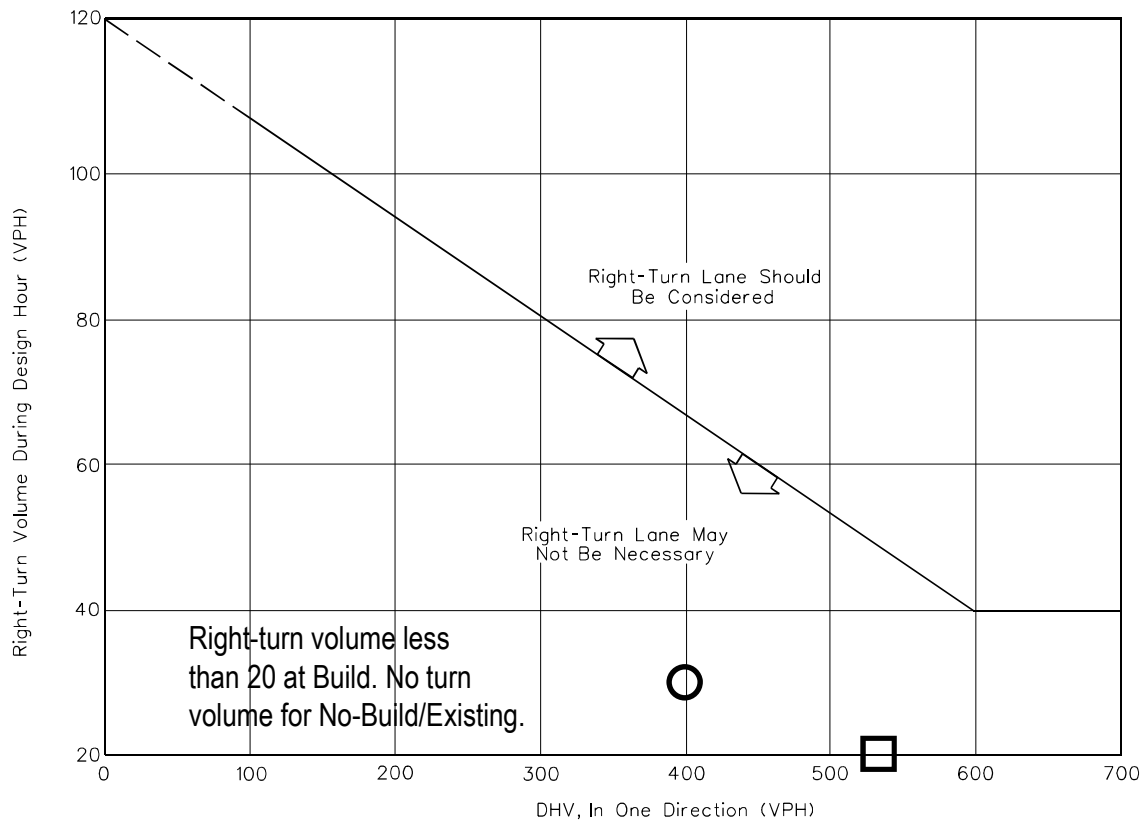
Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use  $100 - 20 = 80$  vph. The figure indicates that right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS**

**Figure 36-3.A**

**Martin Avenue / Driveway 4 - Eastbound Right-Turn Lane**



*Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.*

**Example**

Given: Design Speed = 35 mph (60 km/hr)  
 DHV (in one direction) = 250 vph  
 Right Turns = 100 vph

| <b>LEGEND</b> |    |
|---------------|----|
| AM            | PM |
| ○             | □  |
| Build         |    |

Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use  $100 - 20 = 80$  vph. The figure indicates that right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

**GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS**

**Figure 36-3.A**

*DATA FROM ITE TRIP GENERATION MANUAL, 11<sup>TH</sup> EDITION*

# Land Use: 720

## Medical-Dental Office Building

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### Description

A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. General office building (Land Use 710) and clinic (Land Use 630) are related uses.

### Land Use Subcategory

Analysis of medical-dental office building data found that trip generation rates are measurably different for sites located within or adjacent to a hospital campus and sites that are stand-alone. Data plots are presented for these two land use subcategories.

### Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Connecticut, Kentucky, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Dakota, Texas, Virginia, Washington, and Wisconsin.

### Source Numbers

104, 109, 120, 157, 184, 209, 211, 253, 287, 294, 295, 304, 357, 384, 404, 407, 423, 444, 509, 601, 715, 867, 879, 901, 902, 908, 959, 972

# Medical-Dental Office Building - Stand-Alone (720)

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

Setting/Location: General Urban/Suburban

Number of Studies: 18

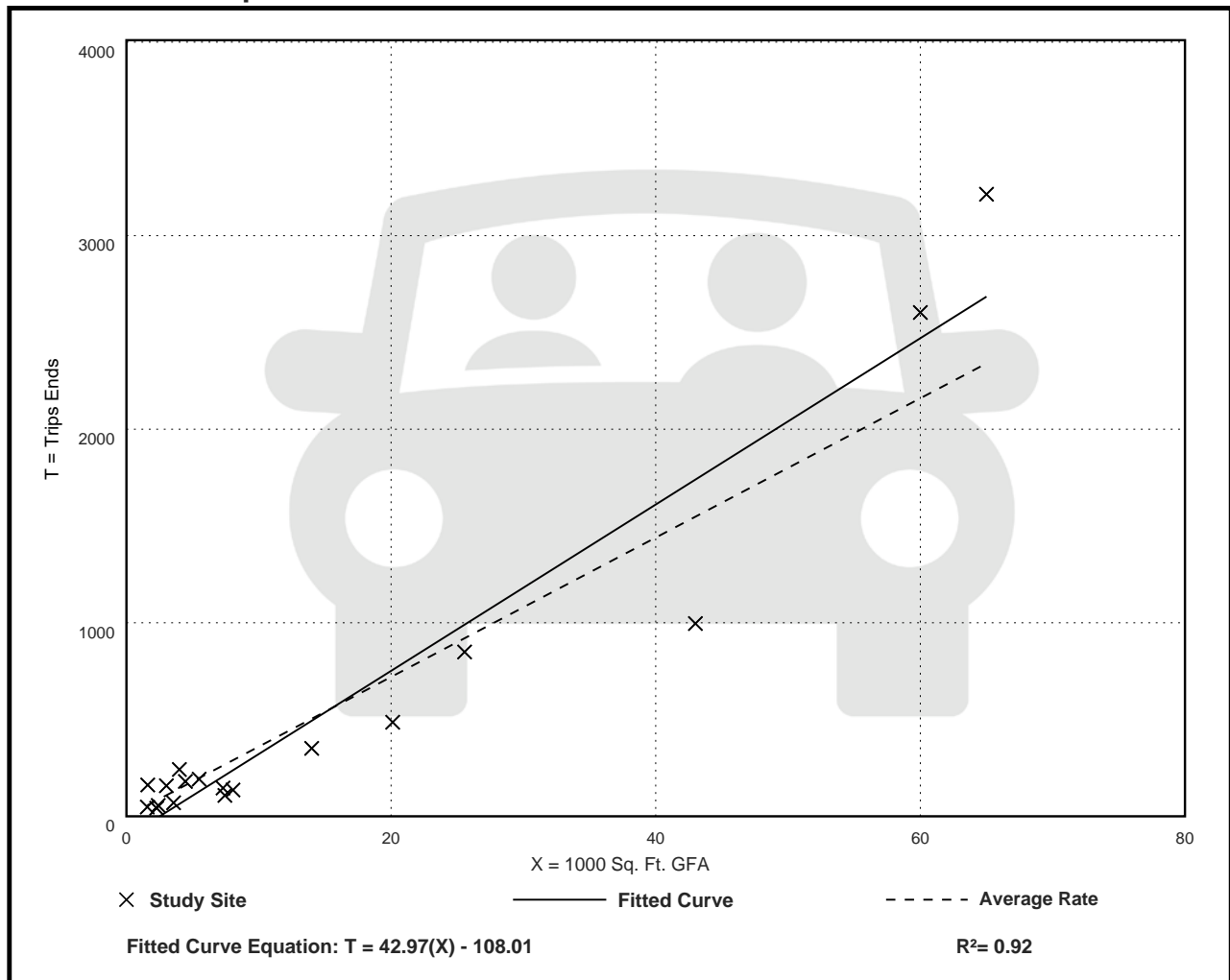
Avg. 1000 Sq. Ft. GFA: 15

Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 36.00        | 14.52 - 100.75 | 13.38              |

## Data Plot and Equation





# Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 24

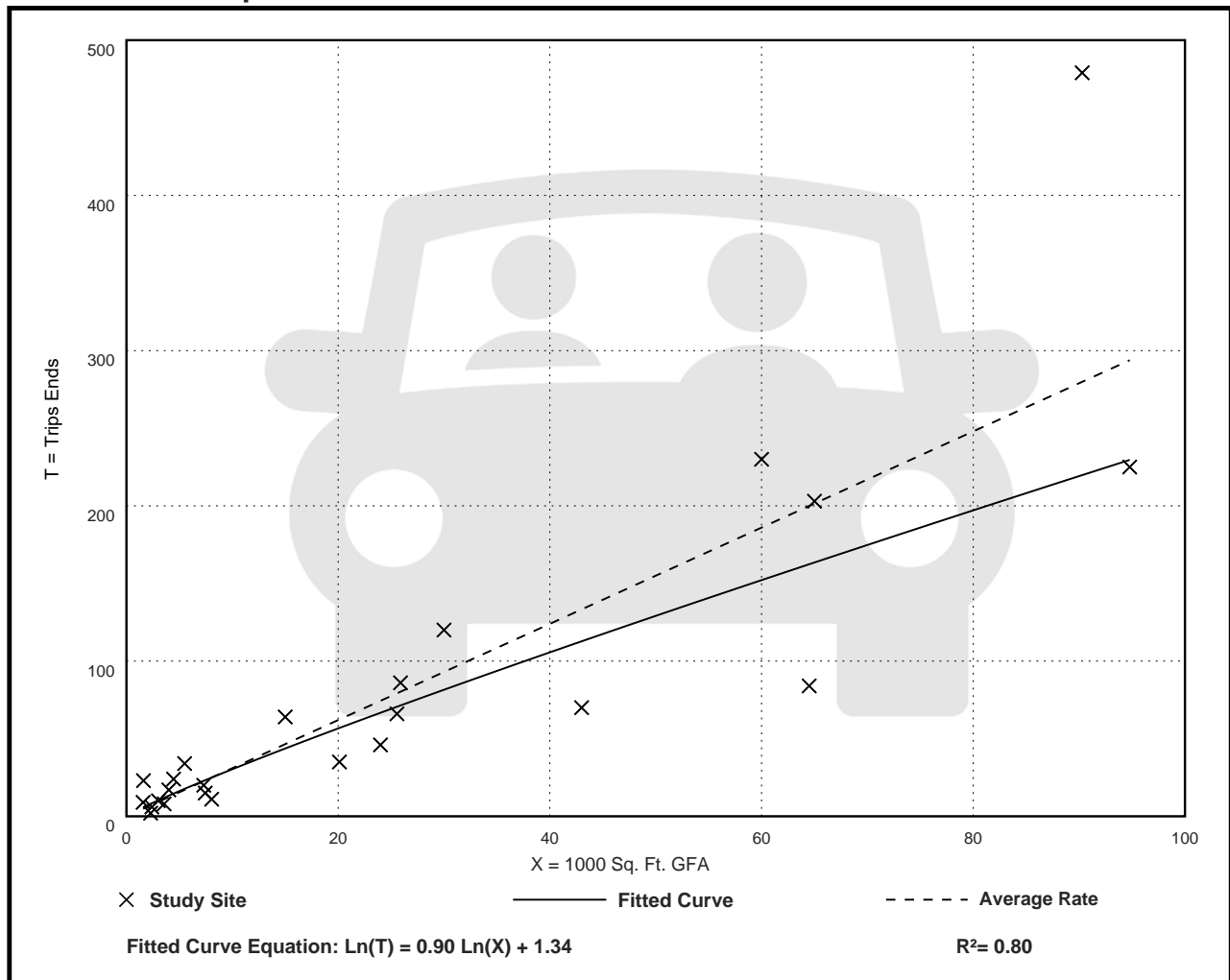
Avg. 1000 Sq. Ft. GFA: 25

Directional Distribution: 79% entering, 21% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 3.10         | 0.87 - 14.30   | 1.49               |

## Data Plot and Equation



# Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 30

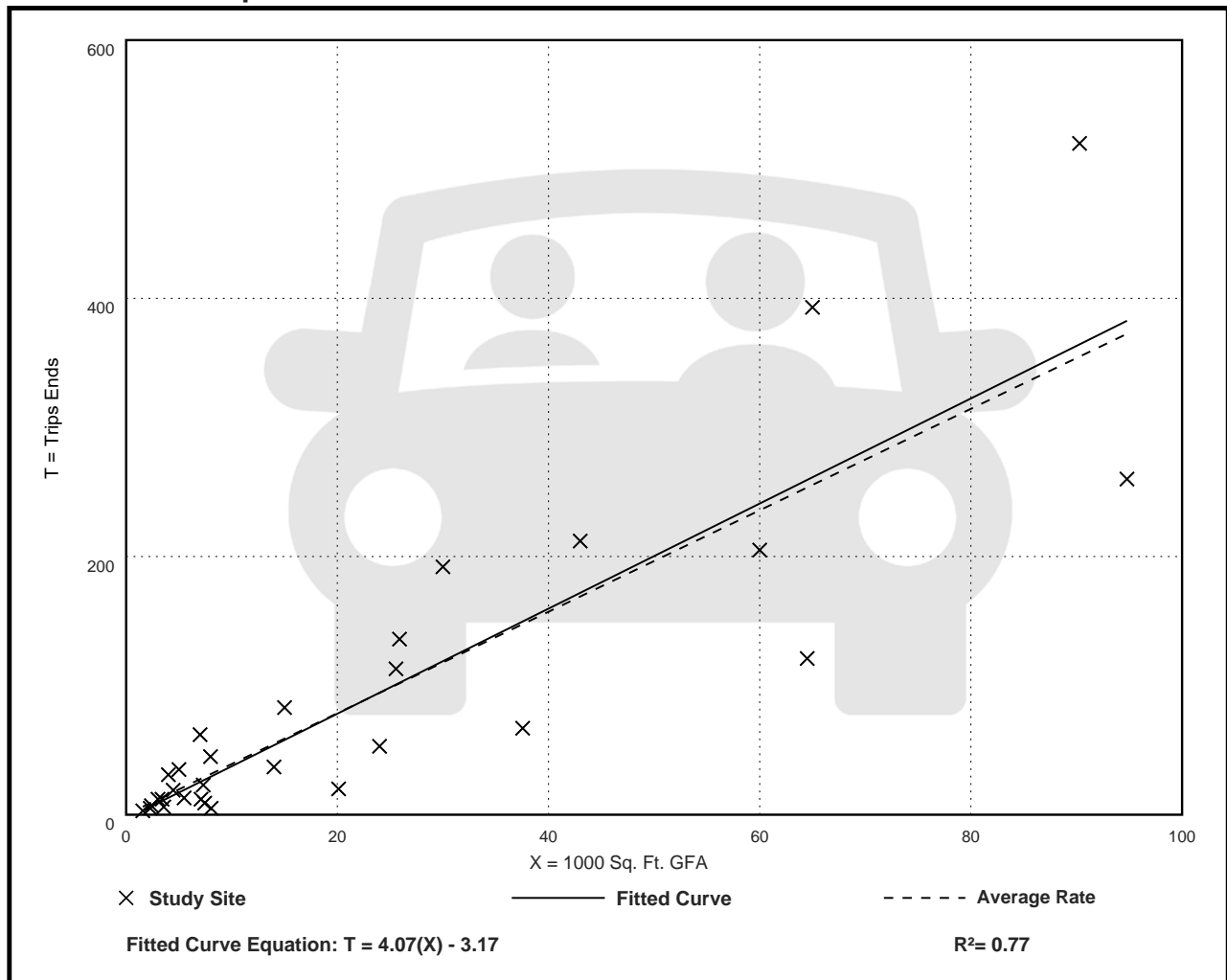
Avg. 1000 Sq. Ft. GFA: 23

Directional Distribution: 30% entering, 70% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 3.93         | 0.62 - 8.86    | 1.86               |

## Data Plot and Equation



*FUTURE YEAR (2029) NO-BUILD CAPACITY REPORTS*

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 295  | 140  | 125  | 215  | 50   | 45   |
| Future Vol, veh/h        | 295  | 140  | 125  | 215  | 50   | 45   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 6    | 2    |
| Mvmt Flow                | 311  | 147  | 132  | 226  | 53   | 47   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 458    | 0 | 875   |
| Stage 1              | -      | -      | -      | - | 385   |
| Stage 2              | -      | -      | -      | - | 490   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.46  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.46  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.46  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.554 |
| Pot Cap-1 Maneuver   | -      | -      | 1103   | - | 315   |
| Stage 1              | -      | -      | -      | - | 679   |
| Stage 2              | -      | -      | -      | - | 608   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1103   | - | 272   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 272   |
| Stage 1              | -      | -      | -      | - | 679   |
| Stage 2              | -      | -      | -      | - | 525   |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.2 | 16.4 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 272   | 663   | -   | -   | 1103  | -   |
| HCM Lane V/C Ratio    | 0.193 | 0.071 | -   | -   | 0.119 | -   |
| HCM Control Delay (s) | 21.4  | 10.8  | -   | -   | 8.7   | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.7   | 0.2   | -   | -   | 0.4   | -   |

HCM 6th Signalized Intersection Summary  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 AM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 145  | 180  | 265  | 1410 | 975  | 95   |
| Future Volume (veh/h)        | 145  | 180  | 265  | 1410 | 975  | 95   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1826 | 1870 | 1953 | 1856 | 1870 |
| Adj Flow Rate, veh/h         | 153  | 189  | 279  | 1484 | 1026 | 100  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 5    | 2    | 3    | 3    | 2    |
| Cap, veh/h                   | 241  | 309  | 444  | 2885 | 2218 | 216  |
| Arrive On Green              | 0.14 | 0.14 | 0.06 | 0.78 | 0.68 | 0.68 |
| Sat Flow, veh/h              | 1781 | 1547 | 1781 | 3809 | 3338 | 316  |
| Grp Volume(v), veh/h         | 153  | 189  | 279  | 1484 | 557  | 569  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1547 | 1781 | 1856 | 1763 | 1799 |
| Q Serve(g_s), s              | 9.8  | 13.4 | 5.2  | 17.8 | 17.6 | 17.6 |
| Cycle Q Clear(g_c), s        | 9.8  | 13.4 | 5.2  | 17.8 | 17.6 | 17.6 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.18 |
| Lane Grp Cap(c), veh/h       | 241  | 309  | 444  | 2885 | 1205 | 1229 |
| V/C Ratio(X)                 | 0.64 | 0.61 | 0.63 | 0.51 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h        | 408  | 455  | 559  | 2885 | 1205 | 1229 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 49.1 | 43.7 | 7.5  | 5.0  | 8.8  | 8.8  |
| Incr Delay (d2), s/veh       | 2.8  | 1.9  | 1.5  | 0.7  | 1.3  | 1.3  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 8.0  | 17.1 | 3.2  | 9.9  | 10.9 | 11.1 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 51.9 | 45.7 | 9.0  | 5.6  | 10.1 | 10.1 |
| LnGrp LOS                    | D    | D    | A    | A    | B    | B    |
| Approach Vol, veh/h          | 342  |      |      | 1763 | 1126 |      |
| Approach Delay, s/veh        | 48.4 |      |      | 6.2  | 10.1 |      |
| Approach LOS                 | D    |      |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 99.3 |      | 20.7 | 11.3 | 88.0 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 15.5 | 63.0 |
| Max Q Clear Time (g_c+I1), s |      | 19.8 |      | 15.4 | 7.2  | 19.6 |
| Green Ext Time (p_c), s      |      | 50.4 |      | 0.9  | 0.5  | 29.5 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 12.0 |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 AM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|------|------------|------|------|------|---|---|--|
| Lane Configurations             | ↶    | ↷    | ↶    | ↕          | ↕    | ↷    |      |   |   |  |
| Traffic Volume (veh/h)          | 145  | 180  | 265  | 1410       | 975  | 95   |      |   |   |  |
| Future Volume (veh/h)           | 145  | 180  | 265  | 1410       | 975  | 95   |      |   |   |  |
| Number                          | 7    | 14   | 5    | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0    | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |      | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |      |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1870 | 1826 | 1870 | 1953       | 1856 | 1870 |      |   |   |  |
| Adj Flow Rate, veh/h            | 153  | 189  | 279  | 1484       | 1026 | 100  |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 2    | 5    | 2    | 3          | 3    | 2    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes  |            |      |      |      |   |   |  |
| Cap, veh/h                      | 241  | 309  | 444  | 2885       | 2218 | 216  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Prop Arrive On Green            | 0.14 | 0.14 | 0.06 | 0.78       | 0.68 | 0.68 |      |   |   |  |
| Unsig. Movement Delay           |      |      |      |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 51.9 | 45.7 | 9.0  | 5.6        | 10.1 | 10.1 |      |   |   |  |
| Ln Grp LOS                      | D    | D    | A    | A          | B    | B    |      |   |   |  |
| Approach Vol, veh/h             | 342  |      |      | 1763       | 1126 |      |      |   |   |  |
| Approach Delay, s/veh           | 48.4 |      |      | 6.2        | 10.1 |      |      |   |   |  |
| Approach LOS                    | D    |      |      | A          | B    |      |      |   |   |  |
| Timer:                          |      | 1    | 2    | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2    |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0  |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 99.3 |            | 20.7 | 11.3 | 88.0 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0  |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 82.0 |            | 27.5 | 15.5 | 63.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2  |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 19.8 |            | 15.4 | 7.2  | 19.6 |   |   |  |
| Green Ext Time (g_e), s         |      |      | 50.4 |            | 0.9  | 0.5  | 29.5 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00 |            | 1.00 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.70 |            | 0.01 | 0.06 | 0.59 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |      |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |      |            | 1781 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2    |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3809 |            | 0    |      | 3338 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12   |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0    |            | 1547 |      | 316  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0    | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |      | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 153  | 279  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 9.8  | 5.2  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 9.8  | 5.2  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 500  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 84.0 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 64.4 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 24.7 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 82.0 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 241  | 444  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.64 | 0.63 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 559  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 49.1 | 7.5  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 2.8  | 1.5  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 51.9 | 9.0  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 4.3  | 1.6  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.2  | 0.2  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.77 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 8.0  | 3.2  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 3.70 | 0.78 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1484 | 0    | 0    | 0    | 557  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 17.8 | 0.0  | 0.0  | 0.0  | 17.6 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 17.8 | 0.0  | 0.0  | 0.0  | 17.6 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2885 | 0    | 0    | 0    | 1205 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.51 | 0.00 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2885 | 0    | 0    | 0    | 1205 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 5.0  | 0.0  | 0.0  | 0.0  | 8.8  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.7  | 0.0  | 0.0  | 0.0  | 1.3  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh            | 0.0  | 5.6  | 0.0  | 0.0  | 0.0  | 10.1 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 5.6  | 0.0  | 0.0  | 0.0  | 6.2  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.3  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 AM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.68 | 0.00 | 1.00 | 0.00 | 1.64 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 9.9  | 0.0  | 0.0  | 0.0  | 10.9 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 1.06 | 0.00 | 0.00 | 0.00 | 0.52 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 189    | 0    | 569  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1547   | 0    | 1799 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 13.4   | 0.0  | 17.6 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 13.4   | 0.0  | 17.6 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1547.4 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 7.8    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.18 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 309    | 0    | 1229 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.61   | 0.00 | 0.46 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 455    | 0    | 1229 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 43.7   | 0.0  | 8.8  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 1.9    | 0.0  | 1.3  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh      | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 45.7   | 0.0  | 10.1 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 11.3   | 0.0  | 6.4  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.2    | 0.0  | 0.4  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.48   | 0.00 | 1.63 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 17.1   | 0.0  | 11.1 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 8.07   | 0.00 | 0.53 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 12.0 |
| HCM 6th LOS        | B    |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 0    | 35   | 0    | 1675 | 1090 | 65   |
| Future Vol, veh/h        | 0    | 35   | 0    | 1675 | 1090 | 65   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | Stop | -    | None | -    | Free |
| Storage Length           | -    | 0    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 6    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 0    | 37   | 0    | 1763 | 1147 | 68   |

| Major/Minor          | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | -      | 574    | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 7.02   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 3.36   | -      |
| Pot Cap-1 Maneuver   | 0      | 452    | 0      |
| Stage 1              | 0      | -      | 0      |
| Stage 2              | 0      | -      | 0      |
| Platoon blocked, %   |        |        | -      |
| Mov Cap-1 Maneuver   | -      | 452    | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.7 | 0  | 0  |
| HCM LOS              | B    |    |    |

| Minor Lane/Major Mvmt | NBT EBLn1 | SBT |
|-----------------------|-----------|-----|
| Capacity (veh/h)      | - 452     | -   |
| HCM Lane V/C Ratio    | - 0.082   | -   |
| HCM Control Delay (s) | - 13.7    | -   |
| HCM Lane LOS          | - B       | -   |
| HCM 95th %tile Q(veh) | - 0.3     | -   |

HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
AM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 30   | 80    | 195  | 1645 | 1050 | 75   |
| Future Volume (veh/h)        | 30   | 80    | 195  | 1645 | 1050 | 75   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |       |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1693 | 1856  | 1870 | 1953 | 1856 | 1781 |
| Adj Flow Rate, veh/h         | 32   | 84    | 205  | 1732 | 1105 | 79   |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 14   | 3     | 2    | 3    | 3    | 8    |
| Cap, veh/h                   | 113  | 110   | 502  | 3127 | 2569 | 184  |
| Arrive On Green              | 0.07 | 0.07  | 0.04 | 0.84 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1612 | 1572  | 1781 | 3809 | 3430 | 238  |
| Grp Volume(v), veh/h         | 32   | 84    | 205  | 1732 | 583  | 601  |
| Grp Sat Flow(s),veh/h/ln     | 1612 | 1572  | 1781 | 1856 | 1763 | 1813 |
| Q Serve(g_s), s              | 2.3  | 6.3   | 2.7  | 16.5 | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 6.3   | 2.7  | 16.5 | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.13 |
| Lane Grp Cap(c), veh/h       | 113  | 110   | 502  | 3127 | 1357 | 1396 |
| V/C Ratio(X)                 | 0.28 | 0.76  | 0.41 | 0.55 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h        | 343  | 334   | 833  | 3127 | 1357 | 1396 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 1.33 | 1.33 |
| Upstream Filter(l)           | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 52.9 | 54.8  | 2.0  | 2.8  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.4  | 10.4  | 0.5  | 0.7  | 1.0  | 1.0  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 1.7  | 9.6   | 1.3  | 7.4  | 0.7  | 0.7  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 54.3 | 65.2  | 2.5  | 3.5  | 1.0  | 1.0  |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A    |
| Approach Vol, veh/h          | 116  |       |      | 1937 | 1184 |      |
| Approach Delay, s/veh        | 62.2 |       |      | 3.4  | 1.0  |      |
| Approach LOS                 | E    |       |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 107.1 |      | 12.9 | 8.7  | 98.4 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 27.5 | 53.0 |
| Max Q Clear Time (g_c+l1), s |      | 18.5  |      | 8.3  | 4.7  | 2.0  |
| Green Ext Time (p_c), s      |      | 58.6  |      | 0.3  | 0.6  | 34.8 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 4.6  |      |      |      |
| HCM 6th LOS                  |      |       | A    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
AM Peak Hour



| Movement                        | EBL  | EBR  | NBL   | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|-------|------------|------|------|------|---|---|--|
| Lane Configurations             |      |      |       |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)          | 30   | 80   | 195   | 1645       | 1050 | 75   |      |   |   |  |
| Future Volume (veh/h)           | 30   | 80   | 195   | 1645       | 1050 | 75   |      |   |   |  |
| Number                          | 7    | 14   | 5     | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0     | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00  |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |       | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |       |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1693 | 1856 | 1870  | 1953       | 1856 | 1781 |      |   |   |  |
| Adj Flow Rate, veh/h            | 32   | 84   | 205   | 1732       | 1105 | 79   |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95  | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 14   | 3    | 2     | 3          | 3    | 8    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes   |            |      |      |      |   |   |  |
| Cap, veh/h                      | 113  | 110  | 502   | 3127       | 2569 | 184  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00  | 1.00       | 1.33 | 1.33 |      |   |   |  |
| Prop Arrive On Green            | 0.07 | 0.07 | 0.04  | 0.84       | 1.00 | 1.00 |      |   |   |  |
| Unsig. Movement Delay           |      |      |       |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 54.3 | 65.2 | 2.5   | 3.5        | 1.0  | 1.0  |      |   |   |  |
| Ln Grp LOS                      | D    | E    | A     | A          | A    | A    |      |   |   |  |
| Approach Vol, veh/h             | 116  |      |       | 1937       | 1184 |      |      |   |   |  |
| Approach Delay, s/veh           | 62.2 |      |       | 3.4        | 1.0  |      |      |   |   |  |
| Approach LOS                    | E    |      |       | A          | A    |      |      |   |   |  |
| Timer:                          |      | 1    | 2     | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2     |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0   |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 107.1 |            | 12.9 | 8.7  | 98.4 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0   |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 84.0  |            | 25.5 | 27.5 | 53.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2   |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 18.5  |            | 8.3  | 4.7  | 2.0  |   |   |  |
| Green Ext Time (g_e), s         |      |      | 58.6  |            | 0.3  | 0.6  | 34.8 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00  |            | 0.98 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.83  |            | 0.00 | 0.00 | 0.58 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |       |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |       |            | 1612 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2     |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3809  |            | 0    |      | 3430 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12    |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0     |            | 1572 |      | 238  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0     | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |       | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 32   | 205  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1612 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 2.3  | 2.7  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 2.3  | 2.7  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1612 | 473  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 94.4 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 92.4 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 1.5  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 92.4 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 113  | 502  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.28 | 0.41 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 343  | 833  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 52.9 | 2.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.4  | 0.5  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 54.3 | 2.5  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 0.9  | 0.6  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 1.7  | 1.3  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.48 | 0.26 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1732 | 0    | 0    | 0    | 583  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 16.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 16.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3127 | 0    | 0    | 0    | 1357 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.55 | 0.00 | 0.00 | 0.00 | 0.43 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3127 | 0    | 0    | 0    | 1357 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 2.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.7  | 0.0  | 0.0  | 0.0  | 1.0  | 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  |
| Control Delay (d), s/veh            | 0.0  | 3.5  | 0.0  | 0.0  | 0.0  | 1.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.3  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
AM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.80 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 7.4  | 0.0  | 0.0  | 0.0  | 0.7  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.24 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 84   | 0    | 601  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1813 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 6.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 6.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.13 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 110  | 0    | 1396 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.76 | 0.00 | 0.43 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1396 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 54.8 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 10.4 | 0.0  | 1.0  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 65.2 | 0.0  | 1.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 5.4  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.3  | 0.0  | 0.4  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.69 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 9.6  | 0.0  | 0.7  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |     |
|--------------------|-----|
| HCM 6th Ctrl Delay | 4.6 |
| HCM 6th LOS        | A   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 340  | 0    | 0    | 340  | 0    | 0    |
| Future Vol, veh/h        | 340  | 0    | 0    | 340  | 0    | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 358  | 0    | 0    | 358  | 0    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 358    | 0      | 716    |
| Stage 1              | -      | -      | -      | -      | 358    |
| Stage 2              | -      | -      | -      | -      | 358    |
| Critical Hdwy        | -      | -      | 4.12   | -      | 6.42   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.42   |
| Follow-up Hdwy       | -      | -      | 2.218  | -      | 3.518  |
| Pot Cap-1 Maneuver   | -      | -      | 1201   | -      | 397    |
| Stage 1              | -      | -      | -      | -      | 707    |
| Stage 2              | -      | -      | -      | -      | 707    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1201   | -      | 397    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 397    |
| Stage 1              | -      | -      | -      | -      | 707    |
| Stage 2              | -      | -      | -      | -      | 707    |

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

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | -     | -   | -   | 1201 | -   |
| HCM Lane V/C Ratio    | -     | -   | -   | -    | -   |
| HCM Control Delay (s) | 0     | -   | -   | 0    | -   |
| HCM Lane LOS          | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | -     | -   | -   | 0    | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 335  | 5    | 5    | 340  | 1    | 1    |
| Future Vol, veh/h        | 335  | 5    | 5    | 340  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 353  | 5    | 5    | 358  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 358    | 0 | 724   |
| Stage 1              | -      | -      | -      | - | 356   |
| Stage 2              | -      | -      | -      | - | 368   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1201   | - | 393   |
| Stage 1              | -      | -      | -      | - | 709   |
| Stage 2              | -      | -      | -      | - | 700   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1201   | - | 391   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 391   |
| Stage 1              | -      | -      | -      | - | 709   |
| Stage 2              | -      | -      | -      | - | 697   |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.1 | 12.2 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 499   | -   | -   | 1201  | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   | 0.004 | -   |
| HCM Control Delay (s) | 12.2  | -   | -   | 8     | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 325  | 10   | 15   | 345  | 1    | 1    |
| Future Vol, veh/h        | 325  | 10   | 15   | 345  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 3    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 342  | 11   | 16   | 363  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 353    | 0      | 743    |
| Stage 1              | -      | -      | -      | -      | 348    |
| Stage 2              | -      | -      | -      | -      | 395    |
| Critical Hdwy        | -      | -      | 4.12   | -      | 6.42   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.42   |
| Follow-up Hdwy       | -      | -      | 2.218  | -      | 3.518  |
| Pot Cap-1 Maneuver   | -      | -      | 1206   | -      | 383    |
| Stage 1              | -      | -      | -      | -      | 715    |
| Stage 2              | -      | -      | -      | -      | 681    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1206   | -      | 376    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 376    |
| Stage 1              | -      | -      | -      | -      | 715    |
| Stage 2              | -      | -      | -      | -      | 669    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.3 | 12.4 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 488   | -   | -   | 1206  | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   | 0.013 | -   |
| HCM Control Delay (s) | 12.4  | -   | -   | 8     | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0     | -   | -   | 0     | -   |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    | ↑    |      |
| Traffic Vol, veh/h       | 325  | 0    | 0    | 360  | 1    | 1    |
| Future Vol, veh/h        | 325  | 0    | 0    | 360  | 1    | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 342  | 0    | 0    | 379  | 1    | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | -      | -      | - | 721 171     |
| Stage 1              | -      | -      | -      | - | 342 -       |
| Stage 2              | -      | -      | -      | - | 379 -       |
| Critical Hdwy        | -      | -      | -      | - | 6.63 6.93   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.83 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.43 -      |
| Follow-up Hdwy       | -      | -      | -      | - | 3.519 3.319 |
| Pot Cap-1 Maneuver   | -      | 0      | 0      | - | 378 844     |
| Stage 1              | -      | 0      | 0      | - | 692 -       |
| Stage 2              | -      | 0      | 0      | - | 691 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | 378 844     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 378 -       |
| Stage 1              | -      | -      | -      | - | 692 -       |
| Stage 2              | -      | -      | -      | - | 691 -       |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 0  | 11.9 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | WBT |
|-----------------------|-------|-----|-----|
| Capacity (veh/h)      | 522   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | -   |
| HCM Control Delay (s) | 11.9  | -   | -   |
| HCM Lane LOS          | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 290  | 20   | 35   | 250  | 80   | 85   |
| Future Vol, veh/h        | 290  | 20   | 35   | 250  | 80   | 85   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 11   | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 305  | 21   | 37   | 263  | 84   | 89   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 326    | 0 | 653 316     |
| Stage 1              | -      | -      | -      | - | 316 -       |
| Stage 2              | -      | -      | -      | - | 337 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1234   | - | 432 724     |
| Stage 1              | -      | -      | -      | - | 739 -       |
| Stage 2              | -      | -      | -      | - | 723 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1234   | - | 417 724     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 417 -       |
| Stage 1              | -      | -      | -      | - | 739 -       |
| Stage 2              | -      | -      | -      | - | 698 -       |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 1  | 13.2 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 417   | 724   | -   | -   | 1234 | -   |
| HCM Lane V/C Ratio    | 0.202 | 0.124 | -   | -   | 0.03 | -   |
| HCM Control Delay (s) | 15.8  | 10.7  | -   | -   | 8    | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 0.7   | 0.4   | -   | -   | 0.1  | -   |

HCM 6th Signalized Intersection Summary  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 PM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 165  | 240  | 185  | 1050 | 1305 | 95   |
| Future Volume (veh/h)        | 165  | 240  | 185  | 1050 | 1305 | 95   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1969 | 1870 | 1870 |
| Adj Flow Rate, veh/h         | 174  | 253  | 195  | 1105 | 1374 | 100  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 2    | 2    |
| Cap, veh/h                   | 306  | 355  | 305  | 2771 | 2215 | 161  |
| Arrive On Green              | 0.17 | 0.17 | 0.05 | 0.74 | 0.66 | 0.66 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3839 | 3453 | 244  |
| Grp Volume(v), veh/h         | 174  | 253  | 195  | 1105 | 725  | 749  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1870 | 1777 | 1826 |
| Q Serve(g_s), s              | 10.8 | 17.7 | 4.0  | 13.0 | 28.1 | 28.4 |
| Cycle Q Clear(g_c), s        | 10.8 | 17.7 | 4.0  | 13.0 | 28.1 | 28.4 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.13 |
| Lane Grp Cap(c), veh/h       | 306  | 355  | 305  | 2771 | 1172 | 1204 |
| V/C Ratio(X)                 | 0.57 | 0.71 | 0.64 | 0.40 | 0.62 | 0.62 |
| Avail Cap(c_a), veh/h        | 408  | 446  | 397  | 2771 | 1172 | 1204 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 45.6 | 43.0 | 13.4 | 5.7  | 11.8 | 11.8 |
| Incr Delay (d2), s/veh       | 1.7  | 3.9  | 2.2  | 0.4  | 2.5  | 2.4  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 8.5  | 21.8 | 4.6  | 8.2  | 16.6 | 17.2 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 47.3 | 46.9 | 15.7 | 6.2  | 14.2 | 14.2 |
| LnGrp LOS                    | D    | D    | B    | A    | B    | B    |
| Approach Vol, veh/h          | 427  |      |      | 1300 | 1474 |      |
| Approach Delay, s/veh        | 47.1 |      |      | 7.6  | 14.2 |      |
| Approach LOS                 | D    |      |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 94.9 |      | 25.1 | 9.8  | 85.1 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 12.5 | 66.0 |
| Max Q Clear Time (g_c+l1), s |      | 15.0 |      | 19.7 | 6.0  | 30.4 |
| Green Ext Time (p_c), s      |      | 38.6 |      | 0.9  | 0.3  | 31.1 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 15.9 |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 PM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|------|------------|------|------|------|---|---|--|
| Lane Configurations             |      |      |      |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)          | 165  | 240  | 185  | 1050       | 1305 | 95   |      |   |   |  |
| Future Volume (veh/h)           | 165  | 240  | 185  | 1050       | 1305 | 95   |      |   |   |  |
| Number                          | 7    | 14   | 5    | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0    | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |      | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |      |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1870 | 1870 | 1870 | 1969       | 1870 | 1870 |      |   |   |  |
| Adj Flow Rate, veh/h            | 174  | 253  | 195  | 1105       | 1374 | 100  |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 2    | 2    | 2    | 2          | 2    | 2    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes  |            |      |      |      |   |   |  |
| Cap, veh/h                      | 306  | 355  | 305  | 2771       | 2215 | 161  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Prop Arrive On Green            | 0.17 | 0.17 | 0.05 | 0.74       | 0.66 | 0.66 |      |   |   |  |
| Unsig. Movement Delay           |      |      |      |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 47.3 | 46.9 | 15.7 | 6.2        | 14.2 | 14.2 |      |   |   |  |
| Ln Grp LOS                      | D    | D    | B    | A          | B    | B    |      |   |   |  |
| Approach Vol, veh/h             | 427  |      |      | 1300       | 1474 |      |      |   |   |  |
| Approach Delay, s/veh           | 47.1 |      |      | 7.6        | 14.2 |      |      |   |   |  |
| Approach LOS                    | D    |      |      | A          | B    |      |      |   |   |  |
| Timer:                          |      | 1    | 2    | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2    |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0  |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 94.9 |            | 25.1 | 9.8  | 85.1 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0  |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 82.0 |            | 27.5 | 12.5 | 66.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2  |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 15.0 |            | 19.7 | 6.0  | 30.4 |   |   |  |
| Green Ext Time (g_e), s         |      |      | 38.6 |            | 0.9  | 0.3  | 31.1 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00 |            | 1.00 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.35 |            | 0.16 | 0.12 | 0.86 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |      |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |      |            | 1781 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2    |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3839 |            | 0    |      | 3453 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12   |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0    |            | 1585 |      | 244  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0    | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |      | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 174  | 195  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 10.8 | 4.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 10.8 | 4.0  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 359  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 81.1 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 50.7 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 36.2 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 79.1 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 306  | 305  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.57 | 0.64 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 397  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 45.6 | 13.4 | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.7  | 2.2  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 47.3 | 15.7 | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 4.8  | 2.4  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.1  | 0.2  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.74 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 8.5  | 4.6  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 3.94 | 1.12 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1105 | 0    | 0    | 0    | 725  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 13.0 | 0.0  | 0.0  | 0.0  | 28.1 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 13.0 | 0.0  | 0.0  | 0.0  | 28.1 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2771 | 0    | 0    | 0    | 1172 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.40 | 0.00 | 0.00 | 0.00 | 0.62 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2771 | 0    | 0    | 0    | 1172 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 5.7  | 0.0  | 0.0  | 0.0  | 11.8 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  | 2.5  | 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  |
| Control Delay (d), s/veh            | 0.0  | 6.2  | 0.0  | 0.0  | 0.0  | 14.2 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 4.5  | 0.0  | 0.0  | 0.0  | 10.4 | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.8  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) No-Build Traffic Volumes  
 PM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.76 | 0.00 | 1.00 | 0.00 | 1.49 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 8.2  | 0.0  | 0.0  | 0.0  | 16.6 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.88 | 0.00 | 0.00 | 0.00 | 0.79 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 253    | 0    | 749  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1585   | 0    | 1826 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 17.7   | 0.0  | 28.4 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 17.7   | 0.0  | 28.4 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1585.1 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 6.3    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.13 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 355    | 0    | 1204 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.71   | 0.00 | 0.62 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 446    | 0    | 1204 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 43.0   | 0.0  | 11.8 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 3.9    | 0.0  | 2.4  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh      | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 46.9   | 0.0  | 14.2 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 15.0   | 0.0  | 10.8 | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.4    | 0.0  | 0.8  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.42   | 0.00 | 1.48 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 21.8   | 0.0  | 17.2 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 10.06  | 0.00 | 0.81 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 15.9 |
| HCM 6th LOS        | B    |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 0    | 70   | 0    | 1235 | 1535 | 10   |
| Future Vol, veh/h        | 0    | 70   | 0    | 1235 | 1535 | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | Stop | -    | None | -    | Free |
| Storage Length           | -    | 0    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 0    | 74   | 0    | 1300 | 1616 | 11   |

| Major/Minor          | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | -      | 808    | 0      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | 6.94   | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | 3.32   | -      |
| Pot Cap-1 Maneuver   | 0      | 324    | 0      |
| Stage 1              | 0      | -      | 0      |
| Stage 2              | 0      | -      | 0      |
| Platoon blocked, %   |        |        | -      |
| Mov Cap-1 Maneuver   | -      | 324    | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 19.4 | 0  | 0  |
| HCM LOS              | C    |    |    |

| Minor Lane/Major Mvmt | NBT EBLn1 | SBT |
|-----------------------|-----------|-----|
| Capacity (veh/h)      | - 324     | -   |
| HCM Lane V/C Ratio    | - 0.227   | -   |
| HCM Control Delay (s) | - 19.4    | -   |
| HCM Lane LOS          | - C       | -   |
| HCM 95th %tile Q(veh) | - 0.9     | -   |

HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
PM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 50   | 90    | 45   | 1185 | 1575 | 30    |
| Future Volume (veh/h)        | 50   | 90    | 45   | 1185 | 1575 | 30    |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0     |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Work Zone On Approach        | No   |       |      | No   | No   |       |
| Adj Sat Flow, veh/h/ln       | 1781 | 1856  | 1826 | 1969 | 1870 | 1693  |
| Adj Flow Rate, veh/h         | 53   | 95    | 47   | 1247 | 1658 | 32    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95  |
| Percent Heavy Veh, %         | 8    | 3     | 5    | 2    | 2    | 14    |
| Cap, veh/h                   | 133  | 123   | 318  | 3120 | 2800 | 54    |
| Arrive On Green              | 0.08 | 0.08  | 0.02 | 0.83 | 1.00 | 1.00  |
| Sat Flow, veh/h              | 1697 | 1572  | 1739 | 3839 | 3660 | 69    |
| Grp Volume(v), veh/h         | 53   | 95    | 47   | 1247 | 825  | 865   |
| Grp Sat Flow(s),veh/h/ln     | 1697 | 1572  | 1739 | 1870 | 1777 | 1858  |
| Q Serve(g_s), s              | 3.6  | 7.1   | 0.6  | 10.0 | 0.0  | 0.0   |
| Cycle Q Clear(g_c), s        | 3.6  | 7.1   | 0.6  | 10.0 | 0.0  | 0.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.04  |
| Lane Grp Cap(c), veh/h       | 133  | 123   | 318  | 3120 | 1395 | 1459  |
| V/C Ratio(X)                 | 0.40 | 0.77  | 0.15 | 0.40 | 0.59 | 0.59  |
| Avail Cap(c_a), veh/h        | 361  | 334   | 450  | 3120 | 1395 | 1459  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 2.00 | 2.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 52.6 | 54.2  | 2.0  | 2.5  | 0.0  | 0.0   |
| Incr Delay (d2), s/veh       | 1.9  | 9.7   | 0.2  | 0.4  | 1.8  | 1.8   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(95%),veh/ln     | 2.9  | 10.6  | 0.3  | 4.8  | 1.3  | 1.3   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 54.5 | 63.9  | 2.2  | 2.9  | 1.8  | 1.8   |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 148  |       |      | 1294 | 1690 |       |
| Approach Delay, s/veh        | 60.6 |       |      | 2.8  | 1.8  |       |
| Approach LOS                 | E    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 106.1 |      | 13.9 | 5.9  | 100.2 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0   |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 11.5 | 69.0  |
| Max Q Clear Time (g_c+l1), s |      | 12.0  |      | 9.1  | 2.6  | 2.0   |
| Green Ext Time (p_c), s      |      | 47.0  |      | 0.4  | 0.0  | 59.5  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 5.0  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |



HCM 6th Signalized Intersection Capacity Analysis  
 400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
 PM Peak Hour



| Movement                        | EBL  | EBR  | NBL   | NBT        | SBT  | SBR  |       |   |   |  |
|---------------------------------|------|------|-------|------------|------|------|-------|---|---|--|
| Lane Configurations             |      |      |       |            |      |      |       |   |   |  |
| Traffic Volume (veh/h)          | 50   | 90   | 45    | 1185       | 1575 | 30   |       |   |   |  |
| Future Volume (veh/h)           | 50   | 90   | 45    | 1185       | 1575 | 30   |       |   |   |  |
| Number                          | 7    | 14   | 5     | 2          | 6    | 16   |       |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0     | 0          | 0    | 0    |       |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00  |            |      | 1.00 |       |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |       |   |   |  |
| Work Zone On Approach           | No   |      |       | No         | No   |      |       |   |   |  |
| Lanes Open During Work Zone     |      |      |       |            |      |      |       |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1781 | 1856 | 1826  | 1969       | 1870 | 1693 |       |   |   |  |
| Adj Flow Rate, veh/h            | 53   | 95   | 47    | 1247       | 1658 | 32   |       |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95  | 0.95       | 0.95 | 0.95 |       |   |   |  |
| Percent Heavy Veh, %            | 8    | 3    | 5     | 2          | 2    | 14   |       |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes   |            |      |      |       |   |   |  |
| Cap, veh/h                      | 133  | 123  | 318   | 3120       | 2800 | 54   |       |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00  | 1.00       | 2.00 | 2.00 |       |   |   |  |
| Prop Arrive On Green            | 0.08 | 0.08 | 0.02  | 0.83       | 1.00 | 1.00 |       |   |   |  |
| Unsig. Movement Delay           |      |      |       |            |      |      |       |   |   |  |
| Ln Grp Delay, s/veh             | 54.5 | 63.9 | 2.2   | 2.9        | 1.8  | 1.8  |       |   |   |  |
| Ln Grp LOS                      | D    | E    | A     | A          | A    | A    |       |   |   |  |
| Approach Vol, veh/h             | 148  |      |       | 1294       | 1690 |      |       |   |   |  |
| Approach Delay, s/veh           | 60.6 |      |       | 2.8        | 1.8  |      |       |   |   |  |
| Approach LOS                    | E    |      |       | A          | A    |      |       |   |   |  |
| Timer:                          |      | 1    | 2     | 3          | 4    | 5    | 6     | 7 | 8 |  |
| Assigned Phs                    |      |      | 2     |            | 4    | 5    | 6     |   |   |  |
| Case No                         |      |      | 4.0   |            | 9.0  | 1.2  | 8.0   |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 106.1 |            | 13.9 | 5.9  | 100.2 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0   |            | 4.5  | 3.5  | 6.0   |   |   |  |
| Max Green (Gmax), s             |      |      | 84.0  |            | 25.5 | 11.5 | 69.0  |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2   |            | 4.0  | 3.8  | 9.2   |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 12.0  |            | 9.1  | 2.6  | 2.0   |   |   |  |
| Green Ext Time (g_e), s         |      |      | 47.0  |            | 0.4  | 0.0  | 59.5  |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00  |            | 0.99 | 0.79 | 1.00  |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.46  |            | 0.00 | 0.00 | 0.85  |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |       |            |      |      |       |   |   |  |
| Assigned Mvmt                   |      |      |       |            | 7    | 5    | 1     |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |       |            | 1697 | 1739 | 0     |   |   |  |
| <b>Through Movement Data</b>    |      |      |       |            |      |      |       |   |   |  |
| Assigned Mvmt                   |      |      | 2     |            | 4    |      | 6     |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3839  |            | 0    |      | 3660  |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |       |            |      |      |       |   |   |  |
| Assigned Mvmt                   |      |      | 12    |            | 14   |      | 16    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0     |            | 1572 |      | 69    |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |       |            |      |      |       |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0     | 7          | 5    | 1    | 0     | 0 |   |  |
| Lane Assignment                 |      |      |       | LL (Pr/Pm) |      |      |       |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 53   | 47   | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1697 | 1739 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 3.6  | 0.6  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 3.6  | 0.6  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1697 | 284  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 96.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 94.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 94.2 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 133  | 318  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.40 | 0.15 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 361  | 450  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 52.6 | 2.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.9  | 0.2  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 54.5 | 2.2  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 1.5  | 0.1  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 2.9  | 0.3  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.77 | 0.06 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1247 | 0    | 0    | 0    | 825  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 10.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 10.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3120 | 0    | 0    | 0    | 1395 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.40 | 0.00 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3120 | 0    | 0    | 0    | 1395 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  | 1.8  | 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  |
| Control Delay (d), s/veh            | 0.0  | 2.9  | 0.0  | 0.0  | 0.0  | 1.8  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 2.5  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.7  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) No-Build Traffic Volumes  
PM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.80 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 4.8  | 0.0  | 0.0  | 0.0  | 1.3  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 95   | 0    | 865  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1858 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 7.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 7.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 123  | 0    | 1459 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1459 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 54.2 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 9.7  | 0.0  | 1.8  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 63.9 | 0.0  | 1.8  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 6.1  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.3  | 0.0  | 0.7  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.65 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 10.6 | 0.0  | 1.3  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.05 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |     |
|--------------------|-----|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS        | A   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      |      | ↔    | ↔    |      |
| Traffic Vol, veh/h       | 375  | 0    | 0    | 285  | 0    | 0    |
| Future Vol, veh/h        | 375  | 0    | 0    | 285  | 0    | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 395  | 0    | 0    | 300  | 0    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 395    | 0 | 695   |
| Stage 1              | -      | -      | -      | - | 395   |
| Stage 2              | -      | -      | -      | - | 300   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1164   | - | 408   |
| Stage 1              | -      | -      | -      | - | 681   |
| Stage 2              | -      | -      | -      | - | 752   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1164   | - | 408   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 408   |
| Stage 1              | -      | -      | -      | - | 681   |
| Stage 2              | -      | -      | -      | - | 752   |

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

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | -     | -   | -   | 1164 | -   |
| HCM Lane V/C Ratio    | -     | -   | -   | -    | -   |
| HCM Control Delay (s) | 0     | -   | -   | 0    | -   |
| HCM Lane LOS          | A     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | -     | -   | -   | 0    | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 375  | 1    | 1    | 275  | 10   | 1    |
| Future Vol, veh/h        | 375  | 1    | 1    | 275  | 10   | 1    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 395  | 1    | 1    | 289  | 11   | 1    |

| Major/Minor          | Major1 | Major2 | Minor1 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 0      | 0      | 396    | 0 | 687   |
| Stage 1              | -      | -      | -      | - | 396   |
| Stage 2              | -      | -      | -      | - | 291   |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42  |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42  |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 |
| Pot Cap-1 Maneuver   | -      | -      | 1163   | - | 413   |
| Stage 1              | -      | -      | -      | - | 680   |
| Stage 2              | -      | -      | -      | - | 759   |
| Platoon blocked, %   | -      | -      | -      | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | 1163   | - | 413   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 413   |
| Stage 1              | -      | -      | -      | - | 680   |
| Stage 2              | -      | -      | -      | - | 758   |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 0  | 13.7 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 427   | -   | -   | 1163  | -   |
| HCM Lane V/C Ratio    | 0.027 | -   | -   | 0.001 | -   |
| HCM Control Delay (s) | 13.7  | -   | -   | 8.1   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | T    |      |      | T    |      | T    |
| Traffic Vol, veh/h       | 370  | 5    | 10   | 270  | 5    | 25   |
| Future Vol, veh/h        | 370  | 5    | 10   | 270  | 5    | 25   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 389  | 5    | 11   | 284  | 5    | 26   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 394    | 0      | 698    |
| Stage 1              | -      | -      | -      | -      | 392    |
| Stage 2              | -      | -      | -      | -      | 306    |
| Critical Hdwy        | -      | -      | 4.12   | -      | 6.42   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.42   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.42   |
| Follow-up Hdwy       | -      | -      | 2.218  | -      | 3.518  |
| Pot Cap-1 Maneuver   | -      | -      | 1165   | -      | 407    |
| Stage 1              | -      | -      | -      | -      | 683    |
| Stage 2              | -      | -      | -      | -      | 747    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1165   | -      | 403    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 403    |
| Stage 1              | -      | -      | -      | -      | 683    |
| Stage 2              | -      | -      | -      | -      | 739    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.3 | 11.4 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 595   | -   | -   | 1165  | -   |
| HCM Lane V/C Ratio    | 0.053 | -   | -   | 0.009 | -   |
| HCM Control Delay (s) | 11.4  | -   | -   | 8.1   | 0   |
| HCM Lane LOS          | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | 0     | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    | ↑    |      |
| Traffic Vol, veh/h       | 395  | 0    | 0    | 280  | 1    | 10   |
| Future Vol, veh/h        | 395  | 0    | 0    | 280  | 1    | 10   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 416  | 0    | 0    | 295  | 1    | 11   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | -      | -      | - | 711 208     |
| Stage 1              | -      | -      | -      | - | 416 -       |
| Stage 2              | -      | -      | -      | - | 295 -       |
| Critical Hdwy        | -      | -      | -      | - | 6.63 6.93   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.83 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.43 -      |
| Follow-up Hdwy       | -      | -      | -      | - | 3.519 3.319 |
| Pot Cap-1 Maneuver   | -      | 0      | 0      | - | 383 799     |
| Stage 1              | -      | 0      | 0      | - | 635 -       |
| Stage 2              | -      | 0      | 0      | - | 755 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | 383 799     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 383 -       |
| Stage 1              | -      | -      | -      | - | 635 -       |
| Stage 2              | -      | -      | -      | - | 755 -       |

| Approach             | EB | WB | NB |
|----------------------|----|----|----|
| HCM Control Delay, s | 0  | 0  | 10 |
| HCM LOS              |    |    | B  |

| Minor Lane/Major Mvmt | NBLn1 | EBT | WBT |
|-----------------------|-------|-----|-----|
| Capacity (veh/h)      | 727   | -   | -   |
| HCM Lane V/C Ratio    | 0.016 | -   | -   |
| HCM Control Delay (s) | 10    | -   | -   |
| HCM Lane LOS          | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | -   |

*FUTURE YEAR (2029) BUILD CAPACITY REPORTS*



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 345  | 140  | 125  | 215  | 50   | 60   |
| Future Vol, veh/h        | 345  | 140  | 125  | 215  | 50   | 60   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 6    | 2    |
| Mvmt Flow                | 363  | 147  | 132  | 226  | 53   | 63   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 510    | 0 | 927 437     |
| Stage 1              | -      | -      | -      | - | 437 -       |
| Stage 2              | -      | -      | -      | - | 490 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.46 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.46 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.46 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.554 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1055   | - | 293 620     |
| Stage 1              | -      | -      | -      | - | 643 -       |
| Stage 2              | -      | -      | -      | - | 608 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1055   | - | 251 620     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 251 -       |
| Stage 1              | -      | -      | -      | - | 643 -       |
| Stage 2              | -      | -      | -      | - | 521 -       |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.3 | 16.8 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 251   | 620   | -   | -   | 1055  | -   |
| HCM Lane V/C Ratio    | 0.21  | 0.102 | -   | -   | 0.125 | -   |
| HCM Control Delay (s) | 23.1  | 11.5  | -   | -   | 8.9   | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.8   | 0.3   | -   | -   | 0.4   | -   |

HCM 6th Signalized Intersection Summary  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
AM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 160  | 225  | 320  | 1410 | 910  | 215  |
| Future Volume (veh/h)        | 160  | 225  | 320  | 1410 | 910  | 215  |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1826 | 1870 | 1953 | 1856 | 1870 |
| Adj Flow Rate, veh/h         | 168  | 237  | 337  | 1484 | 958  | 226  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 5    | 2    | 3    | 3    | 2    |
| Cap, veh/h                   | 287  | 377  | 422  | 2788 | 1811 | 427  |
| Arrive On Green              | 0.16 | 0.16 | 0.08 | 0.75 | 0.64 | 0.64 |
| Sat Flow, veh/h              | 1781 | 1547 | 1781 | 3809 | 2924 | 667  |
| Grp Volume(v), veh/h         | 168  | 237  | 337  | 1484 | 596  | 588  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1547 | 1781 | 1856 | 1763 | 1736 |
| Q Serve(g_s), s              | 10.5 | 16.4 | 7.3  | 19.9 | 22.1 | 22.2 |
| Cycle Q Clear(g_c), s        | 10.5 | 16.4 | 7.3  | 19.9 | 22.1 | 22.2 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.38 |
| Lane Grp Cap(c), veh/h       | 287  | 377  | 422  | 2788 | 1128 | 1110 |
| V/C Ratio(X)                 | 0.58 | 0.63 | 0.80 | 0.53 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h        | 408  | 482  | 505  | 2788 | 1128 | 1110 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 0.77 | 0.77 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 46.6 | 40.5 | 13.5 | 6.2  | 11.8 | 11.8 |
| Incr Delay (d2), s/veh       | 1.9  | 1.7  | 5.8  | 0.6  | 1.8  | 1.8  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 8.4  | 20.2 | 8.4  | 10.7 | 13.6 | 13.5 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 48.5 | 42.3 | 19.3 | 6.8  | 13.5 | 13.6 |
| LnGrp LOS                    | D    | D    | B    | A    | B    | B    |
| Approach Vol, veh/h          | 405  |      |      | 1821 | 1184 |      |
| Approach Delay, s/veh        | 44.8 |      |      | 9.1  | 13.6 |      |
| Approach LOS                 | D    |      |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 96.1 |      | 23.9 | 13.4 | 82.8 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 15.5 | 63.0 |
| Max Q Clear Time (g_c+I1), s |      | 21.9 |      | 18.4 | 9.3  | 24.2 |
| Green Ext Time (p_c), s      |      | 49.0 |      | 0.9  | 0.6  | 28.6 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 14.9 |      |      |      |
| HCM 6th LOS                  |      |      | B    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
 AM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|------|------------|------|------|------|---|---|--|
| Lane Configurations             |      |      |      |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)          | 160  | 225  | 320  | 1410       | 910  | 215  |      |   |   |  |
| Future Volume (veh/h)           | 160  | 225  | 320  | 1410       | 910  | 215  |      |   |   |  |
| Number                          | 7    | 14   | 5    | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0    | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |      | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |      |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1870 | 1826 | 1870 | 1953       | 1856 | 1870 |      |   |   |  |
| Adj Flow Rate, veh/h            | 168  | 237  | 337  | 1484       | 958  | 226  |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 2    | 5    | 2    | 3          | 3    | 2    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes  |            |      |      |      |   |   |  |
| Cap, veh/h                      | 287  | 377  | 422  | 2788       | 1811 | 427  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Prop Arrive On Green            | 0.16 | 0.16 | 0.08 | 0.75       | 0.64 | 0.64 |      |   |   |  |
| Unsig. Movement Delay           |      |      |      |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 48.5 | 42.3 | 19.3 | 6.8        | 13.5 | 13.6 |      |   |   |  |
| Ln Grp LOS                      | D    | D    | B    | A          | B    | B    |      |   |   |  |
| Approach Vol, veh/h             | 405  |      |      | 1821       | 1184 |      |      |   |   |  |
| Approach Delay, s/veh           | 44.8 |      |      | 9.1        | 13.6 |      |      |   |   |  |
| Approach LOS                    | D    |      |      | A          | B    |      |      |   |   |  |
| Timer:                          |      | 1    | 2    | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2    |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0  |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 96.1 |            | 23.9 | 13.4 | 82.8 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0  |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 82.0 |            | 27.5 | 15.5 | 63.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2  |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 21.9 |            | 18.4 | 9.3  | 24.2 |   |   |  |
| Green Ext Time (g_e), s         |      |      | 49.0 |            | 0.9  | 0.6  | 28.6 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00 |            | 1.00 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.71 |            | 0.08 | 0.26 | 0.68 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |      |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |      |            | 1781 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2    |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3809 |            | 0    |      | 2924 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12   |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0    |            | 1547 |      | 667  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0    | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |      | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 168  | 337  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 10.5 | 7.3  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 10.5 | 7.3  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 473  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 78.8 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 54.6 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 54.6 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 76.8 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 287  | 422  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.58 | 0.80 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 505  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 0.77 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 46.6 | 13.5 | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.9  | 5.8  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 48.5 | 19.3 | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 4.7  | 4.5  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.2  | 0.7  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.75 | 1.63 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 8.4  | 8.4  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 4.64 | 2.04 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1484 | 0    | 0    | 0    | 596  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 19.9 | 0.0  | 0.0  | 0.0  | 22.1 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 19.9 | 0.0  | 0.0  | 0.0  | 22.1 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2788 | 0    | 0    | 0    | 1128 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.53 | 0.00 | 0.00 | 0.00 | 0.53 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2788 | 0    | 0    | 0    | 1128 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.77 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 6.2  | 0.0  | 0.0  | 0.0  | 11.8 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.6  | 0.0  | 0.0  | 0.0  | 1.8  | 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  |
| Control Delay (d), s/veh            | 0.0  | 6.8  | 0.0  | 0.0  | 0.0  | 13.5 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 6.7  | 0.0  | 0.0  | 0.0  | 8.2  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.6  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
AM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.55 | 0.00 | 1.00 | 0.00 | 1.55 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 10.7 | 0.0  | 0.0  | 0.0  | 13.6 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.30 | 0.00 | 0.00 | 0.00 | 0.65 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 237    | 0    | 588  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1547   | 0    | 1736 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 16.4   | 0.0  | 22.2 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 16.4   | 0.0  | 22.2 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1547.4 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 9.9    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.38 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 377    | 0    | 1110 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.63   | 0.00 | 0.53 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 482    | 0    | 1110 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 40.5   | 0.0  | 11.8 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 1.7    | 0.0  | 1.8  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 42.3   | 0.0  | 13.6 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 13.9   | 0.0  | 8.1  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.2    | 0.0  | 0.6  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.44   | 0.00 | 1.56 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 20.2   | 0.0  | 13.5 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 11.42  | 0.00 | 0.65 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 14.9 |
| HCM 6th LOS        | B    |

HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
AM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 30   | 95    | 210  | 1700 | 1055 | 80   |
| Future Volume (veh/h)        | 30   | 95    | 210  | 1700 | 1055 | 80   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |       |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1693 | 1856  | 1870 | 1953 | 1856 | 1781 |
| Adj Flow Rate, veh/h         | 32   | 100   | 221  | 1789 | 1111 | 84   |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 14   | 3     | 2    | 3    | 3    | 8    |
| Cap, veh/h                   | 130  | 127   | 498  | 3087 | 2509 | 190  |
| Arrive On Green              | 0.08 | 0.08  | 0.05 | 0.83 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1612 | 1572  | 1781 | 3809 | 3415 | 251  |
| Grp Volume(v), veh/h         | 32   | 100   | 221  | 1789 | 589  | 606  |
| Grp Sat Flow(s),veh/h/ln     | 1612 | 1572  | 1781 | 1856 | 1763 | 1810 |
| Q Serve(g_s), s              | 2.2  | 7.5   | 3.1  | 18.8 | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 2.2  | 7.5   | 3.1  | 18.8 | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.14 |
| Lane Grp Cap(c), veh/h       | 130  | 127   | 498  | 3087 | 1331 | 1367 |
| V/C Ratio(X)                 | 0.25 | 0.79  | 0.44 | 0.58 | 0.44 | 0.44 |
| Avail Cap(c_a), veh/h        | 343  | 334   | 822  | 3087 | 1331 | 1367 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 1.33 | 1.33 |
| Upstream Filter(I)           | 1.00 | 1.00  | 1.00 | 1.00 | 0.80 | 0.80 |
| Uniform Delay (d), s/veh     | 51.7 | 54.1  | 2.3  | 3.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.0  | 10.3  | 0.6  | 0.8  | 0.9  | 0.8  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 11.7 | 11.0  | 1.6  | 8.7  | 0.6  | 0.6  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 52.7 | 64.4  | 2.9  | 4.1  | 0.9  | 0.8  |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A    |
| Approach Vol, veh/h          | 132  |       |      | 2010 | 1195 |      |
| Approach Delay, s/veh        | 61.6 |       |      | 3.9  | 0.8  |      |
| Approach LOS                 | E    |       |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 105.8 |      | 14.2 | 9.2  | 96.6 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 27.5 | 53.0 |
| Max Q Clear Time (g_c+I1), s |      | 20.8  |      | 9.5  | 5.1  | 2.0  |
| Green Ext Time (p_c), s      |      | 57.7  |      | 0.3  | 0.6  | 35.1 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 5.1  |      |      |      |
| HCM 6th LOS                  |      |       | A    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
AM Peak Hour



| Movement                      | EBL  | EBR  | NBL   | NBT        | SBT  | SBR  |      |   |   |  |
|-------------------------------|------|------|-------|------------|------|------|------|---|---|--|
| Lane Configurations           |      |      |       |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)        | 30   | 95   | 210   | 1700       | 1055 | 80   |      |   |   |  |
| Future Volume (veh/h)         | 30   | 95   | 210   | 1700       | 1055 | 80   |      |   |   |  |
| Number                        | 7    | 14   | 5     | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                | 0    | 0    | 0     | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)          | 1.00 | 1.00 | 1.00  |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj               | 1.00 | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach         | No   |      |       | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone   |      |      |       |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln        | 1693 | 1856 | 1870  | 1953       | 1856 | 1781 |      |   |   |  |
| Adj Flow Rate, veh/h          | 32   | 100  | 221   | 1789       | 1111 | 84   |      |   |   |  |
| Peak Hour Factor              | 0.95 | 0.95 | 0.95  | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %          | 14   | 3    | 2     | 3          | 3    | 8    |      |   |   |  |
| Opposing Right Turn Influence | Yes  |      | Yes   |            |      |      |      |   |   |  |
| Cap, veh/h                    | 130  | 127  | 498   | 3087       | 2509 | 190  |      |   |   |  |
| HCM Platoon Ratio             | 1.00 | 1.00 | 1.00  | 1.00       | 1.33 | 1.33 |      |   |   |  |
| Prop Arrive On Green          | 0.08 | 0.08 | 0.05  | 0.83       | 1.00 | 1.00 |      |   |   |  |
| Unsig. Movement Delay         |      |      |       |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh           | 52.7 | 64.4 | 2.9   | 4.1        | 0.9  | 0.8  |      |   |   |  |
| Ln Grp LOS                    | D    | E    | A     | A          | A    | A    |      |   |   |  |
| Approach Vol, veh/h           | 132  |      |       | 2010       | 1195 |      |      |   |   |  |
| Approach Delay, s/veh         | 61.6 |      |       | 3.9        | 0.8  |      |      |   |   |  |
| Approach LOS                  | E    |      |       | A          | A    |      |      |   |   |  |
| Timer:                        |      | 1    | 2     | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                  |      |      | 2     |            | 4    | 5    | 6    |   |   |  |
| Case No                       |      |      | 4.0   |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s      |      |      | 105.8 |            | 14.2 | 9.2  | 96.6 |   |   |  |
| Change Period (Y+Rc), s       |      |      | 6.0   |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s           |      |      | 84.0  |            | 25.5 | 27.5 | 53.0 |   |   |  |
| Max Allow Headway (MAH), s    |      |      | 9.2   |            | 4.1  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s       |      |      | 20.8  |            | 9.5  | 5.1  | 2.0  |   |   |  |
| Green Ext Time (g_e), s       |      |      | 57.7  |            | 0.3  | 0.6  | 35.1 |   |   |  |
| Prob of Phs Call (p_c)        |      |      | 1.00  |            | 0.99 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)         |      |      | 0.86  |            | 0.00 | 0.00 | 0.59 |   |   |  |
| Left-Turn Movement Data       |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                 |      |      |       |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h          |      |      |       |            | 1612 | 1781 | 0    |   |   |  |
| Through Movement Data         |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                 |      |      | 2     |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h          |      |      | 3809  |            | 0    |      | 3415 |   |   |  |
| Right-Turn Movement Data      |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                 |      |      | 12    |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h          |      |      | 0     |            | 1572 |      | 251  |   |   |  |
| Left Lane Group Data          |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                 | 0    | 0    | 0     | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment               |      |      |       | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
AM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 32   | 221  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1612 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 2.2  | 3.1  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 2.2  | 3.1  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1612 | 468  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 92.6 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 90.6 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 1.8  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 90.6 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 130  | 498  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.25 | 0.44 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 343  | 822  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 51.7 | 2.3  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.0  | 0.6  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 52.7 | 2.9  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 0.9  | 0.8  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 1.7  | 1.6  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.47 | 0.32 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1789 | 0    | 0    | 0    | 589  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1856 | 0    | 0    | 0    | 1763 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 18.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 18.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3087 | 0    | 0    | 0    | 1331 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.58 | 0.00 | 0.00 | 0.00 | 0.44 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3087 | 0    | 0    | 0    | 1331 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.80 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 3.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.8  | 0.0  | 0.0  | 0.0  | 0.9  | 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  |
| Control Delay (d), s/veh            | 0.0  | 4.1  | 0.0  | 0.0  | 0.0  | 0.9  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 4.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.3  | 0.0  | 0.0  | 0.0  | 0.3  | 0.0  | 0.0  |



HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
AM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.73 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 8.7  | 0.0  | 0.0  | 0.0  | 0.6  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.28 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 100  | 0    | 606  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1810 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 7.5  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 7.5  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.14 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 127  | 0    | 1367 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.79 | 0.00 | 0.44 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1367 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.80 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 54.1 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 10.3 | 0.0  | 0.8  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 64.4 | 0.0  | 0.8  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 6.4  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.3  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.63 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 11.0 | 0.0  | 0.6  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.02 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |     |
|--------------------|-----|
| HCM 6th Ctrl Delay | 5.1 |
| HCM 6th LOS        | A   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.5  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↔    |      | ↔    | ↑    | ↔    | ↔    |
| Traffic Vol, veh/h       | 355  | 50   | 195  | 340  | 10   | 45   |
| Future Vol, veh/h        | 355  | 50   | 195  | 340  | 10   | 45   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 125  | -    | 0    | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 374  | 53   | 205  | 358  | 11   | 47   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 427    | 0 | 1169 401    |
| Stage 1              | -      | -      | -      | - | 401 -       |
| Stage 2              | -      | -      | -      | - | 768 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1132   | - | 213 649     |
| Stage 1              | -      | -      | -      | - | 676 -       |
| Stage 2              | -      | -      | -      | - | 458 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1132   | - | 174 649     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 174 -       |
| Stage 1              | -      | -      | -      | - | 676 -       |
| Stage 2              | -      | -      | -      | - | 375 -       |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 3.2 | 13.9 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 174   | 649   | -   | -   | 1132  | -   |
| HCM Lane V/C Ratio    | 0.06  | 0.073 | -   | -   | 0.181 | -   |
| HCM Control Delay (s) | 27    | 11    | -   | -   | 8.9   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.2   | 0.2   | -   | -   | 0.7   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    |      | ↑    |
| Traffic Vol, veh/h       | 370  | 30   | 0    | 535  | 0    | 15   |
| Future Vol, veh/h        | 370  | 30   | 0    | 535  | 0    | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 389  | 32   | 0    | 563  | 0    | 16   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |   |       |
|----------------------|--------|--------|--------|---|---|-------|
| Conflicting Flow All | 0      | 0      | -      | - | - | 211   |
| Stage 1              | -      | -      | -      | - | - | -     |
| Stage 2              | -      | -      | -      | - | - | -     |
| Critical Hdwy        | -      | -      | -      | - | - | 6.93  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - | -     |
| Follow-up Hdwy       | -      | -      | -      | - | - | 3.319 |
| Pot Cap-1 Maneuver   | -      | -      | 0      | - | 0 | 795   |
| Stage 1              | -      | -      | 0      | - | 0 | -     |
| Stage 2              | -      | -      | 0      | - | 0 | -     |
| Platoon blocked, %   | -      | -      | -      | - | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | - | 795   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - | -     |
| Stage 1              | -      | -      | -      | - | - | -     |
| Stage 2              | -      | -      | -      | - | - | -     |

| Approach             | EB | WB | NB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0  | 0  | 9.6 |
| HCM LOS              |    |    | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h)      | 795   | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.02  | -   | -   | -   |
| HCM Control Delay (s) | 9.6   | -   | -   | -   |
| HCM Lane LOS          | A     | -   | -   | -   |
| HCM 95th %tile Q(veh) | 0.1   | -   | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.3  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 305  | 20   | 35   | 235  | 80   | 90   |
| Future Vol, veh/h        | 305  | 20   | 35   | 235  | 80   | 90   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 55   | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 11   | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 321  | 21   | 37   | 247  | 84   | 95   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 342    | 0 | 653 332     |
| Stage 1              | -      | -      | -      | - | 332 -       |
| Stage 2              | -      | -      | -      | - | 321 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1217   | - | 432 710     |
| Stage 1              | -      | -      | -      | - | 727 -       |
| Stage 2              | -      | -      | -      | - | 735 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1217   | - | 417 710     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 417 -       |
| Stage 1              | -      | -      | -      | - | 727 -       |
| Stage 2              | -      | -      | -      | - | 709 -       |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 1  | 13.2 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 417   | 710   | -   | -   | 1217 | -   |
| HCM Lane V/C Ratio    | 0.202 | 0.133 | -   | -   | 0.03 | -   |
| HCM Control Delay (s) | 15.8  | 10.9  | -   | -   | 8.1  | 0   |
| HCM Lane LOS          | C     | B     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 0.7   | 0.5   | -   | -   | 0.1  | -   |

HCM 6th Signalized Intersection Summary  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
PM Peak Hour



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 215  | 355  | 200  | 1050 | 1295 | 125  |
| Future Volume (veh/h)        | 215  | 355  | 200  | 1050 | 1295 | 125  |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1969 | 1870 | 1870 |
| Adj Flow Rate, veh/h         | 226  | 374  | 211  | 1105 | 1363 | 132  |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 2    | 2    |
| Cap, veh/h                   | 408  | 463  | 277  | 2556 | 1936 | 187  |
| Arrive On Green              | 0.23 | 0.23 | 0.06 | 0.68 | 0.59 | 0.59 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3839 | 3368 | 316  |
| Grp Volume(v), veh/h         | 226  | 374  | 211  | 1105 | 737  | 758  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1870 | 1777 | 1814 |
| Q Serve(g_s), s              | 13.4 | 26.2 | 5.3  | 15.9 | 34.7 | 35.3 |
| Cycle Q Clear(g_c), s        | 13.4 | 26.2 | 5.3  | 15.9 | 34.7 | 35.3 |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 0.17 |
| Lane Grp Cap(c), veh/h       | 408  | 463  | 277  | 2556 | 1050 | 1072 |
| V/C Ratio(X)                 | 0.55 | 0.81 | 0.76 | 0.43 | 0.70 | 0.71 |
| Avail Cap(c_a), veh/h        | 408  | 463  | 350  | 2556 | 1050 | 1072 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 0.91 | 0.91 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 40.8 | 39.3 | 20.7 | 8.5  | 17.1 | 17.2 |
| Incr Delay (d2), s/veh       | 1.6  | 10.2 | 6.7  | 0.5  | 3.9  | 3.9  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 10.1 | 30.4 | 7.4  | 10.1 | 20.9 | 21.6 |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 42.5 | 49.5 | 27.4 | 9.0  | 21.0 | 21.2 |
| LnGrp LOS                    | D    | D    | C    | A    | C    | C    |
| Approach Vol, veh/h          | 600  |      |      | 1316 | 1495 |      |
| Approach Delay, s/veh        | 46.9 |      |      | 12.0 | 21.1 |      |
| Approach LOS                 | D    |      |      | B    | C    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 88.0 |      | 32.0 | 11.1 | 76.9 |
| Change Period (Y+Rc), s      |      | 6.0  |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 82.0 |      | 27.5 | 12.5 | 66.0 |
| Max Q Clear Time (g_c+I1), s |      | 17.9 |      | 28.2 | 7.3  | 37.3 |
| Green Ext Time (p_c), s      |      | 37.7 |      | 0.0  | 0.3  | 25.9 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 22.1 |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
PM Peak Hour



| Movement                        | EBL  | EBR  | NBL  | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|------|------------|------|------|------|---|---|--|
| Lane Configurations             |      |      |      |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)          | 215  | 355  | 200  | 1050       | 1295 | 125  |      |   |   |  |
| Future Volume (veh/h)           | 215  | 355  | 200  | 1050       | 1295 | 125  |      |   |   |  |
| Number                          | 7    | 14   | 5    | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0    | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00 |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |      | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |      |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1870 | 1870 | 1870 | 1969       | 1870 | 1870 |      |   |   |  |
| Adj Flow Rate, veh/h            | 226  | 374  | 211  | 1105       | 1363 | 132  |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95 | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 2    | 2    | 2    | 2          | 2    | 2    |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes  |            |      |      |      |   |   |  |
| Cap, veh/h                      | 408  | 463  | 277  | 2556       | 1936 | 187  |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00 | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Prop Arrive On Green            | 0.23 | 0.23 | 0.06 | 0.68       | 0.59 | 0.59 |      |   |   |  |
| Unsig. Movement Delay           |      |      |      |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 42.5 | 49.5 | 27.4 | 9.0        | 21.0 | 21.2 |      |   |   |  |
| Ln Grp LOS                      | D    | D    | C    | A          | C    | C    |      |   |   |  |
| Approach Vol, veh/h             | 600  |      |      | 1316       | 1495 |      |      |   |   |  |
| Approach Delay, s/veh           | 46.9 |      |      | 12.0       | 21.1 |      |      |   |   |  |
| Approach LOS                    | D    |      |      | B          | C    |      |      |   |   |  |
| Timer:                          |      | 1    | 2    | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2    |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0  |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 88.0 |            | 32.0 | 11.1 | 76.9 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0  |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 82.0 |            | 27.5 | 12.5 | 66.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2  |            | 4.0  | 3.8  | 9.3  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 17.9 |            | 28.2 | 7.3  | 37.3 |   |   |  |
| Green Ext Time (g_e), s         |      |      | 37.7 |            | 0.0  | 0.3  | 25.9 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00 |            | 1.00 | 1.00 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.37 |            | 1.00 | 0.35 | 0.90 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |      |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |      |            | 1781 | 1781 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2    |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3839 |            | 0    |      | 3368 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12   |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0    |            | 1585 |      | 316  |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |      |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0    | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |      | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 226  | 211  | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1781 | 1781 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 13.4 | 5.3  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 13.4 | 5.3  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1781 | 352  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 72.9 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 35.7 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 35.7 | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 70.9 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 408  | 277  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.55 | 0.76 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 408  | 350  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 0.91 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 40.8 | 20.7 | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.6  | 6.7  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 42.5 | 27.4 | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 5.9  | 3.7  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.2  | 0.5  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.66 | 1.76 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 10.1 | 7.4  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 5.59 | 1.79 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1105 | 0    | 0    | 0    | 737  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 15.9 | 0.0  | 0.0  | 0.0  | 34.7 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 15.9 | 0.0  | 0.0  | 0.0  | 34.7 | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 2556 | 0    | 0    | 0    | 1050 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.43 | 0.00 | 0.00 | 0.00 | 0.70 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 2556 | 0    | 0    | 0    | 1050 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.91 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 8.5  | 0.0  | 0.0  | 0.0  | 17.1 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.5  | 0.0  | 0.0  | 0.0  | 3.9  | 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  |
| Control Delay (d), s/veh            | 0.0  | 9.0  | 0.0  | 0.0  | 0.0  | 21.0 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 6.0  | 0.0  | 0.0  | 0.0  | 13.5 | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 1.1  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
 200: Washington Street & Martin Avenue

Future (2029) Build Traffic Volumes  
 PM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.63 | 0.00 | 1.00 | 0.00 | 1.43 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 10.1 | 0.0  | 0.0  | 0.0  | 20.9 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.28 | 0.00 | 0.00 | 0.00 | 0.99 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |        |      |      |      |      |
|----------------------------------|------|------|------|--------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14     | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R      |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1      | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 374    | 0    | 758  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1585   | 0    | 1814 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 26.2   | 0.0  | 35.3 | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 26.2   | 0.0  | 35.3 | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 1585.1 | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 7.6    | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 0.17 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 463    | 0    | 1072 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.81   | 0.00 | 0.71 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 463    | 0    | 1072 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00   | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 39.3   | 0.0  | 17.2 | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 10.2   | 0.0  | 3.9  | 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  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 49.5   | 0.0  | 21.2 | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 21.3   | 0.0  | 14.0 | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 1.3    | 0.0  | 1.2  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.35   | 0.00 | 1.42 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 30.4   | 0.0  | 21.6 | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 16.78  | 0.00 | 1.02 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0      | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 22.1 |
| HCM 6th LOS        | C    |



HCM 6th Signalized Intersection Summary  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
PM Peak Hour



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 50   | 125   | 50   | 1200 | 1605 | 45   |
| Future Volume (veh/h)        | 50   | 125   | 50   | 1200 | 1605 | 45   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |       |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1781 | 1856  | 1826 | 1969 | 1870 | 1693 |
| Adj Flow Rate, veh/h         | 53   | 132   | 53   | 1263 | 1689 | 47   |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 8    | 3     | 5    | 2    | 2    | 14   |
| Cap, veh/h                   | 174  | 161   | 303  | 3030 | 2685 | 74   |
| Arrive On Green              | 0.10 | 0.10  | 0.02 | 0.81 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1697 | 1572  | 1739 | 3839 | 3625 | 98   |
| Grp Volume(v), veh/h         | 53   | 132   | 53   | 1263 | 847  | 889  |
| Grp Sat Flow(s),veh/h/ln     | 1697 | 1572  | 1739 | 1870 | 1777 | 1853 |
| Q Serve(g_s), s              | 3.5  | 9.9   | 0.8  | 11.6 | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 3.5  | 9.9   | 0.8  | 11.6 | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 0.05 |
| Lane Grp Cap(c), veh/h       | 174  | 161   | 303  | 3030 | 1351 | 1408 |
| V/C Ratio(X)                 | 0.30 | 0.82  | 0.18 | 0.42 | 0.63 | 0.63 |
| Avail Cap(c_a), veh/h        | 361  | 334   | 433  | 3030 | 1351 | 1408 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(I)           | 1.00 | 1.00  | 1.00 | 1.00 | 0.63 | 0.63 |
| Uniform Delay (d), s/veh     | 49.9 | 52.8  | 2.6  | 3.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 1.0  | 9.8   | 0.3  | 0.4  | 1.4  | 1.4  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(95%),veh/ln     | 2.8  | 13.6  | 0.4  | 6.2  | 0.9  | 1.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 50.9 | 62.5  | 2.8  | 3.7  | 1.4  | 1.4  |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A    |
| Approach Vol, veh/h          | 185  |       |      | 1316 | 1736 |      |
| Approach Delay, s/veh        | 59.2 |       |      | 3.7  | 1.4  |      |
| Approach LOS                 | E    |       |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 103.2 |      | 16.8 | 6.0  | 97.2 |
| Change Period (Y+Rc), s      |      | 6.0   |      | 4.5  | 3.5  | 6.0  |
| Max Green Setting (Gmax), s  |      | 84.0  |      | 25.5 | 11.5 | 69.0 |
| Max Q Clear Time (g_c+I1), s |      | 13.6  |      | 11.9 | 2.8  | 2.0  |
| Green Ext Time (p_c), s      |      | 47.0  |      | 0.5  | 0.1  | 60.5 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 5.6  |      |      |      |
| HCM 6th LOS                  |      |       | A    |      |      |      |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
PM Peak Hour



| Movement                        | EBL  | EBR  | NBL   | NBT        | SBT  | SBR  |      |   |   |  |
|---------------------------------|------|------|-------|------------|------|------|------|---|---|--|
| Lane Configurations             |      |      |       |            |      |      |      |   |   |  |
| Traffic Volume (veh/h)          | 50   | 125  | 50    | 1200       | 1605 | 45   |      |   |   |  |
| Future Volume (veh/h)           | 50   | 125  | 50    | 1200       | 1605 | 45   |      |   |   |  |
| Number                          | 7    | 14   | 5     | 2          | 6    | 16   |      |   |   |  |
| Initial Q, veh                  | 0    | 0    | 0     | 0          | 0    | 0    |      |   |   |  |
| Ped-Bike Adj (A_pbT)            | 1.00 | 1.00 | 1.00  |            |      | 1.00 |      |   |   |  |
| Parking Bus Adj                 | 1.00 | 1.00 | 1.00  | 1.00       | 1.00 | 1.00 |      |   |   |  |
| Work Zone On Approach           | No   |      |       | No         | No   |      |      |   |   |  |
| Lanes Open During Work Zone     |      |      |       |            |      |      |      |   |   |  |
| Adj Sat Flow, veh/h/ln          | 1781 | 1856 | 1826  | 1969       | 1870 | 1693 |      |   |   |  |
| Adj Flow Rate, veh/h            | 53   | 132  | 53    | 1263       | 1689 | 47   |      |   |   |  |
| Peak Hour Factor                | 0.95 | 0.95 | 0.95  | 0.95       | 0.95 | 0.95 |      |   |   |  |
| Percent Heavy Veh, %            | 8    | 3    | 5     | 2          | 2    | 14   |      |   |   |  |
| Opposing Right Turn Influence   | Yes  |      | Yes   |            |      |      |      |   |   |  |
| Cap, veh/h                      | 174  | 161  | 303   | 3030       | 2685 | 74   |      |   |   |  |
| HCM Platoon Ratio               | 1.00 | 1.00 | 1.00  | 1.00       | 2.00 | 2.00 |      |   |   |  |
| Prop Arrive On Green            | 0.10 | 0.10 | 0.02  | 0.81       | 1.00 | 1.00 |      |   |   |  |
| Unsig. Movement Delay           |      |      |       |            |      |      |      |   |   |  |
| Ln Grp Delay, s/veh             | 50.9 | 62.5 | 2.8   | 3.7        | 1.4  | 1.4  |      |   |   |  |
| Ln Grp LOS                      | D    | E    | A     | A          | A    | A    |      |   |   |  |
| Approach Vol, veh/h             | 185  |      |       | 1316       | 1736 |      |      |   |   |  |
| Approach Delay, s/veh           | 59.2 |      |       | 3.7        | 1.4  |      |      |   |   |  |
| Approach LOS                    | E    |      |       | A          | A    |      |      |   |   |  |
| Timer:                          |      | 1    | 2     | 3          | 4    | 5    | 6    | 7 | 8 |  |
| Assigned Phs                    |      |      | 2     |            | 4    | 5    | 6    |   |   |  |
| Case No                         |      |      | 4.0   |            | 9.0  | 1.2  | 8.0  |   |   |  |
| Phs Duration (G+Y+Rc), s        |      |      | 103.2 |            | 16.8 | 6.0  | 97.2 |   |   |  |
| Change Period (Y+Rc), s         |      |      | 6.0   |            | 4.5  | 3.5  | 6.0  |   |   |  |
| Max Green (Gmax), s             |      |      | 84.0  |            | 25.5 | 11.5 | 69.0 |   |   |  |
| Max Allow Headway (MAH), s      |      |      | 9.2   |            | 4.0  | 3.8  | 9.2  |   |   |  |
| Max Q Clear (g_c+I1), s         |      |      | 13.6  |            | 11.9 | 2.8  | 2.0  |   |   |  |
| Green Ext Time (g_e), s         |      |      | 47.0  |            | 0.5  | 0.1  | 60.5 |   |   |  |
| Prob of Phs Call (p_c)          |      |      | 1.00  |            | 1.00 | 0.83 | 1.00 |   |   |  |
| Prob of Max Out (p_x)           |      |      | 0.48  |            | 0.00 | 0.00 | 0.87 |   |   |  |
| <b>Left-Turn Movement Data</b>  |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      |       |            | 7    | 5    | 1    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      |       |            | 1697 | 1739 | 0    |   |   |  |
| <b>Through Movement Data</b>    |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 2     |            | 4    |      | 6    |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 3839  |            | 0    |      | 3625 |   |   |  |
| <b>Right-Turn Movement Data</b> |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   |      |      | 12    |            | 14   |      | 16   |   |   |  |
| Mvmt Sat Flow, veh/h            |      |      | 0     |            | 1572 |      | 98   |   |   |  |
| <b>Left Lane Group Data</b>     |      |      |       |            |      |      |      |   |   |  |
| Assigned Mvmt                   | 0    | 0    | 0     | 7          | 5    | 1    | 0    | 0 |   |  |
| Lane Assignment                 |      |      |       | LL (Pr/Pm) |      |      |      |   |   |  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
PM Peak Hour

|                                     |      |      |      |      |      |      |      |      |
|-------------------------------------|------|------|------|------|------|------|------|------|
| Lanes in Grp                        | 0    | 0    | 0    | 1    | 1    | 0    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 0    | 0    | 53   | 53   | 0    | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 0    | 0    | 1697 | 1739 | 0    | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 0.0  | 0.0  | 3.5  | 0.8  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 0.0  | 0.0  | 3.5  | 0.8  | 0.0  | 0.0  | 0.0  |
| Perm LT Sat Flow (s_l), veh/h/ln    | 0    | 0    | 0    | 1697 | 272  | 0    | 0    | 0    |
| Shared LT Sat Flow (s_sh), veh/h/ln | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Perm LT Eff Green (g_p), s          | 0.0  | 0.0  | 0.0  | 0.0  | 93.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Serve Time (g_u), s         | 0.0  | 0.0  | 0.0  | 0.0  | 91.2 | 0.0  | 0.0  | 0.0  |
| Perm LT Q Serve Time (g_ps), s      | 0.0  | 0.0  | 0.0  | 0.0  | 0.5  | 0.0  | 0.0  | 0.0  |
| Time to First Blk (g_f), s          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 91.2 | 0.0  | 0.0  |
| Serve Time pre Blk (g_fs), s        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop LT Inside Lane (P_L)           | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h             | 0    | 0    | 0    | 174  | 303  | 0    | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.00 | 0.00 | 0.30 | 0.18 | 0.00 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 0    | 0    | 361  | 433  | 0    | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 0.0  | 0.0  | 49.9 | 2.6  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.0  | 0.0  | 1.0  | 0.3  | 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  |
| Control Delay (d), s/veh            | 0.0  | 0.0  | 0.0  | 50.9 | 2.8  | 0.0  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 0.0  | 0.0  | 1.5  | 0.2  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)        | 0.00 | 0.00 | 0.00 | 1.80 | 1.80 | 1.00 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln        | 0.0  | 0.0  | 0.0  | 2.8  | 0.4  | 0.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)            | 0.00 | 0.00 | 0.00 | 0.74 | 0.09 | 0.00 | 0.00 | 0.00 |
| Initial Q (Qb), veh                 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh               | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h                 | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| <b>Middle Lane Group Data</b>       |      |      |      |      |      |      |      |      |
| Assigned Mvmt                       | 0    | 2    | 0    | 4    | 0    | 6    | 0    | 0    |
| Lane Assignment                     |      | T    |      |      |      | T    |      |      |
| Lanes in Grp                        | 0    | 2    | 0    | 0    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h                  | 0    | 1263 | 0    | 0    | 0    | 847  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln          | 0    | 1870 | 0    | 0    | 0    | 1777 | 0    | 0    |
| Q Serve Time (g_s), s               | 0.0  | 11.6 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s         | 0.0  | 11.6 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Lane Grp Cap (c), veh/h             | 0    | 3030 | 0    | 0    | 0    | 1351 | 0    | 0    |
| V/C Ratio (X)                       | 0.00 | 0.42 | 0.00 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h              | 0    | 3030 | 0    | 0    | 0    | 1351 | 0    | 0    |
| Upstream Filter (I)                 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh           | 0.0  | 3.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh              | 0.0  | 0.4  | 0.0  | 0.0  | 0.0  | 1.4  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh         | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh            | 0.0  | 3.7  | 0.0  | 0.0  | 0.0  | 1.4  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln             | 0.0  | 3.3  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln             | 0.0  | 0.2  | 0.0  | 0.0  | 0.0  | 0.5  | 0.0  | 0.0  |

HCM 6th Signalized Intersection Capacity Analysis  
400: Washington Street & Osler Drive

Future (2029) Build Traffic Volumes  
PM Peak Hour

|                              |      |      |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|------|------|
| 3rd-Term Q (Q3), veh/ln      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%) | 0.00 | 1.80 | 0.00 | 1.00 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln | 0.0  | 6.2  | 0.0  | 0.0  | 0.0  | 0.9  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)     | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh        | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Right Lane Group Data

|                                  |      |      |      |      |      |      |      |      |
|----------------------------------|------|------|------|------|------|------|------|------|
| Assigned Mvmt                    | 0    | 12   | 0    | 14   | 0    | 16   | 0    | 0    |
| Lane Assignment                  |      |      |      | R    |      | T+R  |      |      |
| Lanes in Grp                     | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    |
| Grp Vol (v), veh/h               | 0    | 0    | 0    | 132  | 0    | 889  | 0    | 0    |
| Grp Sat Flow (s), veh/h/ln       | 0    | 0    | 0    | 1572 | 0    | 1853 | 0    | 0    |
| Q Serve Time (g_s), s            | 0.0  | 0.0  | 0.0  | 9.9  | 0.0  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear Time (g_c), s      | 0.0  | 0.0  | 0.0  | 9.9  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Sat Flow (s_R), veh/h/ln | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prot RT Eff Green (g_R), s       | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Prop RT Outside Lane (P_R)       | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.05 | 0.00 | 0.00 |
| Lane Grp Cap (c), veh/h          | 0    | 0    | 0    | 161  | 0    | 1408 | 0    | 0    |
| V/C Ratio (X)                    | 0.00 | 0.00 | 0.00 | 0.82 | 0.00 | 0.63 | 0.00 | 0.00 |
| Avail Cap (c_a), veh/h           | 0    | 0    | 0    | 334  | 0    | 1408 | 0    | 0    |
| Upstream Filter (I)              | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.63 | 0.00 | 0.00 |
| Uniform Delay (d1), s/veh        | 0.0  | 0.0  | 0.0  | 52.8 | 0.0  | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh           | 0.0  | 0.0  | 0.0  | 9.8  | 0.0  | 1.4  | 0.0  | 0.0  |
| Initial Q Delay (d3), s/veh      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Control Delay (d), s/veh         | 0.0  | 0.0  | 0.0  | 62.5 | 0.0  | 1.4  | 0.0  | 0.0  |
| 1st-Term Q (Q1), veh/ln          | 0.0  | 0.0  | 0.0  | 8.3  | 0.0  | 0.0  | 0.0  | 0.0  |
| 2nd-Term Q (Q2), veh/ln          | 0.0  | 0.0  | 0.0  | 0.4  | 0.0  | 0.5  | 0.0  | 0.0  |
| 3rd-Term Q (Q3), veh/ln          | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile Back of Q Factor (f_B%)     | 0.00 | 1.00 | 0.00 | 1.55 | 0.00 | 1.80 | 0.00 | 0.00 |
| %ile Back of Q (95%), veh/ln     | 0.0  | 0.0  | 0.0  | 13.6 | 0.0  | 1.0  | 0.0  | 0.0  |
| %ile Storage Ratio (RQ%)         | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.03 | 0.00 | 0.00 |
| Initial Q (Qb), veh              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Final (Residual) Q (Qe), veh     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Delay (ds), s/veh            | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Q (Qs), veh                  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Sat Cap (cs), veh/h              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Initial Q Clear Time (tc), h     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Intersection Summary

|                    |     |
|--------------------|-----|
| HCM 6th Ctrl Delay | 5.6 |
| HCM 6th LOS        | A   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 380  | 15   | 55   | 270  | 50   | 155  |
| Future Vol, veh/h        | 380  | 15   | 55   | 270  | 50   | 155  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | 125  | -    | 0    | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 400  | 16   | 58   | 284  | 53   | 163  |

| Major/Minor          | Major1 | Major2 | Minor1 |   |             |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0      | 0      | 416    | 0 | 808 408     |
| Stage 1              | -      | -      | -      | - | 408 -       |
| Stage 2              | -      | -      | -      | - | 400 -       |
| Critical Hdwy        | -      | -      | 4.12   | - | 6.42 6.22   |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.42 -      |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.42 -      |
| Follow-up Hdwy       | -      | -      | 2.218  | - | 3.518 3.318 |
| Pot Cap-1 Maneuver   | -      | -      | 1143   | - | 350 643     |
| Stage 1              | -      | -      | -      | - | 671 -       |
| Stage 2              | -      | -      | -      | - | 677 -       |
| Platoon blocked, %   | -      | -      | -      | - | -           |
| Mov Cap-1 Maneuver   | -      | -      | 1143   | - | 332 643     |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 332 -       |
| Stage 1              | -      | -      | -      | - | 671 -       |
| Stage 2              | -      | -      | -      | - | 642 -       |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 1.4 | 13.8 |
| HCM LOS              |    |     | B    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 332   | 643   | -   | -   | 1143  | -   |
| HCM Lane V/C Ratio    | 0.159 | 0.254 | -   | -   | 0.051 | -   |
| HCM Control Delay (s) | 17.9  | 12.5  | -   | -   | 8.3   | -   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.6   | 1     | -   | -   | 0.2   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.5  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑    |      | ↑    |
| Traffic Vol, veh/h       | 525  | 10   | 0    | 325  | 0    | 45   |
| Future Vol, veh/h        | 525  | 10   | 0    | 325  | 0    | 45   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 95   | 95   | 95   | 95   | 95   | 95   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 553  | 11   | 0    | 342  | 0    | 47   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |   |       |
|----------------------|--------|--------|--------|---|---|-------|
| Conflicting Flow All | 0      | 0      | -      | - | - | 282   |
| Stage 1              | -      | -      | -      | - | - | -     |
| Stage 2              | -      | -      | -      | - | - | -     |
| Critical Hdwy        | -      | -      | -      | - | - | 6.93  |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - | -     |
| Follow-up Hdwy       | -      | -      | -      | - | - | 3.319 |
| Pot Cap-1 Maneuver   | -      | -      | 0      | - | 0 | 716   |
| Stage 1              | -      | -      | 0      | - | 0 | -     |
| Stage 2              | -      | -      | 0      | - | 0 | -     |
| Platoon blocked, %   | -      | -      | -      | - | - | -     |
| Mov Cap-1 Maneuver   | -      | -      | -      | - | - | 716   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - | -     |
| Stage 1              | -      | -      | -      | - | - | -     |
| Stage 2              | -      | -      | -      | - | - | -     |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 0  | 10.4 |
| HCM LOS              |    |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h)      | 716   | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.066 | -   | -   | -   |
| HCM Control Delay (s) | 10.4  | -   | -   | -   |
| HCM Lane LOS          | B     | -   | -   | -   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | -   |



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