# Final Environmental Assessment for Phase II Air Cargo Facility Development

## Volume 2: Appendix H

## Lakeland Linder International Airport
## Polk County, Florida

October 2021

# APPENDIX H

# Traffic Study Technical Report

*This page intentionally left blank.*

# Environmental Assessment
# for
# Phase II Air Cargo Facility Development at Lakeland Linder International Airport (LAL)

# Traffic Study Technical Report

**Prepared for:**

**City of Lakeland**
**Federal Aviation Administration**

**Prepared by:**

**AECOM**

**August 2020**

*This page intentionally left blank.*

## TABLE OF CONTENTS



## LIST OF TABLES

## LIST OF FIGURES



## LIST OF ATTACHMENTS

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AADT | Average Annual Daily Traffic |
| AST | Aboveground Storage Tank |
| LAL | Lakeland Linder International Airport |
| D | Directional Factor |
| D1RPM | District 1 Regional Planning Model |
| DDHV | Daily Directional Hourly Volume |
| EA | Environmental Assessment |
| EB | Eastbound |
| FDOT | Florida Department of Transportation |
| FTI | Florida Traffic Information |
| GSE | Ground Service Equipment |
| HCM | Highway Capacity Manual |
| K | Scale Factor |
| LOS | Level of Service |
| LT | Left Turn |
| NB | Northbound |
| NCRHP | National Cooperative Highway Research Program |
| NEPA | National Environmental Policy Act |
| RT | Right Turn |
| SB | Southbound |
| SF | Square Foot |
| SY | Square Yard |
| T | Truck Factor |
| TH | Through |
| TMC | Turning Movement Counts |
| WB | Westbound |

*This page intentionally left blank.*

# 1.0 INTRODUCTION

The City of Lakeland (City), through their Airports Department, is undertaking an Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA). The EA is being completed to support Phase II of air cargo facility development at Lakeland Linder International Airport (LAL or Airport), hereinafter referred to as the Proposed Project. The Proposed Project is an extension of development already completed to support air cargo service operations at LAL. The purpose of the EA is to identify and consider the potential environmental impacts associated with the Proposed Project and any reasonable alternatives.

This *Traffic Study Technical Report* details the assessment scope, input data and other technical information used in the analysis of traffic impacts associated with the Proposed Project.

In May 2019, the City completed a Major Traffic Study[1] for Phase I of the air cargo facility to determine the impacts a new air cargo facility will have on the adjacent transportation system and to recommend mitigation measures if necessary. The 2019 study determined how the intersections within the study area operate under existing AM and PM peak hour conditions. This additional traffic study was conducted to update the 2019 study and determine potential traffic impacts that would result from the Proposed Project. Conclusions from both the 2019 traffic study and the current study are summarized in the following sections.

## 1.1. PROPOSED PROJECT

The Proposed Project is a Phase II expansion of an air cargo facility already constructed. The Phase II expansion is being contemplated to accommodate future flexibility for expanded operations, given the potential for network and customer demand to increase in the near future. A notional layout for the Proposed Project is shown on **Figure 1.1-1a** based on facility sizing needs. The Proposed Project would be developed on an approximate 68-acre site in the northwest quadrant of LAL, immediately west and adjacent to the Phase I development already completed. All project components would be constructed on airport. Specific construction and operational activities included in the Proposed Project are listed below:

- Construct up to 464,600-square foot (SF) expansion of the Phase I sort and office building;
- Construct up to approximately 69,100 square yards (SY) of paved truck court to accommodate up to 370 additional truck bays;
- Construct up to approximately 42,500 SY of paved vehicle parking lot to accommodate up to 1,120 additional parking spaces;
- Construct up to approximately 29,200 SY of concrete aircraft parking apron accommodate three additional Boeing 767-300 aircraft parking positions;
- Construct up to approximately 19,400 SY of pavement for aircraft ground support equipment (GSE) staging and periodic aircraft parking;

[1] RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

- Construct new airport access road to provide access to the Phase II facilities via Drane Field Road;
- Site clearing, grading, and landscaping;
- Modifications to the Airport's stormwater management system, including construction of swales and retention ponds;
- Installation of security fencing, gates and security checkpoints;
- Installation of airfield lighting and signage

The facility will be designed to approve Boeing 767 and 737 cargo aircraft. If approved, the Phase II Cargo Development project is expected to generate 8 additional bi-directional aircraft flights per day at LAL during the facility's first year of operation (2022) and 12 additional daily bi-directional flights in 2027. According to the forecast of project trips provided by the operator of Phase II Cargo Development, the project is expected to generate approximately 664 additional car and truck trips per day in 2022 (peak daily) and 1,242 additional car and truck trips per day in 2027.

Additionally, to accommodate the potential need for additional aviation fueling capacity at LAL, a fuel farm is being proposed in an area separate from the Proposed Project footprint, at the intersection of Aero Place and Taxiway H (**Figure 1.1-1b**). Current projections indicate need for additional aboveground storage tanks (ASTs) providing a total of 850,000 gallons of Jet-A fuel capacity. There is potential for a small portion of this capacity to be dedicated to off-road equipment fuel (e.g., gasoline, diesel or hydrogen) if usage needs dictate once the facility is operational.

# 2.0 EXISTING CONDITIONS

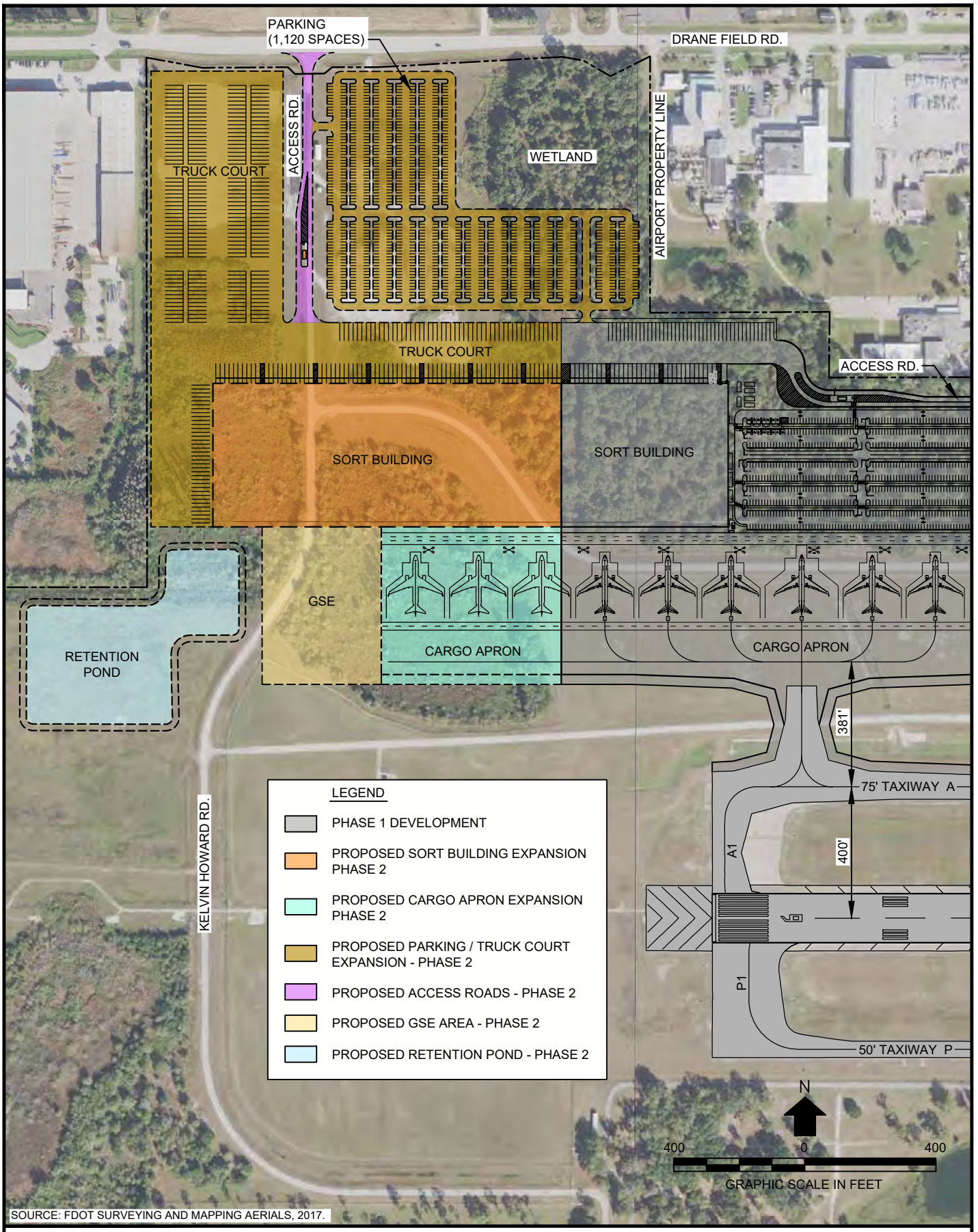
## 2.1. AREA TRANSPORTATION NETWORK CHARACTERISTICS

**Table 2.1-1** presents the exiting conditions for the roadways adjacent to the Proposed Project including number of lanes, speed limit, and functional classification. The existing intersection controls are presented in **Table 2.1-2**. The existing roadway configurations are shown in **Figure 2.1-1**.

**Table 2.1-1 Existing Roadway Characteristics**

| Roadway | Functional Classification | Facility Type | Speed Limit (mph) | Directionality | No. of Lanes |
|---|---|---|---|---|---|
| Drane Field Road | Major collector | Undivided | 50 | Two-way | 2 |
| County Line Road | Minor arterial | Divided | 55 | Two-way | 4 |
| Kidron Road | N/A | Undivided | 25 | Two-way | 2 |
| Airport Road | Major collector | Undivided | 50 | Two-way | 2 |

Source: Lakeland Linder Airport – NW Quadrant Traffic Study: Major Traffic Study. May 2019.



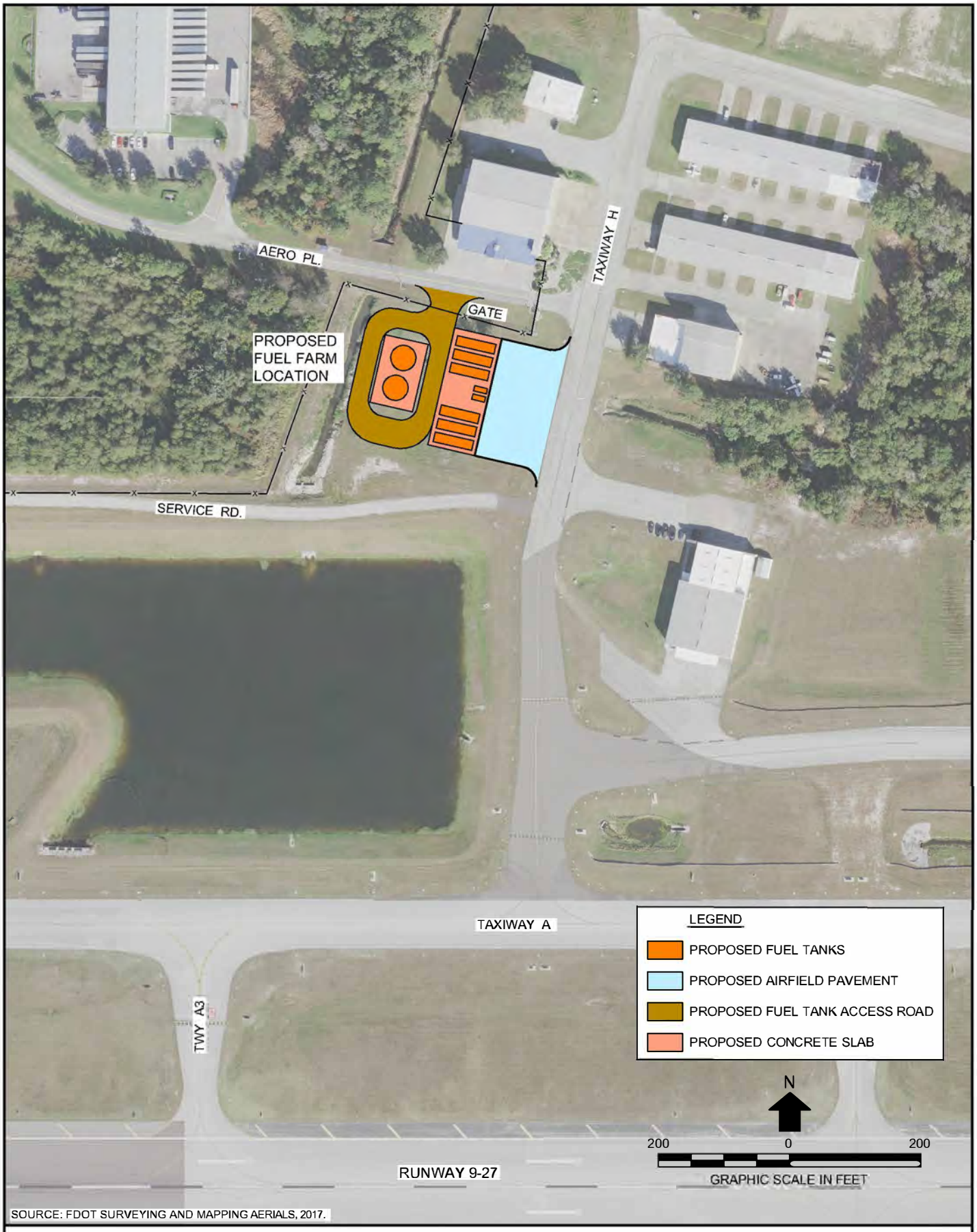

**LAKELAND LINDER INTERNATIONAL AIRPORT**

**PHASE II AIR CARGO DEVELOPMENT ENVIRONMENTAL ASSESSMENT**

**EA PROPOSED PROJECT**

FIGURE 1.1-1a

C:\Civil 3D Projects\Amazon\Draft EA Figures\FIG 1.2-1a.dwg 09/29/2020 12:07




SOURCE: FDOT SURVEYING AND MAPPING AERIALS, 2017.

**LAKELAND LINDER INTERNATIONAL AIRPORT**

**PHASE II AIR CARGO DEVELOPMENT ENVIRONMENTAL ASSESSMENT**

**EA PROPOSED PROJECT FUEL FARM**

FIGURE 1.1-1b

C:\Civil 3D Projects\Amazon\Draft EA Figures\FIG 1.2-1b.dwg 07/02/2020 10:36


Path: C:\Users\tia.norman\Desktop\[redacted]GIS\mxd\Cultural\Figure 4-10-1 Traffic Configurations_rev1.mxd, Date Saved: 9/23/2020 3:51:10 PM

**LAKELAND LINDER INTERNATIONAL AIRPORT**

**PHASE II AIR CARGO DEVELOPMENT ENVIRONMENTAL ASSESSMENT**

**EXISTING ROADWAY CONFIGURATIONS**

FIGURE 2.1-1

**Table 2.1-2 Intersection and Control Type**

| Intersection | Control/Signal Type |
|---|---|
| County Line Road at Drane Field Road | Signal Controlled |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized |
| Airport Road at Drane Field Road | Signal controlled |

Source: Lakeland Linder Airport – NW Quadrant Traffic Study: Major Traffic Study. May 2019.

## 2.2. TRAFFIC COUNTS

As part of the 2019 study, turning movement traffic counts (TMC) were taken at the intersection of Drane Field Road and Kidron Road. The Florida Department of Transportation's (FDOT) Florida Traffic Information (FTI) seasonal factor (0.96) and axle factor (0.96) were applied to the counts to account for the time of year and the type of roadway where the counts were taken. A prior study collected volumes for the intersections of Airport Road at Drane Field Road on August 31, 2017 and May 12, 2017 and County Line Road at Drane Field Road on March 12, 2019.[2]

Additional traffic information was collected from the FTI database and from IdealSpot's 2019 Quarter One Average Annual Daily Traffic (AADT) report for the study year. The 2019 data from IdealSpot was used as the recommended AADT. The AADT developed from TMCs for Kidron Road was used where IdealSpot data was not available. The AADT collected from the 2019 study is summarized in **Table 2.2-1.**

## 2.3. TRAFFIC FACTORS AND EXISTING VOLUMES

The 2019 study used a directional factor (D) of 54.5 percent, which was identified from the 2018 FTI along Drane Field Road. The standard scale factor (K) of 9 percent and a truck factor (T) of 10.7 percent with an hourly truck factor of 5 percent was used. The seasonal and axle adjusted counts, calculated D factor and standard K factor were used to develop existing AADT volumes and Daily Directional Hourly Volumes (DDHV) on Drane Field Road and Kidron Road. Existing (2019) AADT volumes and DDHVs are shown in **Table 2.2-1.**

[2] RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

**Table 2.2-1 Existing AADT Volumes and Calculated DDHVs**

| Roadway | From | To | AADT | | | | DDHV | |
|---|---|---|---|---|---|---|---|---|
| | | | Polk TPO | FTI | IdealSpot | TMC | | |
| | | | 2017 | 2018 | 2019 | Various | Peak | Off Peak |
| Drane Field Road | County Line Road | Airport Road | 7,600 | 7,100 | 7,900 | 9,300 | 387 | 324 |
| Drane Field Road | Airport Road | Waring Road | 10,700 | 15,400 | 13,400 | 10,000 | 657 | 549 |
| County Line Road | Medulla Road | Drane Field Road | 25,700 | 21,000 | 19,400 | 15,700 | 952 | 794 |
| County Line Road | Drane Field Road | East Baker Street | 25,700 | 20,500 | 19,600 | 18,700 | 961 | 803 |
| Airport Road | Drane Field Road | Polk Parkway | 10,400 | 10,600 | 10,600 | 8,700 | 520 | 434 |
| Kidron Road | Airpark Drive | Drane Field Road | -- | -- | -- | 800 | 39 | 33 |

Notes: D-Factor = 54.5%; Standard K-Factor = 9%; T-Factor = 10.7%; DHT = 5% from FTI on Drane Field Road
Source: RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

## 2.4. EXISTING LEVEL OF SERVICE CAPACITY ANALYSES

The 2019 study included an intersection capacity analysis for the existing intersections pursuant to methodologies prescribed by the *Highway Capacity Manual (HCM).*[3] A level of service (LOS) letter grade was assigned to each intersection for the peak hour of traffic based on the number of lanes, traffic volumes, and traffic existing controls. According to the HCM, LOS is a qualitative measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

The annual traffic volumes, average delay (seconds per vehicle), and LOS results for the existing peak hours are shown in **Table 2.4-1** for the existing roadway configurations (see **Figure 2.1-1**)**.** These values are based on the existing lane configurations and lane usages. Existing turning movement volumes collected in the May 2019 traffic study were used to determine the existing LOS. Existing signal timings were not available for the intersection of Airfield Court West/Airport Road at Drane Field Road; therefore, they were developed based on Synchro optimizations for this intersection. The LOS calculations were performed by AECOM per the HCM using Synchro software. Traffic analysis results in HCM format were reported for intersections except for the intersection of Airfield Court/West Airport Road at Drane Field Road. Due to limitations of Synchro software, results in Synchro format were reported for the intersection instead. Based on the information provided in **Table 2.4-1**, all study intersections currently operate acceptably at LOS B or better during both AM and PM peak hours.

**Table 2.4-2** provides a detailed summary of the existing conditions traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection shown on **Figure 2.1-1**.

[3] Transportation Research Board. *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM)*. 2016

**Table 2.4-1 Existing Conditions (2019) Traffic Volumes and Level of Service**

| Intersections | Control/Signal Type | Signal Type | Annual Volumes | AM | | PM | |
|---|---|---|---|---|---|---|---|
| | | | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| County Line Road at Drane Field Road | Signal controlled | Signal | 9,033,800 | B | 16.3 | B | 17.2 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | Signal | 6,233,400 | B | 24.5 | B | 17.1 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | Unsignalized | 2,883,500 | A | 0 | A | 0 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | Unsignalized | 3,029,500 | B | 13 | B | 12.7 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 2.4-2 Existing Conditions (2019) Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 28.9 | 40 | C | 29.5 | 40 |
| | | EB TH | A | 0.0 | 71 | A | 0.0 | 71 |
| | | EB RT | D | 37.0 | 71 | D | 37.7 | 71 |
| | | WB LT | C | 25.7 | 145 | C | 26.8 | 155 |
| | | WB TH | C | 25.6 | 54 | C | 26.1 | 72 |
| | | WB RT | C | 26.6 | 0 | C | 27.5 | 34 |
| | | NB LT | B | 11.4 | 8 | B | 10.5 | 9 |
| | | NB TH | B | 15.9 | 218 | B | 16.3 | 263 |
| | | NB RT | B | 13.8 | 9 | B | 12.4 | 17 |
| | | SB LT | B | 11.0 | 89 | B | 11.7 | 59 |
| | | SB TH | B | 12.0 | 210 | B | 11.9 | 181 |
| | | SB RT | A | 8.7 | 0 | A | 9.1 | 0 |
| | Signal controlled | EB LT | F | 94.6 | #164 | D | 46.5 | 112 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| Airfield Court/West Airport Road at Drane Field Road | | EB TH & RT | C | 31.3 | 199 | C | 32.4 | 181 |
| | | WB LT | C | 22.2 | 23 | B | 19.0 | 6 |
| | | WB TH | C | 34.4 | 226 | C | 28.4 | 151 |
| | | WB RT | A | 5.8 | 49 | A | 6.3 | 48 |
| | | NB LT, TH & RT | A | 0.0 | 0.0 | A | 5.0 | 13 |
| | | SB TH & LT | B | 14.7 | 262 | A | 8.6 | 109 |
| | | SB RT | A | 2.1 | 22 | A | 1.8 | 28 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0 | 0 | A | 0 | 0 |
| | | EB RT | A | 0 | 0 | A | 0 | 0 |
| | | WB LT | A | 0 | 0 | A | 0 | 0 |
| | | WB TH | A | 0 | 0 | A | 0 | 0 |
| | | NB LT | A | 0 | 0 | A | 0 | 0 |
| | | NB RT | A | 0 | 0 | A | 0 | 0 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH & RT | A | 0 | 0 | A | 0 | 0 |
| | | WB LT | A | 8.4 | 3 | A | 8.3 | 0 |
| | | WB TH | A | 0 | 0 | A | 0 | 0 |
| | | NB LT & RT | B | 12 | 8 | B | 12.7 | 8 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

# 3.0 FUTURE CONDITIONS

## 3.1 FORECAST TRAFFIC VOLUMES AND LEVEL OF SERVICE

### 3.1.1 NO-ACTION ALTERNATIVE

As part of the 2019 traffic study, future year (2023) traffic volumes on Drane Field Road were estimated using the District 1 Regional Planning Model (D1RPM) outputs. Model volumes for 2010 and 2040 from each leg of the study intersections were used to forecast 2019 volumes. The National Cooperative Highway Research Program (NCHRP) 765 adjustment procedure was utilized to develop 2040 AADT. The 2019 AADT and 2040 AADT were then used to linearly interpolate a "no-build" 2023 AADT (i.e., forecast traffic volumes that do not include traffic resulting from Phase I cargo development).

Traffic volumes for no-build conditions for years 2022 and 2027 were calculated via interpolation between years 2019 and 2040. Estimates of additional cargo truck and passenger vehicle traffic that would be generated by the Phase I air cargo development were added to the no-build traffic volumes for years 2022 and 2027 to represent the No-Action Alternative for EA. LOS for each study intersection was calculated for the 2022 and 2027 No-Action Alternative using methodologies previously described. **Tables 3.1-1** and **3.1-2** depict the forecasted No-Action Alternative annual traffic volumes and LOS for the 2022 and 2027 study years, respectively.

**Tables 3.1-3** and **3.1-4** provide a detailed summary of the No-Action traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection for the 2022 and 2027 study years, respectively.

**Table 3.1-1 2022 No-Action Alternative Traffic Volumes and Level of Service**

| Intersections | Control/Signal Type | Annual Volumes | AM | | PM | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| County Line Road at Drane Field Road | Signal Controlled | 10,128,800 | B | 17.8 | B | 18.8 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | 6,872,100 | C | 24 | B | 17.7 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 3,605,400 | C | 18.9 | C | 18.3 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 4,365,800 | C | 24.2 | C | 22.5 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 3.1-2 2027 No-Action Alternative Traffic Volumes and Level of Service**

| Intersections | Control/Signal Type | Annual Volumes | AM | | PM | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| County Line Road at Drane Field Road | Signal Controlled | 11,112,200 | B | 19.7 | B | 21.4 |
| Airfield Court/West Airport Road at Drane Field Road[1] | Signal controlled | 7,486,600 | C | 24.2 | B | 17.8 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 3,917,700 | C | 20.8 | C | 20 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 4,690,300 | D | 29.7 | D | 26.7 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 3.1-3 2022 No-Action Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.6 | 41 | C | 29.7 | 40 |
| | | EB TH | A | 0.0 | 69 | A | 0.0 | 69 |
| | | EB RT | D | 37.8 | 69 | D | 37.9 | 69 |
| | | WB LT | C | 34.7 | #200 | C | 34.6 | #213 |
| | | WB TH | C | 27.2 | 64 | C | 27.0 | 84 |
| | | WB RT | C | 28.7 | 1 | C | 29.1 | 23 |
| | | NB LT | B | 11.7 | 8 | B | 10.7 | 10 |
| | | NB TH | B | 17.1 | 239 | B | 17.8 | 293 |
| | | NB RT | B | 15.3 | 39 | B | 13.5 | 18 |
| | | SB LT | B | 12.9 | 117 | B | 13.7 | 83 |
| | | SB TH | B | 11.7 | 216 | B | 11.9 | 191 |
| | | SB RT | A | 8.3 | 0 | A | 8.8 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 95.6 | #207 | D | 49.6 | 127 |
| | | EB TH & RT | C | 26.1 | 234 | C | 29.0 | 197 |
| | | WB LT | B | 17.2 | 20 | B | 16.0 | 6 |
| | | WB TH | C | 27.1 | 246 | C | 24.8 | 160 |
| | | WB RT | A | 4.3 | 42 | A | 5.2 | 43 |
| | | NB LT, TH & RT | A | 0.0 | 0 | A | 6.3 | 15 |
| | | SB TH & LT | B | 19.3 | 258 | B | 10.1 | 105 |
| | | SB RT | A | 2.1 | 22 | A | 1.8 | 28 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 10.6 | 0 | B | 10.0 | 0 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | C | 24.0 | 5 | C | 23.9 | 5 |
| | | NB RT | B | 13.8 | 2.5 | B | 12.7 | 3 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH & RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | A | 9.2 | 13 | A | 8.7 | 5 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| | | NB LT & RT | C | 24.2 | 65 | C | 22.5 | 70 |

Notes:
#: 95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

**Table 3.1-4 2027 No-Action Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.5 | 44 | C | 30.3 | 44 |
| | | EB TH | A | 0.0 | 75 | A | 0.0 | 75 |
| | | EB RT | D | 38.0 | 75 | D | 39.0 | 75 |
| | | WB LT | D | 41.4 | #233 | E | 56.7 | #197 |
| | | WB TH | C | 27.4 | 68 | C | 29.1 | 91 |
| | | WB RT | C | 29.1 | 7 | C | 32.2 | 42 |
| | | NB LT | B | 12.3 | 9 | B | 10.4 | 10 |
| | | NB TH | B | 18.9 | 275 | B | 18.1 | 320 |
| | | NB RT | B | 16.5 | 41 | B | 13.2 | 33 |
| | | SB LT | B | 16.2 | 161 | B | 16.5 | 132[2] |
| | | SB TH | B | 12.6 | 248 | B | 11.7 | 212 |
| | | SB RT | A | 8.6 | 0 | A | 8.4 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 95.2 | #229 | D | 54.3 | 139 |
| | | EB TH & RT | C | 24.5 | 249 | C | 27.9 | 208 |
| | | WB LT | B | 16.3 | 20 | B | 15.0 | 6 |
| | | WB TH | C | 25.5 | 267 | C | 24.0 | 169 |
| | | WB RT | A | 4.0 | 43 | A | 4.9 | 43 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 7.1 | 18 |
| | | SB TH & LT | C | 24.6 | 303 | B | 11.7 | 126 |
| | | SB RT | A | 2.8 | 35 | A | 2.5 | 35 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| | | WB LT | B | 10.9 | 0 | B | 10.3 | 0 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | D | 27.0 | 5 | D | 26.9 | 5 |
| | | NB RT | B | 14.5 | 2.5 | B | 13.2 | 3 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH & RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | A | 9.5 | 13 | A | 8.8 | 8 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT & RT | D | 29.7 | 83 | D | 26.7 | 85 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

### 3.1.2 PROPOSED PROJECT

For the purpose of this study, additional estimates of increased daily cargo truck and passenger vehicle traffic that would result from the operations of the Proposed Project were added to the forecasted No-Action Alternative traffic volumes for each study year to develop total traffic volumes and calculate intersection LOS that would result from the Proposed Project. **Tables 3.1-5** and **3.1-6** depict the forecasted Proposed Project annual traffic volumes and LOS for the 2022 and 2027 study years, respectively. **Tables 3.1-7** and **3.1-8** summarize changes to annual traffic volumes, LOS, and average delay that would result from the Proposed Project in 2022 and 2027, respectively. **Tables 3.1-9** and **3.1-10** provide a detailed summary of the Proposed Project traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection for the 2022 and 2027 study years, respectively.

Traffic impacts that would result from operation of the Proposed Project incur no unacceptable decrease in LOS at three of the four studied intersections. While impacts would be evident in the 2022 study year, the increased average intersection delay and the resulting impacts to LOS would generally be greatest in the 2027 study year. The County Line Road and Drane Field Road intersection would experience average delay increases of less than three seconds per vehicle, resulting in LOS change from B to C in 2027. The intersection of Airfield Court West/Airport Road and Drane Field Road would experience the least impact, with less than one second increase in average delay per vehicle, and no resulting change to LOS in 2027. At Kelvin Howard Road and Drane Field Road, the 2027 increase in average intersection delay would be 6.3 seconds during the AM peak hour and 5.8 seconds during the PM Peak hour. Both peak hours would experience a reduced LOS from C to D, as compared to the No-Action Alternative.

The intersection of Kidron Road and Drane Field Road would experience an unacceptable decrease to LOS as a result of the Proposed Project. This intersection currently is controlled only by stop signs on Kidron Road, and there are no dedicated turn lanes at the intersection, either on Kidron Road or Drane Field Road. Under the No-Action Alternative, this intersection would have a LOS of C in 2022 and LOS of D in 2027. With operation of the Proposed project, the LOS would decrease to LOS E in 2022 and LOS F in 2027. Without mitigation, this would constitute a significant impact to surface transportation. Mitigation alternatives considered are presented in **Section 4.0**.

**Table 3.1-5 2022 Proposed Project Traffic Volumes and Level of Service**

| Intersections | Control/Signal Type | Annual Volumes | AM | | PM | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| County Line Road at Drane Field Road | Signal Controlled | 10,333,600 | B | 18.6 | B | 19.4 |
| Airfield Court/West Airport Road at Drane Field Road[1] | Signal controlled | 7,170,200 | C | 24.1 | B | 17.8 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 3,879,100 | C | 22.1 | C | 21.2 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 4,809,900 | E | 38.7 | E | 36.6 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 3.1-6 2027 Proposed Project Traffic Volumes and Level of Service**

| Intersections | Control/Signal Type | Annual Volumes | AM | | PM | |
|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| County Line Road at Drane Field Road | Signal Controlled | 11,481,300 | C | 22 | C | 23.8 |
| Airfield Court/West Airport Road at Drane Field Road[1] | Signal controlled | 8,046,200 | C | 25 | C | 17.8 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 4,382,000 | D | 27.1 | D | 25.8 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 5,537,900 | F | 126 | F | 114.5 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 3.1-7 2022 Traffic Volume, Level of Service, and Delay Changes Resulting from Proposed Project**

| Intersections | Control/Signal Type | Annual Volume Difference | LOS Difference | | Average Delay Difference (Seconds/Vehicle) | |
|---|---|---|---|---|---|---|
| | | | AM | PM | AM | PM |
| County Line Road at Drane Field Road | Signal Controlled | 204,800 | None | None | 0.8 | 0.6 |
| Airfield Court/West Airport Road at Drane Field Road[1] | Signal controlled | 298,100 | None | None | 0.1 | 0.1 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 273,700 | None | None | 3.2 | 2.9 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 444,100 | C to E | C to E | 14.5 | 14.1 |

Notes: Difference = Difference between No-Action Alternative and Proposed Project
Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM). 2016; except as noted with "*"
[1] Calculations performed with Synchro software

**Table 3.1-8 2027 Traffic Volume, Level of Service, and Delay Changes Resulting from Proposed Project**

| Intersections | Control/Signal Type | Annual Volume Difference | LOS Difference | | Average Delay Difference (Seconds/Vehicle) | |
|---|---|---|---|---|---|---|
| | | | AM | PM | AM | PM |
| County Line Road at Drane Field Road | Signal Controlled | 369,100 | B to C | B to C | 2.3 | 2.4 |
| Airfield Court/West Airport Road at Drane Field Road[1] | Signal controlled | 559,600 | None | None | 0.8 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/Unsignalized | 464,300 | C to D | C to D | 6.3 | 5.8 |
| Kidron Road at Drane Field Road | Stop sign controlled/Unsignalized | 847,600 | D to F | D to F | 96.3 | 87.8 |

Notes: Difference = Difference between No-Action Alternative and Proposed Project
Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM). 2016; except as noted with "*"
[1] Calculations performed with Synchro software

**Table 3.1-9 2022 Proposed Project Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.6 | 41 | C | 29.7 | 41 |
| | | EB TH | A | 0.0 | 69 | A | 0.0 | 69 |
| | | EB RT | D | 37.8 | 69 | D | 37.9 | 69 |
| | | WB LT | C | 34.4 | #208 | D | 39.0 | #239 |
| | | WB TH | C | 26.7 | 66 | C | 27.3 | 87 |
| | | WB RT | C | 28.2 | 3 | C | 29.6 | 26 |
| | | NB LT | B | 12.5 | 8 | B | 10.8 | 10 |
| | | NB TH | B | 18.3 | 247 | B | 18.0 | 299 |
| | | NB RT | B | 16.8 | 42 | B | 14.0 | 25 |
| | | SB LT | B | 14.4 | 142 | B | 14.3 | 97 |
| | | SB TH | B | 12.1 | 220 | B | 11.7 | 190 |
| | | SB RT | A | 8.6 | 0 | A | 8.7 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 88.4 | #239 | D | 50.2 | 138 |
| | | EB TH & RT | C | 27.3 | 274 | C | 28.1 | 212 |
| | | WB LT | B | 19.0 | 22 | B | 14.7 | 6 |
| | | WB TH | C | 27.5 | 280 | C | 23.2 | 164 |
| | | WB RT | A | 4.2 | 46 | A | 4.7 | 41 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 7.0 | 17 |
| | | SB TH & LT | C | 20.2 | 236 | B | 11.3 | 112 |
| | | SB RT | A | 3.0 | 37 | A | 2.5 | 35 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 10.9 | 3 | B | 10.3 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | D | 29.1 | 10 | D | 28.8 | 10 |
| | | NB RT | C | 15.0 | 5 | B | 13.5 | 3 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH & RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | A | 9.6 | 15 | A | 8.9 | 8 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT & RT | E | 38.7 | 13 | E | 36.6 | 140 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

**Table 3.1-10 2027 Proposed Project Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.5 | 44 | C | 30.2 | 44 |
| | | EB TH | A | 0.0 | 75 | A | 0 | 75 |
| | | EB RT | D | 38.0 | 75 | D | 38.8 | 75 |
| | | WB LT | E | 60.7 | #211 | E | 71.3 | #227 |
| | | WB TH | C | 28.3 | 74 | C | 29.2 | 96 |
| | | WB RT | C | 30.5 | 12 | C | 32.6 | 37 |
| | | NB LT | B | 12.3 | 9 | B | 10.8 | 10 |
| | | NB TH | B | 19.1 | 273 | B | 19.1 | 329 |
| | | NB RT | B | 17.4 | 43 | B | 14.3 | 36 |
| | | SB LT | B | 19.1 | #215 | B | 19.2 | #167 |
| | | SB TH | B | 12.0 | 243 | B | 11.7 | 212 |
| | | SB RT | A | 8.2 | 0 | A | 8.4 | 0 |
| | Signal controlled | EB LT | F | 91.3 | #269 | D | 53.6 | 158 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| Airfield Court/West Airport Road at Drane Field Road | | EB TH & RT | C | 24.3 | 296 | C | 25.8 | 232 |
| | | WB LT | B | 16.5 | 21 | B | 12.7 | 5 |
| | | WB TH | C | 24.4 | 297 | C | 20.8 | 172 |
| | | WB RT | A | 3.7 | 43 | A | 4.1 | 38 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 8.9 | 20 |
| | | SB TH & LT | C | 28.6 | 299 | B | 14.6 | 147 |
| | | SB RT | A | 4.8 | 57 | A | 3.0 | 41 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 11.5 | 3 | B | 10.7 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | E | 37.7 | 15 | E | 36.9 | 15 |
| | | NB RT | C | 16.5 | 5 | B | 14.6 | 5 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH & RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 10.2 | 20 | A | 9.3 | 13 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT & RT | F | 126.0 | 298 | F | 114.5 | 325 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

# 4.0 SUMMARY AND RECOMMENDATIONS

## 4.1 SUMMARY OF FINDINGS

The Proposed Project has the potential to impact vehicle delays and LOS at four intersections. Compared to the No-Action Alternative, the Proposed Project would incur additional delays in the 2022 and 2027 study years at all four intersections, either during AM peak hour, PM peak hour, or both. The greatest impacts would generally occur in the 2027 study year. Three of the four impacted intersections would not experience significant or unacceptable increased average delay or LOS in either study year.

However, the intersection of Kidron Road at Drane Field Road would experience substantial average vehicle delays and decreases in LOS by 2022. With operation of the Proposed Project, in the 2022 study year, the intersection would experience an average vehicle delay of as much as 14.5 seconds more than the No-Action Alternative, resulting in a LOS decrease from C to E. In the 2027 study year, the intersection would experience an average vehicle delay of as much as 96.3 seconds more than the No-Action Alternative, resulting in a LOS decrease from D to F.

## 4.2 TRAFFIC IMPACTS MITIGATION

Two alternative methods were developed to mitigate the impacts to LOS by reducing the increased average vehicle delay that would be incurred by the Proposed Project at the intersection of Kidron Road at Drane Field Road. Mitigation Alternative 1 includes adding dedicated turning lanes at the intersection. Mitigation Alternative 2 includes the addition of turn lanes and replacing the existing stop sign with a traffic signal. The resulting average delay and LOS for 2022 and 2027 are depicted in **Tables 4.2-1** and **4.2-2**, respectively.

**Table 4.2-1 2022 Kidron Road at Drane Field Road Traffic Mitigation Scenarios**

| Scenario | Control Type | AM | | PM | |
|---|---|---|---|---|---|
| | | LOS | Delay (Seconds/ Vehicle) | LOS | Delay (Seconds/ Vehicle) |
| No-Action | Stop Sign | C | 24.2 | C | 22.5 |
| Proposed Project, No Mitigation | Stop Sign | E | 38.7 | E | 36.6 |
| Proposed Project, Mitigation Alternative 1 | Stop Sign with Dedicated Turn Lanes | C | 21.2 | C | 19.5 |
| Proposed Project, Mitigation Alternative 2 | Signal with Dedicated Turn Lanes | B | 11.0 | B | 10.2 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 4.2-2 2027 Kidron Road and Drane Field Road Traffic Mitigation Scenarios**

| Scenario | Control Type | AM | | PM | |
|---|---|---|---|---|---|
| | | LOS | Delay (Seconds/ | LOS | Delay (Seconds/ |

| | | | Vehicle) | | Vehicle) |
|---|---|---|---|---|---|
| No-Action | Stop Sign | D | 29.7 | D | 26.7 |
| Proposed Project, No Mitigation | Stop Sign | F | 126.0 | F | 114.5 |
| Proposed Project, Mitigation Alternative 1 | Stop Sign with Dedicated Turn Lanes | D | 32.0 | D | 28.4 |
| Proposed Project, Mitigation Alternative 2 | Signal with Dedicated Turn Lanes | B | 13.0 | B | 12.0 |

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Tables 4.2-3** and **4.2-4** summarize the average delay and LOS impacts of the Proposed Project with no mitigation, with Mitigation Alternative 1, and with Mitigation Alternative 2, as compared to the No-Action Alternative.

**Table 4.2-3 2022 Kidron Road and Drane Field Road Traffic Mitigation Comparisons**

| Scenario | AM | | PM | |
|---|---|---|---|---|
| | LOS Difference | Average Delay Difference (Seconds/Vehicle) | LOS Difference | Average Delay Difference (Seconds/Vehicle) |
| No-Action Vs Proposed Project, No Mitigation | C to E | 14.5 | C to E | 14.1 |
| No-Action Vs Proposed Project, Alternative 1 | No Change | -3.0 | No Change | -3.0 |
| No-Action Vs Proposed Project, Alternative 2 | C to B | -13.2 | C to B | -13.2 |

Notes: Difference = Difference between No-Action Alternative and Proposed Project
Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

**Table 4.2-4 2027 Kidron Road and Drane Field Road Traffic Mitigation Comparisons**

| Scenario | AM | | PM | |
|---|---|---|---|---|
| | LOS Difference | Average Delay Difference (Seconds/Vehicle) | LOS Difference | Average Delay Difference (Seconds/Vehicle) |
| No-Action Vs Proposed Project, No Mitigation | D to F | 96.3 | D to F | 87.8 |
| No-Action Vs Proposed Project, Alternative 1 | No Change | 2.3 | No Change | 1.7 |
| No-Action Vs Proposed Project, Alternative 2 | D to B | -16.7 | D to B | -14.7 |

Notes: Difference = Difference between No-Action Alternative and Proposed Project
Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

As previously stated, constructing the Proposed Project with no mitigation at the Kidron Road and Drane Field Road intersection would result in significant impacts to surface road traffic. Therefore, implementing mitigation would be required to avoid significant impacts.

By implementing Mitigation Alternative 1 (construct designated turn lanes), the majority of traffic impacts potentially incurred by the Proposed Project at this intersection would be mitigated, and LOS would be preserved at the No-Action Alternative of LOS C, with a slight average delay time decrease in 2022 and a slight increase average delay time increase in 2027. In both study years,

the intersection would remain at an acceptable LOS with this mitigation scenario. The Proposed Project would therefore result in no significant impact to surface road traffic.

If Mitigation Alternative 2 (construct designated turn lanes and a traffic signal) is implemented, all potential traffic impacts incurred by the Proposed Project at this intersection would be mitigated, and average delay and LOS would improve relative to the No-Action Alternative. With the No-Action Alternative, traffic volumes at this intersection would continue to increase over time, and the average delay would be expected to increase, with a resulting LOS decrease from C in 2022 to D 2027. However, with the implementation of Mitigation Alternative 2, the intersection would experience a marked decrease in average delay, resulting in an improvement of LOS compared to the No-Action Alternative LOS. The LOS resulting from Mitigation Alternative 2 would improve to LOS B, compared to the No-Action Alternative LOS C and D in 2022 and 2027, respectively. Therefore, the intersection would remain at an acceptable LOS with this mitigation scenario and there would be no significant impact to surface road traffic.

Further details summarizing the traffic operations, including queue length, delays (seconds/vehicle), and LOS for each individual movement, for the 2022 and 2027 Proposed Project conditions with each mitigation alternative are provided in **Tables 4.2-5** through **4.2-6** below. Attached to this Report are the detailed Synchro outputs utilized in the analysis contained herein.

**Table 4.2-5 2022 Proposed Project Mitigation Alternative 1 Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.6 | 41 | C | 29.7 | 41 |
| | | EB TH | A | 0.0 | 69 | A | 0.0 | 69 |
| | | EB RT | D | 37.8 | 69 | D | 37.9 | 69 |
| | | WB LT | C | 34.4 | #208 | D | 39.0 | #239 |
| | | WB TH | C | 26.7 | 66 | C | 27.3 | 87 |
| | | WB RT | C | 28.2 | 3 | C | 29.6 | 26 |
| | | NB LT | B | 12.5 | 8 | B | 10.8 | 10 |
| | | NB TH | B | 18.3 | 247 | B | 18.0 | 299 |
| | | NB RT | B | 16.8 | 42 | B | 14.0 | 25 |
| | | SB LT | B | 14.4 | 142 | B | 14.3 | 97 |
| | | SB TH | B | 12.1 | 220 | B | 11.7 | 190 |
| | | SB RT | A | 8.6 | 0 | A | 8.7 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 88.4 | #239 | D | 50.2 | 138 |
| | | EB TH & RT | C | 27.3 | 274 | C | 28.1 | 212 |
| | | WB LT | B | 19.0 | 22 | B | 14.7 | 6 |
| | | WB TH | C | 27.5 | 280 | C | 23.2 | 164 |
| | | WB RT | A | 4.2 | 46 | A | 4.7 | 41 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 7.0 | 17 |
| | | SB TH & LT | C | 20.2 | 236 | B | 11.3 | 112 |
| | | SB RT | A | 3.0 | 37 | A | 2.5 | 35 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 10.9 | 3 | B | 10.3 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | D | 29.1 | 10 | D | 28.8 | 10 |
| | | NB RT | C | 15.0 | 5 | B | 13.5 | 3 |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | EBTH&RT | A | 0 | 0 | A | 0 | 0 |
| | | WBLT | A | 9.6 | 15 | A | 8.9 | 8 |
| | | WBTH | A | 0 | 0 | A | 0 | 0 |
| | | NBLT | E | 39.7 | 38 | D | 34.8 | 40 |
| | | NBRT | C | 15.3 | 35 | B | 14.2 | 38 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

**Table 4.2-6 2027 Proposed Project Mitigation Alternative 1 Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.5 | 44 | C | 30.2 | 44 |
| | | EB TH | A | 0.0 | 75 | A | 0.0 | 75 |
| | | EB RT | D | 38.0 | 75 | D | 38.8 | 75 |
| | | WB LT | E | 60.7 | #211 | E | 71.3 | #227 |
| | | WB TH | C | 28.3 | 74 | C | 29.2 | 96 |
| | | WB RT | C | 30.5 | 12 | C | 32.6 | 37 |
| | | NB LT | B | 12.3 | 9 | B | 10.8 | 10 |
| | | NB TH | B | 19.1 | 273 | B | 19.1 | 329 |
| | | NB RT | B | 17.4 | 43 | B | 14.3 | 36 |
| | | SB LT | B | 19.1 | #215 | B | 19.2 | #167 |
| | | SB TH | B | 12.0 | 243 | B | 11.7 | 212 |
| | | SB RT | A | 8.2 | 0 | A | 8.4 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 91.3 | #269 | D | 53.6 | 158 |
| | | EB TH & RT | C | 24.3 | 296 | C | 25.8 | 232 |
| | | WB LT | B | 16.5 | 21 | B | 12.7 | 5 |
| | | WB TH | C | 24.4 | 297 | C | 20.8 | 172 |
| | | WB RT | A | 3.7 | 43 | A | 4.1 | 38 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 8.9 | 20 |
| | | SB TH & LT | C | 28.6 | 299 | B | 14.6 | 147 |
| | | SB RT | A | 4.8 | 57 | A | 3.0 | 41 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 11.5 | 3 | B | 10.7 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | E | 37.7 | 15 | E | 36.9 | 15 |
| | | NB RT | C | 16.5 | 5 | B | 14.6 | 5 |
| | | EBTH&RT | A | 0 | 0 | A | 0 | 0 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| Kidron Road at Drane Field Road | Stop sign controlled/unsignalized | WBLT | B | 10.2 | 20 | A | 9.3 | 13 |
| | | WBTH | A | 0 | 0 | A | 0 | 0 |
| | | NBLT | F | 74.5 | 73 | F | 60.9 | 78 |
| | | NBRT | C | 18.4 | 58 | C | 16.9 | 58 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

**Table 4.2-7 2022 Proposed Project Mitigation Alternative 2 Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.6 | 41 | C | 29.7 | 41 |
| | | EB TH | A | 0.0 | 69 | A | 0.0 | 69 |
| | | EB RT | D | 37.8 | 69 | D | 37.9 | 69 |
| | | WB LT | C | 34.4 | #208 | D | 39.0 | #239 |
| | | WB TH | C | 26.7 | 66 | C | 27.3 | 87 |
| | | WB RT | C | 28.2 | 3 | C | 29.6 | 26 |
| | | NB LT | B | 12.5 | 8 | B | 10.8 | 10 |
| | | NB TH | B | 18.3 | 247 | B | 18.0 | 299 |
| | | NB RT | B | 16.8 | 42 | B | 14.0 | 25 |
| | | SB LT | B | 14.4 | 142 | B | 14.3 | 97 |
| | | SB TH | B | 12.1 | 220 | B | 11.7 | 190 |
| | | SB RT | A | 8.6 | 0 | A | 8.7 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 88.4 | #239 | D | 50.2 | 138 |
| | | EB TH & RT | C | 27.3 | 274 | C | 28.1 | 212 |
| | | WB LT | B | 19 | 22 | B | 14.7 | 6 |
| | | WB TH | C | 27.5 | 280 | C | 23.2 | 164 |
| | | WB RT | A | 4.2 | 46 | A | 4.7 | 41 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 7.0 | 17 |
| | | SB TH & LT | C | 20.2 | 236 | B | 11.3 | 112 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | SB RT | A | 3.0 | 37 | A | 2.5 | 35 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 10.9 | 3 | B | 10.3 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | D | 29.1 | 10 | D | 28.8 | 10 |
| | | NB RT | C | 15.0 | 5 | B | 13.5 | 3 |
| Kidron Road at Drane Field Road | Signal controlled | EB TH | A | 0 | 264 | A | 0 | 198 |
| | | EBRT | B | 12.8 | 264 | B | 12.5 | 198 |
| | | WBLT | A | 8.2 | 31 | A | 7.2 | 23 |
| | | WBTH | A | 3.9 | 73 | A | 5 | 103 |
| | | NBLT | B | 16.4 | 51 | B | 13.9 | 51 |
| | | NBRT | C | 20.8 | 44 | B | 17.7 | 42 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

**Table 4.2-8 2027 Proposed Project Mitigation Alternative 2 Traffic Operations**

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| County Line Road at Drane Field Road | Signal controlled | EB LT | C | 29.5 | 44 | C | 30.2 | 44 |
| | | EB TH | A | 0.0 | 75 | A | 0.0 | 75 |
| | | EB RT | D | 38.0 | 75 | D | 38.8 | 75 |
| | | WB LT | E | 60.7 | #211 | E | 71.3 | #227 |
| | | WB TH | C | 28.3 | 74 | C | 29.2 | 96 |
| | | WB RT | C | 30.5 | 12 | C | 32.6 | 37 |
| | | NB LT | B | 12.3 | 9 | B | 10.8 | 10 |
| | | NB TH | B | 19.1 | 273 | B | 19.1 | 329 |
| | | NB RT | B | 17.4 | 43 | B | 14.3 | 36 |
| | | SB LT | B | 19.1 | #215 | B | 19.2 | #167 |
| | | SB TH | B | 12.0 | 243 | B | 11.7 | 212 |
| | | SB RT | A | 8.2 | 0 | A | 8.4 | 0 |
| Airfield Court/West Airport Road at Drane Field Road | Signal controlled | EB LT | F | 91.3 | #269 | D | 53.6 | 158 |
| | | EB TH & RT | C | 24.3 | 296 | C | 25.8 | 232 |
| | | WB LT | B | 16.5 | 21 | B | 12.7 | 5 |

| Intersections | Control/Signal Type | Movement | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) | LOS | Delay (Seconds/ Vehicle) | Queue Length (feet) |
| | | WB TH | C | 24.4 | 297 | C | 20.8 | 172 |
| | | WB RT | A | 3.7 | 43 | A | 4.1 | 38 |
| | | NB LT, TH & RT | A | 0.1 | 0 | A | 8.9 | 20 |
| | | SB TH & LT | C | 28.6 | 299 | B | 14.6 | 147 |
| | | SB RT | A | 4.8 | 57 | A | 3 | 41 |
| Kelvin Howard Road at Drane Field Road | Stop sign controlled/unsignalized | EB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | EB RT | A | 0.0 | 0 | A | 0.0 | 0 |
| | | WB LT | B | 11.5 | 3 | B | 10.7 | 3 |
| | | WB TH | A | 0.0 | 0 | A | 0.0 | 0 |
| | | NB LT | E | 37.7 | 15 | E | 36.9 | 15 |
| | | NB RT | C | 16.5 | 5 | B | 14.6 | 5 |
| Kidron Road at Drane Field Road | Signal controlled | EBTH | A | 0 | 333 | A | 0 | 252 |
| | | EBRT | B | 14.6 | 333 | B | 14.3 | 252 |
| | | WBLT | B | 11.1 | 38 | A | 8.9 | 29 |
| | | WBTH | A | 4.4 | 84 | A | 5.8 | 127 |
| | | NBLT | B | 18.7 | 66 | B | 15.6 | 68 |
| | | NBRT | C | 24.6 | 51 | C | 20.7 | 49 |

Notes:
#:95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

*This page intentionally left blank.*

**ATTACHMENT A SYNCHRO OUTPUTS**

*This page intentionally left blank.*

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 43 | 53 | 22 | 196 | 51 | 76 | 8 | 643 | 143 | 192 | 731 | 38 |
| Future Volume (veh/h) | 43 | 53 | 22 | 196 | 51 | 76 | 8 | 643 | 143 | 192 | 731 | 38 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj (A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Lanes Open During Work Zone | | | | | | | | | | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 50 | 62 | 26 | 228 | 59 | 88 | 9 | 748 | 166 | 223 | 850 | 44 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Opposing Right Turn Influence | Yes | | | Yes | | | Yes | | | Yes | | |
| Cap, veh/h | 273 | 98 | 41 | 384 | 323 | 274 | 340 | 1507 | 672 | 433 | 1800 | 803 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Prop Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.18 | 0.18 | 0.01 | 0.43 | 0.43 | 0.10 | 0.52 | 0.52 |
| Unsig. Movement Delay | | | | | | | | | | | | |
| Ln Grp Delay, s/veh | 28.9 | 0.0 | 37.0 | 25.7 | 25.6 | 26.6 | 11.4 | 15.9 | 13.8 | 11.0 | 12.0 | 8.7 |
| Ln Grp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 138 | | | 375 | | | 923 | | | 1117 | |
| Approach Delay, s/veh | | 34.1 | | | 25.9 | | | 15.5 | | | 11.6 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Case No | 1.1 | 3.0 | 1.1 | 4.0 | 1.1 | 3.0 | 1.1 | 3.0 |
| Phs Duration (G+Y+Rc), s | 11.4 | 35.9 | 14.7 | 10.3 | 5.3 | 42.0 | 7.7 | 17.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green (Gmax), s | 13.5 | 29.0 | 11.5 | 18.0 | 5.0 | 37.5 | 5.1 | 24.4 |
| Max Allow Headway (MAH), s | 3.7 | 4.6 | 3.7 | 4.9 | 3.7 | 4.7 | 3.7 | 4.3 |
| Max Q Clear (g_c+I1), s | 6.7 | 13.2 | 10.2 | 5.6 | 2.2 | 13.3 | 3.9 | 5.6 |
| Green Ext Time (g_e), s | 0.3 | 4.5 | 0.1 | 0.2 | 0.0 | 5.5 | 0.0 | 0.4 |
| Prob of Phs Call (p_c) | 0.99 | 1.00 | 0.99 | 1.00 | 0.17 | 1.00 | 0.63 | 1.00 |
| Prob of Max Out (p_x) | 0.09 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |

| Left-Turn Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 1 | | 3 | | 5 | | 7 | |
| Mvmt Sat Flow, veh/h | 1739 | | 1739 | | 1739 | | 1739 | |

| Through Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | | 2 | | 4 | | 6 | | 8 |
| Mvmt Sat Flow, veh/h | | 3469 | | 1221 | | 3469 | | 1826 |

| Right-Turn Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | | 12 | | 14 | | 16 | | 18 |
| Mvmt Sat Flow, veh/h | | 1547 | | 512 | | 1547 | | 1547 |

| Left Lane Group Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 1 | 0 | 3 | 0 | 5 | 0 | 7 | 0 |
| Lane Assignment | L (Pr/Pm) | | L (Pr/Pm) | | L (Pr/Pm) | | L (Pr/Pm) | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lanes in Grp | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| Grp Vol (v), veh/h | 223 | 0 | 228 | 0 | 9 | 0 | 50 | 0 |
| Grp Sat Flow (s), veh/h/ln | 1739 | 0 | 1739 | 0 | 1739 | 0 | 1739 | 0 |
| Q Serve Time (g_s), s | 4.7 | 0.0 | 8.2 | 0.0 | 0.2 | 0.0 | 1.9 | 0.0 |
| Cycle Q Clear Time (g_c), s | 4.7 | 0.0 | 8.2 | 0.0 | 0.2 | 0.0 | 1.9 | 0.0 |
| Perm LT Sat Flow (s_l), veh/h/ln | 596 | 0 | 1278 | 0 | 608 | 0 | 1211 | 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 | 33.4 | 0.0 | 7.8 | 0.0 | 31.4 | 0.0 | 5.8 | 0.0 |
| Perm LT Serve Time (g_u), s | 20.1 | 0.0 | 2.2 | 0.0 | 26.2 | 0.0 | 5.8 | 0.0 |
| Perm LT Q Serve Time (g_ps), s | 7.9 | 0.0 | 1.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Time to First Blk (g_f), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 433 | 0 | 384 | 0 | 340 | 0 | 273 | 0 |
| V/C Ratio (X) | 0.52 | 0.00 | 0.59 | 0.00 | 0.03 | 0.00 | 0.18 | 0.00 |
| Avail Cap (c_a), veh/h | 591 | 0 | 415 | 0 | 440 | 0 | 319 | 0 |
| Upstream Filter (I) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d1), s/veh | 10.0 | 0.0 | 23.8 | 0.0 | 11.3 | 0.0 | 28.6 | 0.0 |
| Incr Delay (d2), s/veh | 1.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.3 | 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 | 11.0 | 0.0 | 25.7 | 0.0 | 11.4 | 0.0 | 28.9 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 1.2 | 0.0 | 3.0 | 0.0 | 0.1 | 0.0 | 0.7 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.1 | 0.0 | 0.2 | 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%) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 1.4 | 0.0 | 3.2 | 0.0 | 0.1 | 0.0 | 0.7 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.10 | 0.00 | 0.41 | 0.00 | 0.01 | 0.00 | 0.10 | 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 |

| Middle Lane Group Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 0 | 2 | 0 | 4 | 0 | 6 | 0 | 8 |
| Lane Assignment | | T | | | | T | | T |
| Lanes in Grp | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 |
| Grp Vol (v), veh/h | 0 | 748 | 0 | 0 | 0 | 850 | 0 | 59 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1735 | 0 | 0 | 0 | 1735 | 0 | 1826 |
| Q Serve Time (g_s), s | 0.0 | 11.2 | 0.0 | 0.0 | 0.0 | 11.3 | 0.0 | 2.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 11.2 | 0.0 | 0.0 | 0.0 | 11.3 | 0.0 | 2.0 |
| Lane Grp Cap (c), veh/h | 0 | 1507 | 0 | 0 | 0 | 1800 | 0 | 323 |
| V/C Ratio (X) | 0.00 | 0.50 | 0.00 | 0.00 | 0.00 | 0.47 | 0.00 | 0.18 |
| Avail Cap (c_a), veh/h | 0 | 1507 | 0 | 0 | 0 | 1800 | 0 | 616 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d1), s/veh | 0.0 | 14.7 | 0.0 | 0.0 | 0.0 | 11.1 | 0.0 | 25.3 |
| Incr Delay (d2), s/veh | 0.0 | 1.2 | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.3 |
| 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 | 15.9 | 0.0 | 0.0 | 0.0 | 12.0 | 0.0 | 25.6 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 3.5 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 0.8 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 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 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 | 3.4 | 0.0 | 0.8 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.07 | 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 | 18 |
| Lane Assignment | | R | | T+R | | R | | R |
| Lanes in Grp | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Grp Vol (v), veh/h | 0 | 166 | 0 | 88 | 0 | 44 | 0 | 88 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1547 | 0 | 1734 | 0 | 1547 | 0 | 1547 |
| Q Serve Time (g_s), s | 0.0 | 4.9 | 0.0 | 3.6 | 0.0 | 1.0 | 0.0 | 3.6 |
| Cycle Q Clear Time (g_c), s | 0.0 | 4.9 | 0.0 | 3.6 | 0.0 | 1.0 | 0.0 | 3.6 |
| 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 | 1.00 | 0.00 | 0.30 | 0.00 | 1.00 | 0.00 | 1.00 |
| Lane Grp Cap (c), veh/h | 0 | 672 | 0 | 138 | 0 | 803 | 0 | 274 |
| V/C Ratio (X) | 0.00 | 0.25 | 0.00 | 0.64 | 0.00 | 0.05 | 0.00 | 0.32 |
| Avail Cap (c_a), veh/h | 0 | 672 | 0 | 432 | 0 | 803 | 0 | 522 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d1), s/veh | 0.0 | 13.0 | 0.0 | 32.2 | 0.0 | 8.6 | 0.0 | 26.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.9 | 0.0 | 4.8 | 0.0 | 0.1 | 0.0 | 0.7 |
| Initial Q Delay (d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (d), s/veh | 0.0 | 13.8 | 0.0 | 37.0 | 0.0 | 8.7 | 0.0 | 26.6 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 1.4 | 0.0 | 1.4 | 0.0 | 0.3 | 0.0 | 1.2 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| 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 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 1.6 | 0.0 | 1.5 | 0.0 | 0.3 | 0.0 | 1.2 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.16 | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.16 |
| 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 | 16.3 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 387 | 0 | 0 | 324 | 0 | 0 |
| Future Vol, veh/h | 387 | 0 | 0 | 324 | 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 | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 450 | 0 | 0 | 377 | 0 | 0 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 450 | 0 | 827 | 450 |
| Stage 1 | - | - | - | - | 450 | - |
| Stage 2 | - | - | - | - | 377 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1095 | - | 337 | 603 |
| Stage 1 | - | - | - | - | 636 | - |
| Stage 2 | - | - | - | - | 687 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1095 | - | 337 | 603 |
| Mov Cap-2 Maneuver | - | - | - | - | 337 | - |
| Stage 1 | - | - | - | - | 636 | - |
| Stage 2 | - | - | - | - | 687 | - |

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

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1095 | - |
| HCM Lane V/C Ratio | - | - | - | - | - | - |
| HCM Control Delay (s) | 0 | 0 | - | - | 0 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | - | - | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 386 | 1 | 36 | 287 | 8 | 25 |
| Future Vol, veh/h | 386 | 1 | 36 | 287 | 8 | 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 449 | 1 | 42 | 334 | 9 | 29 |

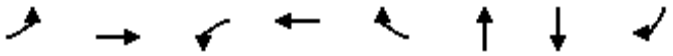
| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 450 | 0 | 868 | 450 |
| Stage 1 | - | - | - | - | 450 | - |
| Stage 2 | - | - | - | - | 418 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1095 | - | 319 | 603 |
| Stage 1 | - | - | - | - | 636 | - |
| Stage 2 | - | - | - | - | 658 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1095 | - | 304 | 603 |
| Mov Cap-2 Maneuver | - | - | - | - | 304 | - |
| Stage 1 | - | - | - | - | 636 | - |
| Stage 2 | - | - | - | - | 627 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.9 | 13 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 487 | - | - | 1095 | - |
| HCM Lane V/C Ratio | 0.079 | - | - | 0.038 | - |
| HCM Control Delay (s) | 13 | - | - | 8.4 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0.1 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 50 | 88 | 228 | 59 | 88 | 9 | 748 | 166 | 223 | 850 | 44 |
| v/c Ratio | 0.21 | 0.41 | 0.63 | 0.15 | 0.19 | 0.03 | 0.55 | 0.22 | 0.52 | 0.43 | 0.05 |
| Control Delay | 22.0 | 32.1 | 29.9 | 26.8 | 0.9 | 9.1 | 21.3 | 1.6 | 13.1 | 12.0 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.0 | 32.1 | 29.9 | 26.8 | 0.9 | 9.1 | 21.3 | 1.6 | 13.1 | 12.0 | 0.1 |
| Queue Length 50th (ft) | 17 | 30 | 86 | 24 | 0 | 2 | 147 | 0 | 49 | 113 | 0 |
| Queue Length 95th (ft) | 40 | 71 | 145 | 54 | 0 | 8 | 218 | 9 | 89 | 210 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 242 | 438 | 381 | 600 | 631 | 354 | 1354 | 749 | 491 | 1955 | 953 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.60 | 0.10 | 0.14 | 0.03 | 0.55 | 0.22 | 0.45 | 0.43 | 0.05 |

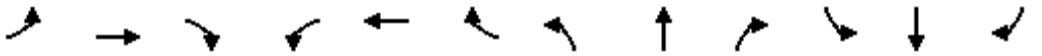
Intersection Summary



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 306 | 20 | 344 | 399 | 29 | 463 | 142 |
| v/c Ratio | 0.96 | 0.63 | 0.11 | 0.70 | 0.56 | 0.03 | 0.58 | 0.14 |
| Control Delay | 94.6 | 31.3 | 22.2 | 34.4 | 5.8 | 0.0 | 14.7 | 2.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 94.6 | 31.3 | 22.2 | 34.4 | 5.8 | 0.0 | 14.7 | 2.1 |
| Queue Length 50th (ft) | 73 | 134 | 8 | 155 | 0 | 0 | 124 | 0 |
| Queue Length 95th (ft) | #164 | 199 | 23 | 226 | 49 | 0 | 262 | 22 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 223 | 710 | 266 | 711 | 846 | 1097 | 795 | 1003 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.66 | 0.43 | 0.08 | 0.48 | 0.47 | 0.03 | 0.58 | 0.14 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 43 | 53 | 22 | 211 | 73 | 103 | 10 | 818 | 123 | 124 | 647 | 32 |
| Future Volume (veh/h) | 43 | 53 | 22 | 211 | 73 | 103 | 10 | 818 | 123 | 124 | 647 | 32 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj (A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Lanes Open During Work Zone | | | | | | | | | | | | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 50 | 62 | 26 | 245 | 85 | 120 | 12 | 951 | 143 | 144 | 752 | 37 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Opposing Right Turn Influence | Yes | | | Yes | | | Yes | | | Yes | | |
| Cap, veh/h | 265 | 97 | 41 | 395 | 337 | 286 | 377 | 1601 | 714 | 342 | 1779 | 793 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Prop Arrive On Green | 0.04 | 0.08 | 0.08 | 0.15 | 0.18 | 0.18 | 0.01 | 0.46 | 0.46 | 0.07 | 0.51 | 0.51 |
| Unsig. Movement Delay | | | | | | | | | | | | |
| Ln Grp Delay, s/veh | 29.5 | 0.0 | 37.7 | 26.8 | 26.1 | 27.5 | 10.5 | 16.3 | 12.4 | 11.7 | 11.9 | 9.1 |
| Ln Grp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 138 | | | 450 | | | 1106 | | | 933 | |
| Approach Delay, s/veh | | 34.8 | | | 26.8 | | | 15.8 | | | 11.8 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Case No | 1.1 | 3.0 | 1.1 | 4.0 | 1.1 | 3.0 | 1.1 | 3.0 |
| Phs Duration (G+Y+Rc), s | 9.4 | 38.5 | 15.5 | 10.4 | 5.6 | 42.3 | 7.7 | 18.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green (Gmax), s | 8.5 | 34.0 | 11.5 | 18.0 | 5.0 | 37.5 | 5.1 | 24.4 |
| Max Allow Headway (MAH), s | 3.7 | 4.6 | 3.7 | 4.9 | 3.7 | 4.7 | 3.7 | 4.3 |
| Max Q Clear (g_c+I1), s | 5.0 | 17.0 | 11.0 | 5.6 | 2.3 | 11.9 | 3.9 | 7.0 |
| Green Ext Time (g_e), s | 0.1 | 5.9 | 0.0 | 0.2 | 0.0 | 4.8 | 0.0 | 0.6 |
| Prob of Phs Call (p_c) | 0.95 | 1.00 | 0.99 | 1.00 | 0.22 | 1.00 | 0.64 | 1.00 |
| Prob of Max Out (p_x) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |

| Left-Turn Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 1 | | 3 | | 5 | | 7 | |
| Mvmt Sat Flow, veh/h | 1739 | | 1739 | | 1739 | | 1739 | |

| Through Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | | 2 | | 4 | | 6 | | 8 |
| Mvmt Sat Flow, veh/h | | 3469 | | 1221 | | 3469 | | 1826 |

| Right-Turn Movement Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | | 12 | | 14 | | 16 | | 18 |
| Mvmt Sat Flow, veh/h | | 1547 | | 512 | | 1547 | | 1547 |

| Left Lane Group Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 1 | 0 | 3 | 0 | 5 | 0 | 7 | 0 |
| Lane Assignment | L (Pr/Pm) | | L (Pr/Pm) | | L (Pr/Pm) | | L (Pr/Pm) | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lanes in Grp | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| Grp Vol (v), veh/h | 144 | 0 | 245 | 0 | 12 | 0 | 50 | 0 |
| Grp Sat Flow (s), veh/h/ln | 1739 | 0 | 1739 | 0 | 1739 | 0 | 1739 | 0 |
| Q Serve Time (g_s), s | 3.0 | 0.0 | 9.0 | 0.0 | 0.3 | 0.0 | 1.9 | 0.0 |
| Cycle Q Clear Time (g_c), s | 3.0 | 0.0 | 9.0 | 0.0 | 0.3 | 0.0 | 1.9 | 0.0 |
| Perm LT Sat Flow (s_l), veh/h/ln | 503 | 0 | 1278 | 0 | 670 | 0 | 1149 | 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 | 35.3 | 0.0 | 7.9 | 0.0 | 34.0 | 0.0 | 5.9 | 0.0 |
| Perm LT Serve Time (g_u), s | 19.0 | 0.0 | 2.2 | 0.0 | 27.8 | 0.0 | 5.9 | 0.0 |
| Perm LT Q Serve Time (g_ps), s | 6.5 | 0.0 | 1.3 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Time to First Blk (g_f), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Lane Grp Cap (c), veh/h | 342 | 0 | 395 | 0 | 377 | 0 | 265 | 0 |
| V/C Ratio (X) | 0.42 | 0.00 | 0.62 | 0.00 | 0.03 | 0.00 | 0.19 | 0.00 |
| Avail Cap (c_a), veh/h | 428 | 0 | 408 | 0 | 469 | 0 | 309 | 0 |
| Upstream Filter (I) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| Uniform Delay (d1), s/veh | 10.8 | 0.0 | 24.0 | 0.0 | 10.4 | 0.0 | 29.2 | 0.0 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 2.7 | 0.0 | 0.0 | 0.0 | 0.3 | 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 | 11.7 | 0.0 | 26.8 | 0.0 | 10.5 | 0.0 | 29.5 | 0.0 |
| 1st-Term Q (Q1), veh/ln | 0.8 | 0.0 | 3.3 | 0.0 | 0.1 | 0.0 | 0.7 | 0.0 |
| 2nd-Term Q (Q2), veh/ln | 0.1 | 0.0 | 0.3 | 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%) | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 |
| %ile Back of Q (50%), veh/ln | 0.9 | 0.0 | 3.6 | 0.0 | 0.1 | 0.0 | 0.8 | 0.0 |
| %ile Storage Ratio (RQ%) | 0.07 | 0.00 | 0.46 | 0.00 | 0.01 | 0.00 | 0.10 | 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 |

| Middle Lane Group Data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Assigned Mvmt | 0 | 2 | 0 | 4 | 0 | 6 | 0 | 8 |
| Lane Assignment | | T | | | | T | | T |
| Lanes in Grp | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 |
| Grp Vol (v), veh/h | 0 | 951 | 0 | 0 | 0 | 752 | 0 | 85 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1735 | 0 | 0 | 0 | 1735 | 0 | 1826 |
| Q Serve Time (g_s), s | 0.0 | 15.0 | 0.0 | 0.0 | 0.0 | 9.9 | 0.0 | 2.9 |
| Cycle Q Clear Time (g_c), s | 0.0 | 15.0 | 0.0 | 0.0 | 0.0 | 9.9 | 0.0 | 2.9 |
| Lane Grp Cap (c), veh/h | 0 | 1601 | 0 | 0 | 0 | 1779 | 0 | 337 |
| V/C Ratio (X) | 0.00 | 0.59 | 0.00 | 0.00 | 0.00 | 0.42 | 0.00 | 0.25 |
| Avail Cap (c_a), veh/h | 0 | 1601 | 0 | 0 | 0 | 1779 | 0 | 605 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d1), s/veh | 0.0 | 14.7 | 0.0 | 0.0 | 0.0 | 11.2 | 0.0 | 25.7 |
| Incr Delay (d2), s/veh | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.4 |
| 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 | 16.3 | 0.0 | 0.0 | 0.0 | 11.9 | 0.0 | 26.1 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 4.6 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 1.1 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.2 | 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 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 4.9 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 1.2 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.01 |
| 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 | 18 |
| Lane Assignment | | R | | T+R | | R | | R |
| Lanes in Grp | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Grp Vol (v), veh/h | 0 | 143 | 0 | 88 | 0 | 37 | 0 | 120 |
| Grp Sat Flow (s), veh/h/ln | 0 | 1547 | 0 | 1734 | 0 | 1547 | 0 | 1547 |
| Q Serve Time (g_s), s | 0.0 | 4.0 | 0.0 | 3.6 | 0.0 | 0.9 | 0.0 | 5.0 |
| Cycle Q Clear Time (g_c), s | 0.0 | 4.0 | 0.0 | 3.6 | 0.0 | 0.9 | 0.0 | 5.0 |
| 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 | 1.00 | 0.00 | 0.30 | 0.00 | 1.00 | 0.00 | 1.00 |
| Lane Grp Cap (c), veh/h | 0 | 714 | 0 | 138 | 0 | 793 | 0 | 286 |
| V/C Ratio (X) | 0.00 | 0.20 | 0.00 | 0.64 | 0.00 | 0.05 | 0.00 | 0.42 |
| Avail Cap (c_a), veh/h | 0 | 714 | 0 | 424 | 0 | 793 | 0 | 512 |
| Upstream Filter (I) | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d1), s/veh | 0.0 | 11.8 | 0.0 | 32.9 | 0.0 | 9.0 | 0.0 | 26.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.0 | 4.8 | 0.0 | 0.1 | 0.0 | 1.0 |
| 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 | 12.4 | 0.0 | 37.7 | 0.0 | 9.1 | 0.0 | 27.5 |
| 1st-Term Q (Q1), veh/ln | 0.0 | 1.1 | 0.0 | 1.4 | 0.0 | 0.2 | 0.0 | 1.7 |
| 2nd-Term Q (Q2), veh/ln | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| 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 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| %ile Back of Q (50%), veh/ln | 0.0 | 1.3 | 0.0 | 1.6 | 0.0 | 0.3 | 0.0 | 1.8 |
| %ile Storage Ratio (RQ%) | 0.00 | 0.13 | 0.00 | 0.02 | 0.00 | 0.03 | 0.00 | 0.23 |
| 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 | 17.2 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 324 | 0 | 0 | 387 | 0 | 0 |
| Future Vol, veh/h | 324 | 0 | 0 | 387 | 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 | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 377 | 0 | 0 | 450 | 0 | 0 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 377 | 0 | 827 | 377 |
| Stage 1 | - | - | - | - | 377 | - |
| Stage 2 | - | - | - | - | 450 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1165 | - | 337 | 663 |
| Stage 1 | - | - | - | - | 687 | - |
| Stage 2 | - | - | - | - | 636 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1165 | - | 337 | 663 |
| Mov Cap-2 Maneuver | - | - | - | - | 337 | - |
| Stage 1 | - | - | - | - | 687 | - |
| Stage 2 | - | - | - | - | 636 | - |

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

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | - | - | 1165 | - |
| HCM Lane V/C Ratio | - | - | - | - | - | - |
| HCM Control Delay (s) | 0 | 0 | - | - | 0 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | - | - | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.7 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 379 | 9 | 8 | 316 | 9 | 30 |
| Future Vol, veh/h | 379 | 9 | 8 | 316 | 9 | 30 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 441 | 10 | 9 | 367 | 10 | 35 |

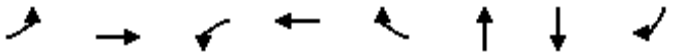
| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 451 | 0 | 831 | 446 |
| Stage 1 | - | - | - | - | 446 | - |
| Stage 2 | - | - | - | - | 385 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1094 | - | 336 | 606 |
| Stage 1 | - | - | - | - | 639 | - |
| Stage 2 | - | - | - | - | 681 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1094 | - | 333 | 606 |
| Mov Cap-2 Maneuver | - | - | - | - | 333 | - |
| Stage 1 | - | - | - | - | 639 | - |
| Stage 2 | - | - | - | - | 674 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.2 | 12.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 510 | - | - | 1094 | - |
| HCM Lane V/C Ratio | 0.089 | - | - | 0.009 | - |
| HCM Control Delay (s) | 12.7 | - | - | 8.3 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.3 | - | - | 0 | - |

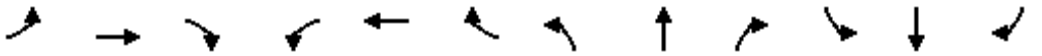
| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 50 | 88 | 245 | 85 | 120 | 12 | 951 | 143 | 144 | 752 | 37 |
| v/c Ratio | 0.22 | 0.42 | 0.69 | 0.22 | 0.28 | 0.03 | 0.62 | 0.18 | 0.43 | 0.38 | 0.04 |
| Control Delay | 22.8 | 33.1 | 33.6 | 28.4 | 7.0 | 8.5 | 20.2 | 1.9 | 12.3 | 11.2 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 22.8 | 33.1 | 33.6 | 28.4 | 7.0 | 8.5 | 20.2 | 1.9 | 12.3 | 11.2 | 0.1 |
| Queue Length 50th (ft) | 18 | 32 | 99 | 37 | 0 | 2 | 194 | 0 | 30 | 96 | 0 |
| Queue Length 95th (ft) | 40 | 71 | 155 | 72 | 34 | 9 | 263 | 17 | 59 | 181 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 232 | 422 | 369 | 575 | 575 | 405 | 1524 | 783 | 348 | 1993 | 968 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.21 | 0.66 | 0.15 | 0.21 | 0.03 | 0.62 | 0.18 | 0.41 | 0.38 | 0.04 |

Intersection Summary



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 148 | 303 | 3 | 253 | 381 | 29 | 267 | 337 |
| v/c Ratio | 0.74 | 0.69 | 0.02 | 0.58 | 0.58 | 0.03 | 0.33 | 0.31 |
| Control Delay | 46.5 | 32.4 | 19.0 | 28.4 | 6.3 | 5.0 | 8.6 | 1.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 46.5 | 32.4 | 19.0 | 28.4 | 6.3 | 5.0 | 8.6 | 1.8 |
| Queue Length 50th (ft) | 58 | 118 | 1 | 95 | 0 | 2 | 46 | 0 |
| Queue Length 95th (ft) | 112 | 181 | 6 | 151 | 48 | 13 | 109 | 28 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 446 | 978 | 356 | 978 | 1006 | 1019 | 801 | 1090 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.31 | 0.01 | 0.26 | 0.38 | 0.03 | 0.33 | 0.31 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 232 | 61 | 90 | 9 | 696 | 191 | 251 | 782 | 40 |
| Future Volume (veh/h) | 42 | 52 | 22 | 232 | 61 | 90 | 9 | 696 | 191 | 251 | 782 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 270 | 71 | 105 | 10 | 809 | 222 | 292 | 909 | 47 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 265 | 95 | 41 | 360 | 300 | 254 | 332 | 1490 | 665 | 441 | 1860 | 829 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.13 | 0.16 | 0.16 | 0.01 | 0.43 | 0.43 | 0.12 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 270 | 71 | 105 | 10 | 809 | 222 | 292 | 909 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.5 | 9.5 | 2.5 | 4.5 | 0.2 | 12.8 | 7.0 | 6.3 | 12.1 | 1.1 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.5 | 9.5 | 2.5 | 4.5 | 0.2 | 12.8 | 7.0 | 6.3 | 12.1 | 1.1 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 265 | 0 | 136 | 360 | 300 | 254 | 332 | 1490 | 665 | 441 | 1860 | 829 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.75 | 0.24 | 0.41 | 0.03 | 0.54 | 0.33 | 0.66 | 0.49 | 0.06 |
| Avail Cap(c_a), veh/h | 310 | 0 | 423 | 360 | 555 | 470 | 429 | 1490 | 665 | 603 | 1860 | 829 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 0.0 | 32.9 | 26.3 | 26.8 | 27.6 | 11.7 | 15.6 | 14.0 | 11.2 | 10.7 | 8.2 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.8 | 8.4 | 0.4 | 1.1 | 0.0 | 1.4 | 1.4 | 1.7 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.5 | 4.6 | 1.0 | 1.6 | 0.1 | 4.4 | 2.3 | 1.8 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 0.0 | 37.8 | 34.7 | 27.2 | 28.7 | 11.7 | 17.1 | 15.3 | 12.9 | 11.7 | 8.3 |
| LnGrp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 446 | | | 1041 | | | 1248 | |
| Approach Delay, s/veh | | 34.8 | | | 32.1 | | | 16.6 | | | 11.8 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 36.2 | 14.0 | 10.3 | 5.4 | 44.0 | 7.7 | 16.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.6 | 28.9 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 8.3 | 14.8 | 11.5 | 5.5 | 2.2 | 14.1 | 3.9 | 6.5 |
| Green Ext Time (p_c), s | 0.5 | 4.8 | 0.0 | 0.2 | 0.0 | 6.1 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.8 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 488 | 6 | 6 | 373 | 9 | 9 |
| Future Vol, veh/h | 488 | 6 | 6 | 373 | 9 | 9 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 67 | 67 |
| Mvmt Flow | 567 | 7 | 7 | 434 | 10 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 574 | 0 | 1015 | 567 |
| Stage 1 | - | - | - | - | 567 | - |
| Stage 2 | - | - | - | - | 448 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.07 | 6.87 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.07 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.07 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.103 | 3.903 |
| Pot Cap-1 Maneuver | - | - | 653 | - | 202 | 418 |
| Stage 1 | - | - | - | - | 458 | - |
| Stage 2 | - | - | - | - | 526 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 653 | - | 200 | 418 |
| Mov Cap-2 Maneuver | - | - | - | - | 200 | - |
| Stage 1 | - | - | - | - | 458 | - |
| Stage 2 | - | - | - | - | 520 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.2 | 18.9 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 200 | 418 | - | - | 653 | - |
| HCM Lane V/C Ratio | 0.052 | 0.025 | - | - | 0.011 | - |
| HCM Control Delay (s) | 24 | 13.8 | - | - | 10.6 | - |
| HCM Lane LOS | C | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.4 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 422 | 75 | 112 | 313 | 37 | 118 |
| Future Vol, veh/h | 422 | 75 | 112 | 313 | 37 | 118 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 491 | 87 | 130 | 364 | 43 | 137 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 578 | 0 | 1159 | 535 |
| Stage 1 | - | - | - | - | 535 | - |
| Stage 2 | - | - | - | - | 624 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 981 | - | 213 | 540 |
| Stage 1 | - | - | - | - | 581 | - |
| Stage 2 | - | - | - | - | 528 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 981 | - | 178 | 540 |
| Mov Cap-2 Maneuver | - | - | - | - | 178 | - |
| Stage 1 | - | - | - | - | 581 | - |
| Stage 2 | - | - | - | - | 440 | - |

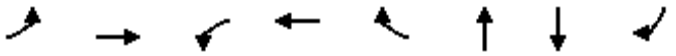
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.4 | 24.2 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 364 | - | - | 981 | - |
| HCM Lane V/C Ratio | 0.495 | - | - | 0.133 | - |
| HCM Control Delay (s) | 24.2 | - | - | 9.2 | 0 |
| HCM Lane LOS | C | - | - | A | A |
| HCM 95th %tile Q(veh) | 2.6 | - | - | 0.5 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 270 | 71 | 105 | 10 | 809 | 222 | 292 | 909 | 47 |
| v/c Ratio | 0.21 | 0.41 | 0.82 | 0.20 | 0.24 | 0.03 | 0.61 | 0.30 | 0.65 | 0.45 | 0.05 |
| Control Delay | 23.5 | 31.9 | 45.8 | 29.4 | 1.7 | 8.6 | 22.5 | 4.2 | 15.9 | 11.0 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.5 | 31.9 | 45.8 | 29.4 | 1.7 | 8.6 | 22.5 | 4.2 | 15.9 | 11.0 | 0.1 |
| Queue Length 50th (ft) | 17 | 29 | 110 | 30 | 0 | 2 | 165 | 0 | 62 | 114 | 0 |
| Queue Length 95th (ft) | 41 | 69 | #200 | 64 | 1 | 8 | 239 | 39 | 117 | 216 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 237 | 435 | 331 | 545 | 590 | 336 | 1337 | 733 | 513 | 2028 | 959 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.82 | 0.13 | 0.18 | 0.03 | 0.61 | 0.30 | 0.57 | 0.45 | 0.05 |

Intersection Summary

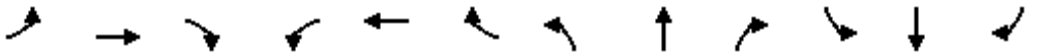
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 194 | 402 | 20 | 420 | 409 | 29 | 405 | 250 |
| v/c Ratio | 1.01 | 0.64 | 0.10 | 0.67 | 0.51 | 0.03 | 0.58 | 0.27 |
| Control Delay | 95.6 | 26.1 | 17.2 | 27.1 | 4.3 | 0.0 | 19.3 | 2.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 95.6 | 26.1 | 17.2 | 27.1 | 4.3 | 0.0 | 19.3 | 2.7 |
| Queue Length 50th (ft) | 94 | 163 | 7 | 173 | 0 | 0 | 135 | 0 |
| Queue Length 95th (ft) | #207 | 234 | 20 | 246 | 42 | 0 | 258 | 33 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 270 | 881 | 289 | 883 | 959 | 991 | 695 | 943 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.72 | 0.46 | 0.07 | 0.48 | 0.43 | 0.03 | 0.58 | 0.27 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 251 | 86 | 123 | 11 | 884 | 165 | 166 | 692 | 33 |
| Future Volume (veh/h) | 42 | 52 | 22 | 251 | 86 | 123 | 11 | 884 | 165 | 166 | 692 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 292 | 100 | 143 | 13 | 1028 | 192 | 193 | 805 | 38 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 259 | 95 | 41 | 383 | 324 | 274 | 364 | 1575 | 703 | 341 | 1806 | 805 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.18 | 0.18 | 0.02 | 0.45 | 0.45 | 0.08 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 292 | 100 | 143 | 13 | 1028 | 192 | 193 | 805 | 38 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.6 | 10.5 | 3.5 | 6.2 | 0.3 | 17.0 | 5.7 | 4.0 | 10.7 | 0.9 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.6 | 10.5 | 3.5 | 6.2 | 0.3 | 17.0 | 5.7 | 4.0 | 10.7 | 0.9 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 259 | 0 | 136 | 383 | 324 | 274 | 364 | 1575 | 703 | 341 | 1806 | 805 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.76 | 0.31 | 0.52 | 0.04 | 0.65 | 0.27 | 0.57 | 0.45 | 0.05 |
| Avail Cap(c_a), veh/h | 304 | 0 | 421 | 383 | 578 | 490 | 454 | 1575 | 703 | 433 | 1806 | 805 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 0.0 | 33.1 | 25.8 | 26.5 | 27.6 | 10.7 | 15.7 | 12.6 | 12.2 | 11.1 | 8.7 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 4.8 | 8.8 | 0.5 | 1.5 | 0.0 | 2.1 | 1.0 | 1.5 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.6 | 5.0 | 1.4 | 2.2 | 0.1 | 5.7 | 1.8 | 1.2 | 3.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 37.9 | 34.6 | 27.0 | 29.1 | 10.7 | 17.8 | 13.5 | 13.7 | 11.9 | 8.8 |
| LnGrp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 535 | | | 1233 | | | 1036 | |
| Approach Delay, s/veh | | 34.9 | | | 31.7 | | | 17.0 | | | 12.1 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 38.1 | 15.0 | 10.3 | 5.7 | 43.0 | 7.7 | 17.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.0 | 33.5 | 10.5 | 18.0 | 5.0 | 38.5 | 5.1 | 23.4 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 19.0 | 12.5 | 5.6 | 2.3 | 12.7 | 3.9 | 8.2 |
| Green Ext Time (p_c), s | 0.2 | 6.0 | 0.0 | 0.2 | 0.0 | 5.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.8 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 405 | 6 | 6 | 452 | 9 | 9 |
| Future Vol, veh/h | 405 | 6 | 6 | 452 | 9 | 9 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 67 | 67 |
| Mvmt Flow | 471 | 7 | 7 | 526 | 10 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 478 | 0 | 1011 | 471 |
| Stage 1 | - | - | - | - | 471 | - |
| Stage 2 | - | - | - | - | 540 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.07 | 6.87 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.07 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.07 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.103 | 3.903 |
| Pot Cap-1 Maneuver | - | - | 720 | - | 203 | 479 |
| Stage 1 | - | - | - | - | 512 | - |
| Stage 2 | - | - | - | - | 473 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 720 | - | 201 | 479 |
| Mov Cap-2 Maneuver | - | - | - | - | 201 | - |
| Stage 1 | - | - | - | - | 512 | - |
| Stage 2 | - | - | - | - | 468 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 18.3 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 201 | 479 | - | - | 720 | - |
| HCM Lane V/C Ratio | 0.052 | 0.022 | - | - | 0.01 | - |
| HCM Control Delay (s) | 23.9 | 12.7 | - | - | 10 | - |
| HCM Lane LOS | C | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.3 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 353 | 61 | 69 | 414 | 46 | 133 |
| Future Vol, veh/h | 353 | 61 | 69 | 414 | 46 | 133 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 410 | 71 | 80 | 481 | 53 | 155 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 481 | 0 | 1087 | 446 |
| Stage 1 | - | - | - | - | 446 | - |
| Stage 2 | - | - | - | - | 641 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1066 | - | 236 | 606 |
| Stage 1 | - | - | - | - | 639 | - |
| Stage 2 | - | - | - | - | 519 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1066 | - | 212 | 606 |
| Mov Cap-2 Maneuver | - | - | - | - | 212 | - |
| Stage 1 | - | - | - | - | 639 | - |
| Stage 2 | - | - | - | - | 466 | - |

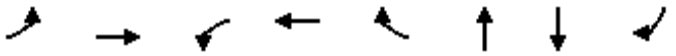
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.2 | 22.5 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 410 | - | - | 1066 | - |
| HCM Lane V/C Ratio | 0.508 | - | - | 0.075 | - |
| HCM Control Delay (s) | 22.5 | - | - | 8.7 | 0 |
| HCM Lane LOS | C | - | - | A | A |
| HCM 95th %tile Q(veh) | 2.8 | - | - | 0.2 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 292 | 100 | 143 | 13 | 1028 | 192 | 193 | 805 | 38 |
| v/c Ratio | 0.21 | 0.42 | 0.85 | 0.27 | 0.31 | 0.03 | 0.69 | 0.24 | 0.58 | 0.40 | 0.04 |
| Control Delay | 23.4 | 32.6 | 48.5 | 29.9 | 4.3 | 8.2 | 21.9 | 2.0 | 16.3 | 10.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.4 | 32.6 | 48.5 | 29.9 | 4.3 | 8.2 | 21.9 | 2.0 | 16.3 | 10.9 | 0.1 |
| Queue Length 50th (ft) | 18 | 30 | 125 | 45 | 0 | 2 | 219 | 0 | 40 | 101 | 0 |
| Queue Length 95th (ft) | 40 | 69 | #213 | 84 | 23 | 10 | 293 | 18 | 83 | 191 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 228 | 420 | 344 | 550 | 594 | 386 | 1496 | 802 | 352 | 2022 | 979 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.85 | 0.18 | 0.24 | 0.03 | 0.69 | 0.24 | 0.55 | 0.40 | 0.04 |

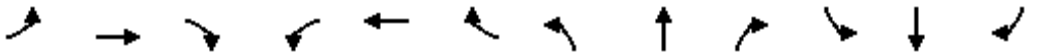
Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 177 | 364 | 3 | 300 | 391 | 29 | 224 | 324 |
| v/c Ratio | 0.81 | 0.71 | 0.02 | 0.58 | 0.54 | 0.03 | 0.30 | 0.32 |
| Control Delay | 49.6 | 29.0 | 16.0 | 24.8 | 5.2 | 6.3 | 10.1 | 2.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.6 | 29.0 | 16.0 | 24.8 | 5.2 | 6.3 | 10.1 | 2.2 |
| Queue Length 50th (ft) | 66 | 131 | 1 | 104 | 0 | 3 | 40 | 0 |
| Queue Length 95th (ft) | 127 | 197 | 6 | 160 | 43 | 15 | 105 | 32 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 490 | 1157 | 378 | 1157 | 1124 | 945 | 743 | 1027 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.31 | 0.01 | 0.26 | 0.35 | 0.03 | 0.30 | 0.32 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 253 | 66 | 99 | 10 | 767 | 207 | 272 | 862 | 44 |
| Future Volume (veh/h) | 46 | 57 | 24 | 253 | 66 | 99 | 10 | 767 | 207 | 272 | 862 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 294 | 77 | 115 | 12 | 892 | 241 | 316 | 1002 | 51 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 271 | 101 | 43 | 358 | 303 | 257 | 302 | 1451 | 647 | 426 | 1846 | 823 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.13 | 0.17 | 0.17 | 0.01 | 0.42 | 0.42 | 0.13 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 294 | 77 | 115 | 12 | 892 | 241 | 316 | 1002 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.0 | 0.0 | 3.9 | 9.5 | 2.7 | 5.0 | 0.3 | 15.0 | 8.0 | 7.0 | 14.1 | 1.2 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 3.9 | 9.5 | 2.7 | 5.0 | 0.3 | 15.0 | 8.0 | 7.0 | 14.1 | 1.2 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 271 | 0 | 144 | 358 | 303 | 257 | 302 | 1451 | 647 | 426 | 1846 | 823 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.65 | 0.82 | 0.25 | 0.45 | 0.04 | 0.61 | 0.37 | 0.74 | 0.54 | 0.06 |
| Avail Cap(c_a), veh/h | 313 | 0 | 420 | 358 | 551 | 467 | 393 | 1451 | 647 | 584 | 1846 | 823 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 0.0 | 33.0 | 27.2 | 27.0 | 27.9 | 12.2 | 16.9 | 14.9 | 12.9 | 11.4 | 8.4 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 5.0 | 14.2 | 0.4 | 1.2 | 0.1 | 2.0 | 1.6 | 3.3 | 1.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 5.6 | 1.1 | 1.7 | 0.1 | 5.2 | 2.6 | 2.2 | 4.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.5 | 0.0 | 38.0 | 41.4 | 27.4 | 29.1 | 12.3 | 18.9 | 16.5 | 16.2 | 12.6 | 8.6 |
| LnGrp LOS | C | A | D | D | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 486 | | | 1145 | | | 1369 | |
| Approach Delay, s/veh | | 34.9 | | | 36.3 | | | 18.3 | | | 13.3 | |
| Approach LOS | | C | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 35.5 | 14.0 | 10.7 | 5.6 | 44.0 | 7.8 | 16.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.3 | 28.2 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 17.0 | 11.5 | 5.9 | 2.3 | 16.1 | 4.0 | 7.0 |
| Green Ext Time (p_c), s | 0.5 | 4.7 | 0.0 | 0.3 | 0.0 | 6.7 | 0.0 | 0.6 |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 530 | 6 | 6 | 408 | 9 | 9 |
| Future Vol, veh/h | 530 | 6 | 6 | 408 | 9 | 9 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 67 | 67 |
| Mvmt Flow | 616 | 7 | 7 | 474 | 10 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 623 | 0 | 1104 | 616 |
| Stage 1 | - | - | - | - | 616 | - |
| Stage 2 | - | - | - | - | 488 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.07 | 6.87 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.07 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.07 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.103 | 3.903 |
| Pot Cap-1 Maneuver | - | - | 621 | - | 176 | 390 |
| Stage 1 | - | - | - | - | 432 | - |
| Stage 2 | - | - | - | - | 502 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 621 | - | 174 | 390 |
| Mov Cap-2 Maneuver | - | - | - | - | 174 | - |
| Stage 1 | - | - | - | - | 432 | - |
| Stage 2 | - | - | - | - | 496 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.2 | 20.8 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 174 | 390 | - | - | 621 | - |
| HCM Lane V/C Ratio | 0.06 | 0.027 | - | - | 0.011 | - |
| HCM Control Delay (s) | 27 | 14.5 | - | - | 10.9 | - |
| HCM Lane LOS | D | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 464 | 75 | 116 | 344 | 38 | 121 |
| Future Vol, veh/h | 464 | 75 | 116 | 344 | 38 | 121 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 540 | 87 | 135 | 400 | 44 | 141 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 627 | 0 | 1254 | 584 |
| Stage 1 | - | - | - | - | 584 | - |
| Stage 2 | - | - | - | - | 670 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 940 | - | 187 | 506 |
| Stage 1 | - | - | - | - | 552 | - |
| Stage 2 | - | - | - | - | 503 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 940 | - | 152 | 506 |
| Mov Cap-2 Maneuver | - | - | - | - | 152 | - |
| Stage 1 | - | - | - | - | 552 | - |
| Stage 2 | - | - | - | - | 410 | - |

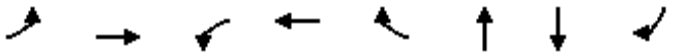
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.4 | 29.7 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 325 | - | - | 940 | - |
| HCM Lane V/C Ratio | 0.569 | - | - | 0.143 | - |
| HCM Control Delay (s) | 29.7 | - | - | 9.5 | 0 |
| HCM Lane LOS | D | - | - | A | A |
| HCM 95th %tile Q(veh) | 3.3 | - | - | 0.5 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 294 | 77 | 115 | 12 | 892 | 241 | 316 | 1002 | 51 |
| v/c Ratio | 0.22 | 0.44 | 0.89 | 0.22 | 0.26 | 0.04 | 0.69 | 0.33 | 0.72 | 0.49 | 0.05 |
| Control Delay | 23.8 | 33.5 | 56.0 | 29.7 | 2.5 | 9.0 | 25.5 | 4.4 | 22.2 | 11.7 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.8 | 33.5 | 56.0 | 29.7 | 2.5 | 9.0 | 25.5 | 4.4 | 22.2 | 11.7 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | 128 | 34 | 0 | 2 | 204 | 0 | 73 | 133 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #233 | 68 | 7 | 9 | 275 | 41 | 161 | 248 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 238 | 428 | 330 | 538 | 584 | 307 | 1286 | 726 | 491 | 2033 | 961 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.22 | 0.22 | 0.89 | 0.14 | 0.20 | 0.04 | 0.69 | 0.33 | 0.64 | 0.49 | 0.05 |

Intersection Summary

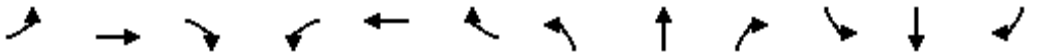
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 210 | 433 | 21 | 457 | 451 | 31 | 445 | 271 |
| v/c Ratio | 1.02 | 0.63 | 0.09 | 0.66 | 0.52 | 0.03 | 0.68 | 0.30 |
| Control Delay | 95.2 | 24.5 | 16.3 | 25.5 | 4.0 | 0.1 | 24.6 | 2.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 95.2 | 24.5 | 16.3 | 25.5 | 4.0 | 0.1 | 24.6 | 2.8 |
| Queue Length 50th (ft) | 106 | 175 | 7 | 189 | 0 | 0 | 192 | 0 |
| Queue Length 95th (ft) | #229 | 249 | 20 | 267 | 43 | 0 | 303 | 35 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 259 | 871 | 282 | 873 | 975 | 940 | 652 | 913 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.50 | 0.07 | 0.52 | 0.46 | 0.03 | 0.68 | 0.30 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 274 | 94 | 134 | 12 | 974 | 179 | 180 | 762 | 37 |
| Future Volume (veh/h) | 46 | 57 | 24 | 274 | 94 | 134 | 12 | 974 | 179 | 180 | 762 | 37 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 319 | 109 | 156 | 14 | 1133 | 208 | 209 | 886 | 43 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 261 | 100 | 42 | 349 | 297 | 252 | 348 | 1640 | 732 | 327 | 1873 | 835 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.12 | 0.16 | 0.16 | 0.02 | 0.47 | 0.47 | 0.08 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 319 | 109 | 156 | 14 | 1133 | 208 | 209 | 886 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.0 | 7.1 | 0.3 | 19.5 | 6.2 | 4.3 | 12.0 | 1.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.0 | 7.1 | 0.3 | 19.5 | 6.2 | 4.3 | 12.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 261 | 0 | 142 | 349 | 297 | 252 | 348 | 1640 | 732 | 327 | 1873 | 835 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.66 | 0.91 | 0.37 | 0.62 | 0.04 | 0.69 | 0.28 | 0.64 | 0.47 | 0.05 |
| Avail Cap(c_a), veh/h | 300 | 0 | 410 | 349 | 537 | 455 | 433 | 1640 | 732 | 375 | 1873 | 835 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.0 | 0.0 | 33.9 | 29.1 | 28.4 | 29.7 | 10.3 | 15.7 | 12.2 | 13.6 | 10.8 | 8.3 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.1 | 27.6 | 0.8 | 2.5 | 0.0 | 2.4 | 1.0 | 2.9 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.8 | 3.6 | 1.7 | 2.6 | 0.1 | 6.6 | 2.0 | 1.4 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.3 | 0.0 | 39.0 | 56.7 | 29.1 | 32.2 | 10.4 | 18.1 | 13.2 | 16.5 | 11.7 | 8.4 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 584 | | | 1355 | | | 1138 | |
| Approach Delay, s/veh | | 35.9 | | | 45.0 | | | 17.3 | | | 12.5 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 40.5 | 14.0 | 10.8 | 5.8 | 45.6 | 7.9 | 16.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.5 | 36.0 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 21.5 | 11.5 | 6.0 | 2.3 | 14.0 | 4.1 | 9.1 |
| Green Ext Time (p_c), s | 0.1 | 6.7 | 0.0 | 0.3 | 0.0 | 5.9 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.4 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.4 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 440 | 6 | 6 | 494 | 9 | 9 |
| Future Vol, veh/h | 440 | 6 | 6 | 494 | 9 | 9 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 67 | 67 |
| Mvmt Flow | 512 | 7 | 7 | 574 | 10 | 10 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 519 | 0 | 1100 | 512 |
| Stage 1 | - | - | - | - | 512 | - |
| Stage 2 | - | - | - | - | 588 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.07 | 6.87 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.07 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.07 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.103 | 3.903 |
| Pot Cap-1 Maneuver | - | - | 690 | - | 177 | 452 |
| Stage 1 | - | - | - | - | 488 | - |
| Stage 2 | - | - | - | - | 447 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 690 | - | 175 | 452 |
| Mov Cap-2 Maneuver | - | - | - | - | 175 | - |
| Stage 1 | - | - | - | - | 488 | - |
| Stage 2 | - | - | - | - | 443 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 20 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 175 | 452 | - | - | 690 | - |
| HCM Lane V/C Ratio | 0.06 | 0.023 | - | - | 0.01 | - |
| HCM Control Delay (s) | 26.9 | 13.2 | - | - | 10.3 | - |
| HCM Lane LOS | D | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.2 | 0.1 | - | - | 0 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 388 | 61 | 69 | 455 | 47 | 135 |
| Future Vol, veh/h | 388 | 61 | 69 | 455 | 47 | 135 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 451 | 71 | 80 | 529 | 55 | 157 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 522 | 0 | 1176 | 487 |
| Stage 1 | - | - | - | - | 487 | - |
| Stage 2 | - | - | - | - | 689 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1029 | - | 208 | 574 |
| Stage 1 | - | - | - | - | 612 | - |
| Stage 2 | - | - | - | - | 493 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1029 | - | 185 | 574 |
| Mov Cap-2 Maneuver | - | - | - | - | 185 | - |
| Stage 1 | - | - | - | - | 612 | - |
| Stage 2 | - | - | - | - | 439 | - |

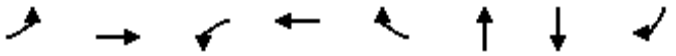
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.2 | 26.7 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 372 | - | - | 1029 | - |
| HCM Lane V/C Ratio | 0.569 | - | - | 0.078 | - |
| HCM Control Delay (s) | 26.7 | - | - | 8.8 | 0 |
| HCM Lane LOS | D | - | - | A | A |
| HCM 95th %tile Q(veh) | 3.4 | - | - | 0.3 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 319 | 109 | 156 | 14 | 1133 | 208 | 209 | 886 | 43 |
| v/c Ratio | 0.23 | 0.45 | 0.99 | 0.32 | 0.37 | 0.04 | 0.72 | 0.25 | 0.69 | 0.43 | 0.04 |
| Control Delay | 24.2 | 33.9 | 78.2 | 31.4 | 8.1 | 7.8 | 21.5 | 3.2 | 24.6 | 10.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.2 | 33.9 | 78.2 | 31.4 | 8.1 | 7.8 | 21.5 | 3.2 | 24.6 | 10.9 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | 142 | 50 | 0 | 3 | 240 | 0 | 43 | 112 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #197 | 91 | 42 | 10 | 320 | 33 | #132 | 212 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 230 | 413 | 321 | 517 | 551 | 371 | 1579 | 818 | 304 | 2070 | 976 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.23 | 0.99 | 0.21 | 0.28 | 0.04 | 0.72 | 0.25 | 0.69 | 0.43 | 0.04 |

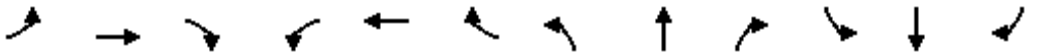
Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 190 | 392 | 3 | 326 | 430 | 32 | 247 | 353 |
| v/c Ratio | 0.85 | 0.71 | 0.02 | 0.59 | 0.56 | 0.03 | 0.35 | 0.35 |
| Control Delay | 54.3 | 27.9 | 15.0 | 24.0 | 4.9 | 7.1 | 11.7 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.3 | 27.9 | 15.0 | 24.0 | 4.9 | 7.1 | 11.7 | 2.5 |
| Queue Length 50th (ft) | 72 | 141 | 1 | 112 | 0 | 3 | 49 | 0 |
| Queue Length 95th (ft) | 139 | 208 | 6 | 169 | 43 | 18 | 126 | 35 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 474 | 1175 | 365 | 1175 | 1149 | 915 | 713 | 1016 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.33 | 0.01 | 0.28 | 0.37 | 0.03 | 0.35 | 0.35 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Future Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 264 | 95 | 41 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.01 | 0.41 | 0.41 | 0.13 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 264 | 0 | 136 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.76 | 0.24 | 0.41 | 0.03 | 0.57 | 0.38 | 0.71 | 0.50 | 0.06 |
| Avail Cap(c_a), veh/h | 310 | 0 | 423 | 375 | 570 | 483 | 422 | 1425 | 636 | 613 | 1831 | 817 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 0.0 | 32.9 | 25.9 | 26.3 | 27.2 | 12.4 | 16.7 | 15.1 | 12.2 | 11.1 | 8.5 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.8 | 8.5 | 0.4 | 1.0 | 0.0 | 1.6 | 1.7 | 2.2 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.5 | 4.8 | 1.0 | 1.6 | 0.1 | 4.6 | 2.6 | 2.1 | 3.7 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 0.0 | 37.8 | 34.4 | 26.7 | 28.2 | 12.5 | 18.3 | 16.8 | 14.4 | 12.1 | 8.6 |
| LnGrp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 466 | | | 1059 | | | 1270 | |
| Approach Delay, s/veh | | 34.8 | | | 31.7 | | | 17.9 | | | 12.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.1 | 34.8 | 14.6 | 10.3 | 5.4 | 43.4 | 7.7 | 17.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.7 | 27.2 | 10.1 | 18.0 | 5.0 | 38.9 | 5.1 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 15.2 | 12.1 | 5.5 | 2.2 | 14.4 | 3.9 | 6.6 |
| Green Ext Time (p_c), s | 0.5 | 4.5 | 0.0 | 0.2 | 0.0 | 6.0 | 0.0 | 0.5 |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Future Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 598 | 16 | 16 | 447 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 614 | 0 | 1077 | 598 |
| Stage 1 | - | - | - | - | 598 | - |
| Stage 2 | - | - | - | - | 479 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 627 | - | 173 | 381 |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 486 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 627 | - | 169 | 381 |
| Mov Cap-2 Maneuver | - | - | - | - | 169 | - |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 473 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 22.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 169 | 381 | - | - | 627 | - |
| HCM Lane V/C Ratio | 0.117 | 0.052 | - | - | 0.026 | - |
| HCM Control Delay (s) | 29.1 | 15 | - | - | 10.9 | - |
| HCM Lane LOS | D | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.2 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 430 | 101 | 136 | 321 | 48 | 149 |
| Future Vol, veh/h | 430 | 101 | 136 | 321 | 48 | 149 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 500 | 117 | 158 | 373 | 56 | 173 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 617 | 0 | 1248 | 559 |
| Stage 1 | - | - | - | - | 559 | - |
| Stage 2 | - | - | - | - | 689 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 949 | - | 189 | 523 |
| Stage 1 | - | - | - | - | 567 | - |
| Stage 2 | - | - | - | - | 493 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 949 | - | 149 | 523 |
| Mov Cap-2 Maneuver | - | - | - | - | 149 | - |
| Stage 1 | - | - | - | - | 567 | - |
| Stage 2 | - | - | - | - | 389 | - |

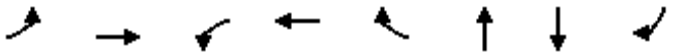
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.8 | 38.7 |
| HCM LOS | | | E |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 325 | - | - | 949 | - |
| HCM Lane V/C Ratio | 0.705 | - | - | 0.167 | - |
| HCM Control Delay (s) | 38.7 | - | - | 9.6 | 0 |
| HCM Lane LOS | E | - | - | A | A |
| HCM 95th %tile Q(veh) | 5 | - | - | 0.6 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| v/c Ratio | 0.21 | 0.41 | 0.82 | 0.20 | 0.24 | 0.03 | 0.64 | 0.34 | 0.68 | 0.45 | 0.05 |
| Control Delay | 23.2 | 31.9 | 45.4 | 29.0 | 2.0 | 9.1 | 24.5 | 4.5 | 18.3 | 11.4 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.2 | 31.9 | 45.4 | 29.0 | 2.0 | 9.1 | 24.5 | 4.5 | 18.3 | 11.4 | 0.1 |
| Queue Length 50th (ft) | 17 | 30 | 117 | 32 | 0 | 2 | 176 | 0 | 69 | 117 | 0 |
| Queue Length 95th (ft) | 41 | 69 | #208 | 66 | 3 | 8 | 247 | 42 | 142 | 220 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 236 | 435 | 345 | 559 | 601 | 323 | 1257 | 714 | 522 | 2004 | 972 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.82 | 0.13 | 0.18 | 0.03 | 0.64 | 0.34 | 0.60 | 0.45 | 0.05 |

Intersection Summary

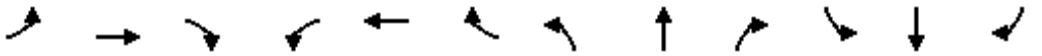
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 209 | 432 | 20 | 438 | 409 | 29 | 405 | 269 |
| v/c Ratio | 0.98 | 0.63 | 0.09 | 0.64 | 0.49 | 0.03 | 0.61 | 0.29 |
| Control Delay | 88.4 | 27.3 | 19.0 | 27.5 | 4.2 | 0.1 | 20.2 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 88.4 | 27.3 | 19.0 | 27.5 | 4.2 | 0.1 | 20.2 | 3.0 |
| Queue Length 50th (ft) | 114 | 193 | 7 | 197 | 0 | 0 | 155 | 5 |
| Queue Length 95th (ft) | #239 | 274 | 22 | 280 | 46 | 0 | 236 | 37 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 220 | 709 | 224 | 710 | 852 | 939 | 669 | 918 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.95 | 0.61 | 0.09 | 0.62 | 0.48 | 0.03 | 0.61 | 0.29 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Future Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 258 | 95 | 41 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.02 | 0.45 | 0.45 | 0.09 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 258 | 0 | 136 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.81 | 0.33 | 0.55 | 0.04 | 0.66 | 0.30 | 0.60 | 0.44 | 0.05 |
| Avail Cap(c_a), veh/h | 303 | 0 | 421 | 378 | 573 | 485 | 457 | 1565 | 698 | 455 | 1815 | 810 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 0.0 | 33.1 | 26.6 | 26.7 | 27.9 | 10.8 | 15.8 | 12.9 | 12.6 | 10.9 | 8.6 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 4.8 | 12.4 | 0.6 | 1.8 | 0.0 | 2.2 | 1.1 | 1.7 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.6 | 5.7 | 1.5 | 2.3 | 0.1 | 5.8 | 2.0 | 1.3 | 3.2 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 37.9 | 39.0 | 27.3 | 29.6 | 10.8 | 18.0 | 14.0 | 14.3 | 11.7 | 8.7 |
| LnGrp LOS | C | A | D | D | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 560 | | | 1249 | | | 1052 | |
| Approach Delay, s/veh | | 34.9 | | | 34.3 | | | 17.3 | | | 12.1 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 37.9 | 14.8 | 10.3 | 5.7 | 43.2 | 7.7 | 17.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.1 | 32.6 | 10.3 | 18.0 | 5.0 | 38.7 | 5.1 | 23.2 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 19.1 | 12.3 | 5.6 | 2.3 | 12.7 | 3.9 | 8.5 |
| Green Ext Time (p_c), s | 0.2 | 5.9 | 0.0 | 0.2 | 0.0 | 5.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.4 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Future Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 494 | 16 | 16 | 542 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 510 | 0 | 1068 | 494 |
| Stage 1 | - | - | - | - | 494 | - |
| Stage 2 | - | - | - | - | 574 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 697 | - | 175 | 443 |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 433 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 697 | - | 171 | 443 |
| Mov Cap-2 Maneuver | - | - | - | - | 171 | - |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 423 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 21.2 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 171 | 443 | - | - | 697 | - |
| HCM Lane V/C Ratio | 0.116 | 0.045 | - | - | 0.023 | - |
| HCM Control Delay (s) | 28.8 | 13.5 | - | - | 10.3 | - |
| HCM Lane LOS | D | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.8 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 361 | 81 | 91 | 422 | 60 | 172 |
| Future Vol, veh/h | 361 | 81 | 91 | 422 | 60 | 172 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 420 | 94 | 106 | 491 | 70 | 200 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 514 | 0 | 1170 | 467 |
| Stage 1 | - | - | - | - | 467 | - |
| Stage 2 | - | - | - | - | 703 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1036 | - | 210 | 590 |
| Stage 1 | - | - | - | - | 625 | - |
| Stage 2 | - | - | - | - | 485 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1036 | - | 180 | 590 |
| Mov Cap-2 Maneuver | - | - | - | - | 180 | - |
| Stage 1 | - | - | - | - | 625 | - |
| Stage 2 | - | - | - | - | 417 | - |

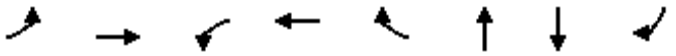
| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.6 | 36.6 |
| HCM LOS | | | E |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 371 | - | - | 1036 | - |
| HCM Lane V/C Ratio | 0.727 | - | - | 0.102 | - |
| HCM Control Delay (s) | 36.6 | - | - | 8.9 | 0 |
| HCM Lane LOS | E | - | - | A | A |
| HCM 95th %tile Q(veh) | 5.6 | - | - | 0.3 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| v/c Ratio | 0.21 | 0.42 | 0.89 | 0.29 | 0.33 | 0.03 | 0.70 | 0.26 | 0.61 | 0.40 | 0.04 |
| Control Delay | 23.5 | 32.4 | 55.5 | 30.3 | 5.0 | 8.3 | 22.7 | 2.7 | 17.6 | 10.8 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.5 | 32.4 | 55.5 | 30.3 | 5.0 | 8.3 | 22.7 | 2.7 | 17.6 | 10.8 | 0.1 |
| Queue Length 50th (ft) | 18 | 30 | 132 | 47 | 0 | 2 | 222 | 0 | 43 | 101 | 0 |
| Queue Length 95th (ft) | 41 | 69 | #239 | 87 | 26 | 10 | 299 | 25 | 97 | 190 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 228 | 423 | 342 | 549 | 593 | 380 | 1465 | 790 | 371 | 2024 | 980 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.89 | 0.19 | 0.25 | 0.03 | 0.70 | 0.26 | 0.56 | 0.40 | 0.04 |

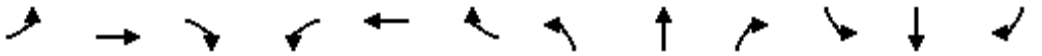
Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 194 | 400 | 3 | 317 | 391 | 29 | 224 | 342 |
| v/c Ratio | 0.83 | 0.72 | 0.02 | 0.57 | 0.53 | 0.03 | 0.31 | 0.34 |
| Control Delay | 50.2 | 28.1 | 14.7 | 23.2 | 4.7 | 7.0 | 11.3 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.2 | 28.1 | 14.7 | 23.2 | 4.7 | 7.0 | 11.3 | 2.5 |
| Queue Length 50th (ft) | 73 | 143 | 1 | 107 | 0 | 3 | 44 | 0 |
| Queue Length 95th (ft) | 138 | 212 | 6 | 164 | 41 | 17 | 112 | 35 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 499 | 1192 | 361 | 1192 | 1146 | 909 | 712 | 1007 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.34 | 0.01 | 0.27 | 0.34 | 0.03 | 0.31 | 0.34 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Future Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 270 | 101 | 43 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.12 | 0.16 | 0.16 | 0.01 | 0.42 | 0.42 | 0.14 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 270 | 0 | 144 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.65 | 0.93 | 0.29 | 0.51 | 0.04 | 0.62 | 0.42 | 0.80 | 0.53 | 0.06 |
| Avail Cap(c_a), veh/h | 312 | 0 | 420 | 339 | 531 | 450 | 401 | 1443 | 643 | 584 | 1883 | 840 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 0.0 | 33.0 | 28.9 | 27.8 | 28.8 | 12.3 | 17.1 | 15.4 | 13.1 | 10.9 | 8.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.0 | 31.7 | 0.6 | 1.7 | 0.1 | 2.0 | 2.0 | 6.0 | 1.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 4.1 | 1.2 | 1.9 | 0.1 | 5.2 | 3.1 | 2.8 | 4.1 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.5 | 0.0 | 38.0 | 60.7 | 28.3 | 30.5 | 12.3 | 19.1 | 17.4 | 19.1 | 12.0 | 8.2 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 522 | | | 1176 | | | 1409 | |
| Approach Delay, s/veh | | 34.9 | | | 48.4 | | | 18.6 | | | 13.6 | |
| Approach LOS | | C | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.0 | 35.4 | 13.2 | 10.7 | 5.6 | 44.8 | 7.8 | 16.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.5 | 28.8 | 8.7 | 18.0 | 5.0 | 40.3 | 5.1 | 21.6 |
| Max Q Clear Time (g_c+I1), s | 9.9 | 17.0 | 10.7 | 5.9 | 2.3 | 15.8 | 4.0 | 7.4 |
| Green Ext Time (p_c), s | 0.6 | 4.9 | 0.0 | 0.3 | 0.0 | 6.8 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.0 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Future Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 676 | 20 | 20 | 499 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 696 | 0 | 1215 | 676 |
| Stage 1 | - | - | - | - | 676 | - |
| Stage 2 | - | - | - | - | 539 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 576 | - | 138 | 337 |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 448 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 576 | - | 133 | 337 |
| Mov Cap-2 Maneuver | - | - | - | - | 133 | - |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 432 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 27.1 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 133 | 337 | - | - | 576 | - |
| HCM Lane V/C Ratio | 0.175 | 0.069 | - | - | 0.034 | - |
| HCM Control Delay (s) | 37.7 | 16.5 | - | - | 11.5 | - |
| HCM Lane LOS | E | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 23.7 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 475 | 126 | 165 | 355 | 59 | 184 |
| Future Vol, veh/h | 475 | 126 | 165 | 355 | 59 | 184 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 552 | 147 | 192 | 413 | 69 | 214 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 699 | 0 | 1423 | 626 |
| Stage 1 | - | - | - | - | 626 | - |
| Stage 2 | - | - | - | - | 797 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 884 | - | 147 | 479 |
| Stage 1 | - | - | - | - | 527 | - |
| Stage 2 | - | - | - | - | 439 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 884 | - | 106 | 479 |
| Mov Cap-2 Maneuver | - | - | - | - | 106 | - |
| Stage 1 | - | - | - | - | 527 | - |
| Stage 2 | - | - | - | - | 315 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 3.2 | 126 |
| HCM LOS | | | F |

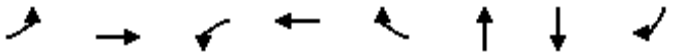
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 258 | - | - | 884 | - |
| HCM Lane V/C Ratio | 1.095 | - | - | 0.217 | - |
| HCM Control Delay (s) | 126 | - | - | 10.2 | 0 |
| HCM Lane LOS | F | - | - | B | A |
| HCM 95th %tile Q(veh) | 11.9 | - | - | 0.8 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| v/c Ratio | 0.23 | 0.44 | 1.04 | 0.25 | 0.29 | 0.04 | 0.69 | 0.36 | 0.76 | 0.48 | 0.05 |
| Control Delay | 24.6 | 33.9 | 93.4 | 31.1 | 3.3 | 8.7 | 25.4 | 4.3 | 25.3 | 11.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.6 | 33.9 | 93.4 | 31.1 | 3.3 | 8.7 | 25.4 | 4.3 | 25.3 | 11.1 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | ~146 | 38 | 0 | 2 | 202 | 0 | 94 | 129 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #211 | 74 | 12 | 9 | 273 | 43 | #215 | 243 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 235 | 421 | 303 | 509 | 563 | 306 | 1289 | 746 | 494 | 2089 | 984 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.22 | 1.04 | 0.16 | 0.22 | 0.04 | 0.69 | 0.36 | 0.72 | 0.48 | 0.05 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

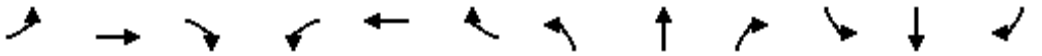


| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 238 | 491 | 21 | 492 | 451 | 31 | 445 | 306 |
| v/c Ratio | 1.01 | 0.63 | 0.09 | 0.63 | 0.49 | 0.04 | 0.74 | 0.36 |
| Control Delay | 91.3 | 24.3 | 16.5 | 24.4 | 3.7 | 0.1 | 28.6 | 4.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 91.3 | 24.3 | 16.5 | 24.4 | 3.7 | 0.1 | 28.6 | 4.8 |
| Queue Length 50th (ft) | ~135 | 211 | 7 | 212 | 0 | 0 | 198 | 18 |
| Queue Length 95th (ft) | #269 | 296 | 21 | 297 | 43 | 0 | 299 | 57 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 235 | 781 | 235 | 782 | 920 | 865 | 602 | 850 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.63 | 0.09 | 0.63 | 0.49 | 0.04 | 0.74 | 0.36 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Future Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 260 | 100 | 43 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.13 | 0.16 | 0.16 | 0.02 | 0.46 | 0.46 | 0.10 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 260 | 0 | 143 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.66 | 0.98 | 0.39 | 0.66 | 0.04 | 0.71 | 0.33 | 0.71 | 0.47 | 0.05 |
| Avail Cap(c_a), veh/h | 300 | 0 | 412 | 351 | 540 | 458 | 433 | 1594 | 711 | 394 | 1865 | 832 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.8 | 0.0 | 33.7 | 29.5 | 28.3 | 29.7 | 10.7 | 16.4 | 13.1 | 14.3 | 10.9 | 8.3 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.1 | 41.8 | 0.8 | 2.9 | 0.0 | 2.7 | 1.3 | 4.9 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 5.4 | 1.8 | 2.8 | 0.1 | 6.8 | 2.4 | 1.8 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.2 | 0.0 | 38.8 | 71.3 | 29.2 | 32.6 | 10.8 | 19.1 | 14.3 | 19.2 | 11.7 | 8.4 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 627 | | | 1385 | | | 1169 | |
| Approach Delay, s/veh | | 35.7 | | | 53.1 | | | 18.2 | | | 13.2 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.7 | 39.3 | 14.0 | 10.7 | 5.8 | 45.2 | 7.9 | 16.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.7 | 34.8 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 21.9 | 11.5 | 6.0 | 2.3 | 14.0 | 4.1 | 9.7 |
| Green Ext Time (p_c), s | 0.2 | 6.4 | 0.0 | 0.3 | 0.0 | 5.9 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.8 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Future Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 559 | 20 | 20 | 607 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 579 | 0 | 1206 | 559 |
| Stage 1 | - | - | - | - | 559 | - |
| Stage 2 | - | - | - | - | 647 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 649 | - | 140 | 400 |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 393 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 649 | - | 136 | 400 |
| Mov Cap-2 Maneuver | - | - | - | - | 136 | - |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 381 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 25.8 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 136 | 400 | - | - | 649 | - |
| HCM Lane V/C Ratio | 0.171 | 0.058 | - | - | 0.03 | - |
| HCM Control Delay (s) | 36.9 | 14.6 | - | - | 10.7 | - |
| HCM Lane LOS | E | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 24.8 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 399 | 102 | 113 | 466 | 75 | 212 |
| Future Vol, veh/h | 399 | 102 | 113 | 466 | 75 | 212 |
| 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 | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 464 | 119 | 131 | 542 | 87 | 247 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 583 | 0 | 1328 | 524 |
| Stage 1 | - | - | - | - | 524 | - |
| Stage 2 | - | - | - | - | 804 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 977 | - | 169 | 547 |
| Stage 1 | - | - | - | - | 588 | - |
| Stage 2 | - | - | - | - | 435 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 977 | - | 137 | 547 |
| Mov Cap-2 Maneuver | - | - | - | - | 137 | - |
| Stage 1 | - | - | - | - | 588 | - |
| Stage 2 | - | - | - | - | 351 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.8 | 114.5 |
| HCM LOS | | | F |

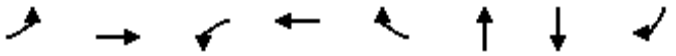
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 307 | - | - | 977 | - |
| HCM Lane V/C Ratio | 1.087 | - | - | 0.134 | - |
| HCM Control Delay (s) | 114.5 | - | - | 9.3 | 0 |
| HCM Lane LOS | F | - | - | A | A |
| HCM 95th %tile Q(veh) | 13 | - | - | 0.5 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| v/c Ratio | 0.23 | 0.45 | 1.07 | 0.34 | 0.38 | 0.04 | 0.74 | 0.29 | 0.75 | 0.43 | 0.04 |
| Control Delay | 24.2 | 33.9 | 98.4 | 31.7 | 6.8 | 7.9 | 23.0 | 3.4 | 30.0 | 10.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.2 | 33.9 | 98.4 | 31.7 | 6.8 | 7.9 | 23.0 | 3.4 | 30.0 | 10.9 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | ~160 | 54 | 0 | 3 | 247 | 0 | 57 | 112 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #227 | 96 | 37 | 10 | 329 | 36 | #167 | 212 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 229 | 413 | 321 | 517 | 569 | 367 | 1526 | 815 | 321 | 2070 | 976 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.23 | 1.07 | 0.23 | 0.29 | 0.04 | 0.74 | 0.29 | 0.75 | 0.43 | 0.04 |

Intersection Summary

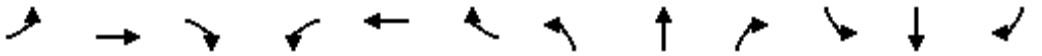
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 222 | 460 | 3 | 358 | 430 | 32 | 247 | 385 |
| v/c Ratio | 0.88 | 0.73 | 0.02 | 0.57 | 0.53 | 0.04 | 0.38 | 0.39 |
| Control Delay | 53.6 | 25.8 | 12.7 | 20.8 | 4.1 | 8.9 | 14.6 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.6 | 25.8 | 12.7 | 20.8 | 4.1 | 8.9 | 14.6 | 3.0 |
| Queue Length 50th (ft) | 84 | 161 | 1 | 116 | 0 | 3 | 54 | 0 |
| Queue Length 95th (ft) | 158 | 232 | 5 | 172 | 38 | 20 | 147 | 41 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 501 | 1257 | 346 | 1257 | 1199 | 842 | 656 | 978 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.37 | 0.01 | 0.28 | 0.36 | 0.04 | 0.38 | 0.39 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Future Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 264 | 95 | 41 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.01 | 0.41 | 0.41 | 0.13 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 264 | 0 | 136 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.76 | 0.24 | 0.41 | 0.03 | 0.57 | 0.38 | 0.71 | 0.50 | 0.06 |
| Avail Cap(c_a), veh/h | 310 | 0 | 423 | 375 | 570 | 483 | 422 | 1425 | 636 | 613 | 1831 | 817 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 0.0 | 32.9 | 25.9 | 26.3 | 27.2 | 12.4 | 16.7 | 15.1 | 12.2 | 11.1 | 8.5 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.8 | 8.5 | 0.4 | 1.0 | 0.0 | 1.6 | 1.7 | 2.2 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.5 | 4.8 | 1.0 | 1.6 | 0.1 | 4.6 | 2.6 | 2.1 | 3.7 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 0.0 | 37.8 | 34.4 | 26.7 | 28.2 | 12.5 | 18.3 | 16.8 | 14.4 | 12.1 | 8.6 |
| LnGrp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 466 | | | 1059 | | | 1270 | |
| Approach Delay, s/veh | | 34.8 | | | 31.7 | | | 17.9 | | | 12.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.1 | 34.8 | 14.6 | 10.3 | 5.4 | 43.4 | 7.7 | 17.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.7 | 27.2 | 10.1 | 18.0 | 5.0 | 38.9 | 5.1 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 15.2 | 12.1 | 5.5 | 2.2 | 14.4 | 3.9 | 6.6 |
| Green Ext Time (p_c), s | 0.5 | 4.5 | 0.0 | 0.2 | 0.0 | 6.0 | 0.0 | 0.5 |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Future Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 598 | 16 | 16 | 447 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 614 | 0 | 1077 | 598 |
| Stage 1 | - | - | - | - | 598 | - |
| Stage 2 | - | - | - | - | 479 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 627 | - | 173 | 381 |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 486 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 627 | - | 169 | 381 |
| Mov Cap-2 Maneuver | - | - | - | - | 169 | - |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 473 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 22.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 169 | 381 | - | - | 627 | - |
| HCM Lane V/C Ratio | 0.117 | 0.052 | - | - | 0.026 | - |
| HCM Control Delay (s) | 29.1 | 15 | - | - | 10.9 | - |
| HCM Lane LOS | D | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.2 | - | - | 0.1 | - |

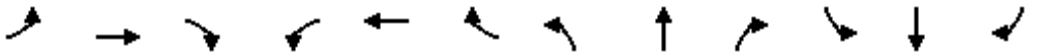
| Intersection | |
|---|---|
| Int Delay, s/veh | 4.6 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 430 | 101 | 136 | 321 | 48 | 149 |
| Future Vol, veh/h | 430 | 101 | 136 | 321 | 48 | 149 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 350 | - | 350 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 500 | 117 | 158 | 373 | 56 | 173 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 617 | 0 | 1248 | 559 |
| Stage 1 | - | - | - | - | 559 | - |
| Stage 2 | - | - | - | - | 689 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 949 | - | 189 | 523 |
| Stage 1 | - | - | - | - | 567 | - |
| Stage 2 | - | - | - | - | 493 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 949 | - | 158 | 523 |
| Mov Cap-2 Maneuver | - | - | - | - | 158 | - |
| Stage 1 | - | - | - | - | 567 | - |
| Stage 2 | - | - | - | - | 411 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 2.8 | 21.2 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 158 | 523 | - | - | 949 | - |
| HCM Lane V/C Ratio | 0.353 | 0.331 | - | - | 0.167 | - |
| HCM Control Delay (s) | 39.7 | 15.3 | - | - | 9.6 | - |
| HCM Lane LOS | E | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 1.5 | 1.4 | - | - | 0.6 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Future Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 258 | 95 | 41 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.02 | 0.45 | 0.45 | 0.09 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 258 | 0 | 136 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.81 | 0.33 | 0.55 | 0.04 | 0.66 | 0.30 | 0.60 | 0.44 | 0.05 |
| Avail Cap(c_a), veh/h | 303 | 0 | 421 | 378 | 573 | 485 | 457 | 1565 | 698 | 455 | 1815 | 810 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 0.0 | 33.1 | 26.6 | 26.7 | 27.9 | 10.8 | 15.8 | 12.9 | 12.6 | 10.9 | 8.6 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 4.8 | 12.4 | 0.6 | 1.8 | 0.0 | 2.2 | 1.1 | 1.7 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.6 | 5.7 | 1.5 | 2.3 | 0.1 | 5.8 | 2.0 | 1.3 | 3.2 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 37.9 | 39.0 | 27.3 | 29.6 | 10.8 | 18.0 | 14.0 | 14.3 | 11.7 | 8.7 |
| LnGrp LOS | C | A | D | D | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 560 | | | 1249 | | | 1052 | |
| Approach Delay, s/veh | | 34.9 | | | 34.3 | | | 17.3 | | | 12.1 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 37.9 | 14.8 | 10.3 | 5.7 | 43.2 | 7.7 | 17.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.1 | 32.6 | 10.3 | 18.0 | 5.0 | 38.7 | 5.1 | 23.2 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 19.1 | 12.3 | 5.6 | 2.3 | 12.7 | 3.9 | 8.5 |
| Green Ext Time (p_c), s | 0.2 | 5.9 | 0.0 | 0.2 | 0.0 | 5.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.4 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Future Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 494 | 16 | 16 | 542 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 510 | 0 | 1068 | 494 |
| Stage 1 | - | - | - | - | 494 | - |
| Stage 2 | - | - | - | - | 574 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 697 | - | 175 | 443 |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 433 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 697 | - | 171 | 443 |
| Mov Cap-2 Maneuver | - | - | - | - | 171 | - |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 423 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 21.2 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 171 | 443 | - | - | 697 | - |
| HCM Lane V/C Ratio | 0.116 | 0.045 | - | - | 0.023 | - |
| HCM Control Delay (s) | 28.8 | 13.5 | - | - | 10.3 | - |
| HCM Lane LOS | D | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - |

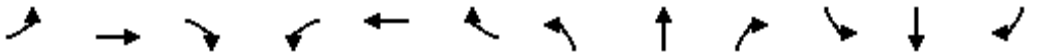
| Intersection | |
|---|---|
| Int Delay, s/veh | 4.5 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 361 | 81 | 91 | 422 | 60 | 172 |
| Future Vol, veh/h | 361 | 81 | 91 | 422 | 60 | 172 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 350 | - | 350 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 420 | 94 | 106 | 491 | 70 | 200 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 514 | 0 | 1170 | 467 |
| Stage 1 | - | - | - | - | 467 | - |
| Stage 2 | - | - | - | - | 703 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 1036 | - | 210 | 590 |
| Stage 1 | - | - | - | - | 625 | - |
| Stage 2 | - | - | - | - | 485 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1036 | - | 189 | 590 |
| Mov Cap-2 Maneuver | - | - | - | - | 189 | - |
| Stage 1 | - | - | - | - | 625 | - |
| Stage 2 | - | - | - | - | 436 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.6 | 19.5 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 189 | 590 | - | - | 1036 | - |
| HCM Lane V/C Ratio | 0.369 | 0.339 | - | - | 0.102 | - |
| HCM Control Delay (s) | 34.8 | 14.2 | - | - | 8.9 | - |
| HCM Lane LOS | D | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 1.6 | 1.5 | - | - | 0.3 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Future Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 270 | 101 | 43 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.12 | 0.16 | 0.16 | 0.01 | 0.42 | 0.42 | 0.14 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 270 | 0 | 144 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.65 | 0.93 | 0.29 | 0.51 | 0.04 | 0.62 | 0.42 | 0.80 | 0.53 | 0.06 |
| Avail Cap(c_a), veh/h | 312 | 0 | 420 | 339 | 531 | 450 | 401 | 1443 | 643 | 584 | 1883 | 840 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 0.0 | 33.0 | 28.9 | 27.8 | 28.8 | 12.3 | 17.1 | 15.4 | 13.1 | 10.9 | 8.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.0 | 31.7 | 0.6 | 1.7 | 0.1 | 2.0 | 2.0 | 6.0 | 1.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 4.1 | 1.2 | 1.9 | 0.1 | 5.2 | 3.1 | 2.8 | 4.1 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.5 | 0.0 | 38.0 | 60.7 | 28.3 | 30.5 | 12.3 | 19.1 | 17.4 | 19.1 | 12.0 | 8.2 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 522 | | | 1176 | | | 1409 | |
| Approach Delay, s/veh | | 34.9 | | | 48.4 | | | 18.6 | | | 13.6 | |
| Approach LOS | | C | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.0 | 35.4 | 13.2 | 10.7 | 5.6 | 44.8 | 7.8 | 16.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.5 | 28.8 | 8.7 | 18.0 | 5.0 | 40.3 | 5.1 | 21.6 |
| Max Q Clear Time (g_c+I1), s | 9.9 | 17.0 | 10.7 | 5.9 | 2.3 | 15.8 | 4.0 | 7.4 |
| Green Ext Time (p_c), s | 0.6 | 4.9 | 0.0 | 0.3 | 0.0 | 6.8 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.0 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Future Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 676 | 20 | 20 | 499 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 696 | 0 | 1215 | 676 |
| Stage 1 | - | - | - | - | 676 | - |
| Stage 2 | - | - | - | - | 539 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 576 | - | 138 | 337 |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 448 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 576 | - | 133 | 337 |
| Mov Cap-2 Maneuver | - | - | - | - | 133 | - |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 432 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 27.1 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 133 | 337 | - | - | 576 | - |
| HCM Lane V/C Ratio | 0.175 | 0.069 | - | - | 0.034 | - |
| HCM Control Delay (s) | 37.7 | 16.5 | - | - | 11.5 | - |
| HCM Lane LOS | E | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

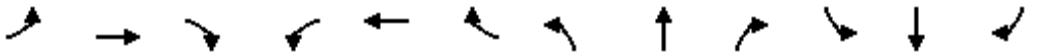
| Intersection | |
|---|---|
| Int Delay, s/veh | 6.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 475 | 126 | 165 | 355 | 59 | 184 |
| Future Vol, veh/h | 475 | 126 | 165 | 355 | 59 | 184 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 350 | - | 350 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 552 | 147 | 192 | 413 | 69 | 214 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 699 | 0 | 1423 | 626 |
| Stage 1 | - | - | - | - | 626 | - |
| Stage 2 | - | - | - | - | 797 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 884 | - | 147 | 479 |
| Stage 1 | - | - | - | - | 527 | - |
| Stage 2 | - | - | - | - | 439 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 884 | - | 115 | 479 |
| Mov Cap-2 Maneuver | - | - | - | - | 115 | - |
| Stage 1 | - | - | - | - | 527 | - |
| Stage 2 | - | - | - | - | 344 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 3.2 | 32 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 115 | 479 | - | - | 884 | - |
| HCM Lane V/C Ratio | 0.597 | 0.447 | - | - | 0.217 | - |
| HCM Control Delay (s) | 74.5 | 18.4 | - | - | 10.2 | - |
| HCM Lane LOS | F | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 2.9 | 2.3 | - | - | 0.8 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Future Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 260 | 100 | 43 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.13 | 0.16 | 0.16 | 0.02 | 0.46 | 0.46 | 0.10 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 260 | 0 | 143 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.66 | 0.98 | 0.39 | 0.66 | 0.04 | 0.71 | 0.33 | 0.71 | 0.47 | 0.05 |
| Avail Cap(c_a), veh/h | 300 | 0 | 412 | 351 | 540 | 458 | 433 | 1594 | 711 | 394 | 1865 | 832 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.8 | 0.0 | 33.7 | 29.5 | 28.3 | 29.7 | 10.7 | 16.4 | 13.1 | 14.3 | 10.9 | 8.3 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.1 | 41.8 | 0.8 | 2.9 | 0.0 | 2.7 | 1.3 | 4.9 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 5.4 | 1.8 | 2.8 | 0.1 | 6.8 | 2.4 | 1.8 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.2 | 0.0 | 38.8 | 71.3 | 29.2 | 32.6 | 10.8 | 19.1 | 14.3 | 19.2 | 11.7 | 8.4 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 627 | | | 1385 | | | 1169 | |
| Approach Delay, s/veh | | 35.7 | | | 53.1 | | | 18.2 | | | 13.2 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.7 | 39.3 | 14.0 | 10.7 | 5.8 | 45.2 | 7.9 | 16.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.7 | 34.8 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 21.9 | 11.5 | 6.0 | 2.3 | 14.0 | 4.1 | 9.7 |
| Green Ext Time (p_c), s | 0.2 | 6.4 | 0.0 | 0.3 | 0.0 | 5.9 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.8 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Future Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 559 | 20 | 20 | 607 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 579 | 0 | 1206 | 559 |
| Stage 1 | - | - | - | - | 559 | - |
| Stage 2 | - | - | - | - | 647 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 649 | - | 140 | 400 |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 393 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 649 | - | 136 | 400 |
| Mov Cap-2 Maneuver | - | - | - | - | 136 | - |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 381 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 25.8 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 136 | 400 | - | - | 649 | - |
| HCM Lane V/C Ratio | 0.171 | 0.058 | - | - | 0.03 | - |
| HCM Control Delay (s) | 36.9 | 14.6 | - | - | 10.7 | - |
| HCM Lane LOS | E | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

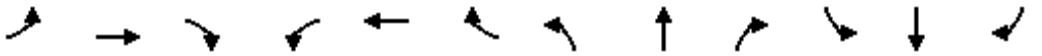
| Intersection | |
|---|---|
| Int Delay, s/veh | 6.7 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 399 | 102 | 113 | 466 | 75 | 212 |
| Future Vol, veh/h | 399 | 102 | 113 | 466 | 75 | 212 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | 350 | - | 350 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Mvmt Flow | 464 | 119 | 131 | 542 | 87 | 247 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 583 | 0 | 1328 | 524 |
| Stage 1 | - | - | - | - | 524 | - |
| Stage 2 | - | - | - | - | 804 | - |
| Critical Hdwy | - | - | 4.15 | - | 6.45 | 6.25 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.45 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.45 | - |
| Follow-up Hdwy | - | - | 2.245 | - | 3.545 | 3.345 |
| Pot Cap-1 Maneuver | - | - | 977 | - | 169 | 547 |
| Stage 1 | - | - | - | - | 588 | - |
| Stage 2 | - | - | - | - | 435 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 977 | - | 146 | 547 |
| Mov Cap-2 Maneuver | - | - | - | - | 146 | - |
| Stage 1 | - | - | - | - | 588 | - |
| Stage 2 | - | - | - | - | 377 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 1.8 | 28.4 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 146 | 547 | - | - | 977 | - |
| HCM Lane V/C Ratio | 0.597 | 0.451 | - | - | 0.134 | - |
| HCM Control Delay (s) | 60.9 | 16.9 | - | - | 9.3 | - |
| HCM Lane LOS | F | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 3.1 | 2.3 | - | - | 0.5 | - |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Future Volume (veh/h) | 42 | 52 | 22 | 243 | 64 | 94 | 9 | 696 | 206 | 270 | 782 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 264 | 95 | 41 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.01 | 0.41 | 0.41 | 0.13 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.5 | 10.1 | 2.6 | 4.6 | 0.2 | 13.2 | 8.0 | 7.0 | 12.4 | 1.1 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 264 | 0 | 136 | 375 | 315 | 267 | 326 | 1425 | 636 | 445 | 1831 | 817 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.76 | 0.24 | 0.41 | 0.03 | 0.57 | 0.38 | 0.71 | 0.50 | 0.06 |
| Avail Cap(c_a), veh/h | 310 | 0 | 423 | 375 | 570 | 483 | 422 | 1425 | 636 | 613 | 1831 | 817 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 0.0 | 32.9 | 25.9 | 26.3 | 27.2 | 12.4 | 16.7 | 15.1 | 12.2 | 11.1 | 8.5 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.8 | 8.5 | 0.4 | 1.0 | 0.0 | 1.6 | 1.7 | 2.2 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.5 | 4.8 | 1.0 | 1.6 | 0.1 | 4.6 | 2.6 | 2.1 | 3.7 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.6 | 0.0 | 37.8 | 34.4 | 26.7 | 28.2 | 12.5 | 18.3 | 16.8 | 14.4 | 12.1 | 8.6 |
| LnGrp LOS | C | A | D | C | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 466 | | | 1059 | | | 1270 | |
| Approach Delay, s/veh | | 34.8 | | | 31.7 | | | 17.9 | | | 12.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.1 | 34.8 | 14.6 | 10.3 | 5.4 | 43.4 | 7.7 | 17.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.7 | 27.2 | 10.1 | 18.0 | 5.0 | 38.9 | 5.1 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 15.2 | 12.1 | 5.5 | 2.2 | 14.4 | 3.9 | 6.6 |
| Green Ext Time (p_c), s | 0.5 | 4.5 | 0.0 | 0.2 | 0.0 | 6.0 | 0.0 | 0.5 |

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

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 430 | 101 | 136 | 321 | 48 | 149 |
| Future Volume (veh/h) | 430 | 101 | 136 | 321 | 48 | 149 |
| 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 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 500 | 117 | 158 | 373 | 56 | 173 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 625 | 146 | 435 | 1158 | 285 | 253 |
| Arrive On Green | 0.44 | 0.44 | 0.10 | 0.63 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1431 | 335 | 1739 | 1826 | 1739 | 1547 |
| Grp Volume(v), veh/h | 0 | 617 | 158 | 373 | 56 | 173 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1766 | 1739 | 1826 | 1739 | 1547 |
| Q Serve(g_s), s | 0.0 | 13.5 | 1.9 | 4.2 | 1.2 | 4.7 |
| Cycle Q Clear(g_c), s | 0.0 | 13.5 | 1.9 | 4.2 | 1.2 | 4.7 |
| Prop In Lane | | 0.19 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 771 | 435 | 1158 | 285 | 253 |
| V/C Ratio(X) | 0.00 | 0.80 | 0.36 | 0.32 | 0.20 | 0.68 |
| Avail Cap(c_a), veh/h | 0 | 1805 | 677 | 2481 | 801 | 713 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 10.9 | 7.7 | 3.7 | 16.1 | 17.5 |
| Incr Delay (d2), s/veh | 0.0 | 2.0 | 0.5 | 0.2 | 0.3 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.4 | 0.3 | 0.4 | 0.5 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 12.8 | 8.2 | 3.9 | 16.4 | 20.8 |
| LnGrp LOS | A | B | A | A | B | C |
| Approach Vol, veh/h | 617 | | | 531 | 229 | |
| Approach Delay, s/veh | 12.8 | | | 5.2 | 19.7 | |
| Approach LOS | B | | | A | B | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 11.8 | 8.8 | 23.9 | | 32.7 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 20.5 | 10.5 | 45.5 | | 60.5 |
| Max Q Clear Time (g_c+I1), s | | 6.7 | 3.9 | 15.5 | | 6.2 |
| Green Ext Time (p_c), s | | 0.6 | 0.2 | 4.0 | | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.0 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Future Vol, veh/h | 514 | 14 | 14 | 384 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 598 | 16 | 16 | 447 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 614 | 0 | 1077 | 598 |
| Stage 1 | - | - | - | - | 598 | - |
| Stage 2 | - | - | - | - | 479 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 627 | - | 173 | 381 |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 486 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 627 | - | 169 | 381 |
| Mov Cap-2 Maneuver | - | - | - | - | 169 | - |
| Stage 1 | - | - | - | - | 421 | - |
| Stage 2 | - | - | - | - | 473 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 22.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 169 | 381 | - | - | 627 | - |
| HCM Lane V/C Ratio | 0.117 | 0.052 | - | - | 0.026 | - |
| HCM Control Delay (s) | 29.1 | 15 | - | - | 10.9 | - |
| HCM Lane LOS | D | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.2 | - | - | 0.1 | - |

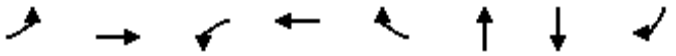
| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 283 | 74 | 109 | 10 | 809 | 240 | 314 | 909 | 47 |
| v/c Ratio | 0.21 | 0.41 | 0.82 | 0.20 | 0.24 | 0.03 | 0.64 | 0.34 | 0.68 | 0.45 | 0.05 |
| Control Delay | 23.2 | 31.9 | 45.4 | 29.0 | 2.0 | 9.1 | 24.5 | 4.5 | 18.3 | 11.4 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.2 | 31.9 | 45.4 | 29.0 | 2.0 | 9.1 | 24.5 | 4.5 | 18.3 | 11.4 | 0.1 |
| Queue Length 50th (ft) | 17 | 30 | 117 | 32 | 0 | 2 | 176 | 0 | 69 | 117 | 0 |
| Queue Length 95th (ft) | 41 | 69 | #208 | 66 | 3 | 8 | 247 | 42 | 142 | 220 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 236 | 435 | 345 | 559 | 601 | 323 | 1257 | 714 | 522 | 2004 | 972 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.82 | 0.13 | 0.18 | 0.03 | 0.64 | 0.34 | 0.60 | 0.45 | 0.05 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 617 | 158 | 373 | 56 | 173 |
| v/c Ratio | 0.74 | 0.35 | 0.32 | 0.21 | 0.45 |
| Control Delay | 17.5 | 5.2 | 4.4 | 25.1 | 9.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.5 | 5.2 | 4.4 | 25.1 | 9.2 |
| Queue Length 50th (ft) | 139 | 12 | 34 | 15 | 0 |
| Queue Length 95th (ft) | 264 | 31 | 73 | 51 | 44 |
| Internal Link Dist (ft) | 2130 | | 3893 | 1523 | |
| Turn Bay Length (ft) | | 350 | | 350 | |
| Base Capacity (vph) | 1526 | 556 | 1750 | 771 | 785 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.28 | 0.21 | 0.07 | 0.22 |

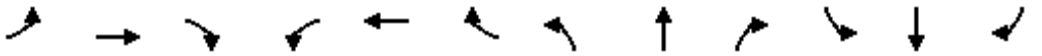
Intersection Summary



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 209 | 432 | 20 | 438 | 409 | 29 | 405 | 269 |
| v/c Ratio | 0.98 | 0.63 | 0.09 | 0.64 | 0.49 | 0.03 | 0.61 | 0.29 |
| Control Delay | 88.4 | 27.3 | 19.0 | 27.5 | 4.2 | 0.1 | 20.2 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 88.4 | 27.3 | 19.0 | 27.5 | 4.2 | 0.1 | 20.2 | 3.0 |
| Queue Length 50th (ft) | 114 | 193 | 7 | 197 | 0 | 0 | 155 | 5 |
| Queue Length 95th (ft) | #239 | 274 | 22 | 280 | 46 | 0 | 236 | 37 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 220 | 709 | 224 | 710 | 852 | 939 | 669 | 918 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.95 | 0.61 | 0.09 | 0.62 | 0.48 | 0.03 | 0.61 | 0.29 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Future Volume (veh/h) | 42 | 52 | 22 | 263 | 90 | 128 | 11 | 884 | 179 | 180 | 692 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 49 | 60 | 26 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 258 | 95 | 41 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.14 | 0.17 | 0.17 | 0.02 | 0.45 | 0.45 | 0.09 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1739 | 1208 | 524 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 49 | 0 | 86 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1732 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 3.6 | 10.3 | 3.7 | 6.5 | 0.3 | 17.1 | 6.3 | 4.4 | 10.7 | 0.9 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 258 | 0 | 136 | 378 | 319 | 270 | 367 | 1565 | 698 | 347 | 1815 | 810 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.63 | 0.81 | 0.33 | 0.55 | 0.04 | 0.66 | 0.30 | 0.60 | 0.44 | 0.05 |
| Avail Cap(c_a), veh/h | 303 | 0 | 421 | 378 | 573 | 485 | 457 | 1565 | 698 | 455 | 1815 | 810 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 0.0 | 33.1 | 26.6 | 26.7 | 27.9 | 10.8 | 15.8 | 12.9 | 12.6 | 10.9 | 8.6 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 4.8 | 12.4 | 0.6 | 1.8 | 0.0 | 2.2 | 1.1 | 1.7 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 1.6 | 5.7 | 1.5 | 2.3 | 0.1 | 5.8 | 2.0 | 1.3 | 3.2 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 37.9 | 39.0 | 27.3 | 29.6 | 10.8 | 18.0 | 14.0 | 14.3 | 11.7 | 8.7 |
| LnGrp LOS | C | A | D | D | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 135 | | | 560 | | | 1249 | | | 1052 | |
| Approach Delay, s/veh | | 34.9 | | | 34.3 | | | 17.3 | | | 12.1 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 37.9 | 14.8 | 10.3 | 5.7 | 43.2 | 7.7 | 17.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.1 | 32.6 | 10.3 | 18.0 | 5.0 | 38.7 | 5.1 | 23.2 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 19.1 | 12.3 | 5.6 | 2.3 | 12.7 | 3.9 | 8.5 |
| Green Ext Time (p_c), s | 0.2 | 5.9 | 0.0 | 0.2 | 0.0 | 5.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.4 |
| HCM 6th LOS | B |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 361 | 81 | 91 | 422 | 60 | 172 |
| Future Volume (veh/h) | 361 | 81 | 91 | 422 | 60 | 172 |
| 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 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 420 | 94 | 106 | 491 | 70 | 200 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 553 | 124 | 445 | 1064 | 331 | 295 |
| Arrive On Green | 0.38 | 0.38 | 0.09 | 0.58 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1444 | 323 | 1739 | 1826 | 1739 | 1547 |
| Grp Volume(v), veh/h | 0 | 514 | 106 | 491 | 70 | 200 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1768 | 1739 | 1826 | 1739 | 1547 |
| Q Serve(g_s), s | 0.0 | 10.0 | 1.2 | 6.1 | 1.3 | 4.8 |
| Cycle Q Clear(g_c), s | 0.0 | 10.0 | 1.2 | 6.1 | 1.3 | 4.8 |
| Prop In Lane | | 0.18 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 677 | 445 | 1064 | 331 | 295 |
| V/C Ratio(X) | 0.00 | 0.76 | 0.24 | 0.46 | 0.21 | 0.68 |
| Avail Cap(c_a), veh/h | 0 | 2026 | 622 | 2644 | 1029 | 916 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 10.7 | 7.0 | 4.7 | 13.6 | 14.9 |
| Incr Delay (d2), s/veh | 0.0 | 1.8 | 0.3 | 0.3 | 0.3 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.5 | 0.2 | 0.6 | 0.5 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 12.5 | 7.2 | 5.0 | 13.9 | 17.7 |
| LnGrp LOS | A | B | A | A | B | B |
| Approach Vol, veh/h | 514 | | | 597 | 270 | |
| Approach Delay, s/veh | 12.5 | | | 5.4 | 16.7 | |
| Approach LOS | B | | | A | B | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 12.1 | 7.9 | 19.7 | | 27.6 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 23.5 | 7.5 | 45.5 | | 57.5 |
| Max Q Clear Time (g_c+I1), s | | 6.8 | 3.2 | 12.0 | | 8.1 |
| Green Ext Time (p_c), s | | 0.8 | 0.1 | 3.1 | | 3.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.2 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Future Vol, veh/h | 425 | 14 | 14 | 466 | 17 | 17 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 82 | 82 |
| Mvmt Flow | 494 | 16 | 16 | 542 | 20 | 20 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 510 | 0 | 1068 | 494 |
| Stage 1 | - | - | - | - | 494 | - |
| Stage 2 | - | - | - | - | 574 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.22 | 7.02 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.22 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.22 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.238 | 4.038 |
| Pot Cap-1 Maneuver | - | - | 697 | - | 175 | 443 |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 433 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 697 | - | 171 | 443 |
| Mov Cap-2 Maneuver | - | - | - | - | 171 | - |
| Stage 1 | - | - | - | - | 477 | - |
| Stage 2 | - | - | - | - | 423 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 21.2 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 171 | 443 | - | - | 697 | - |
| HCM Lane V/C Ratio | 0.116 | 0.045 | - | - | 0.023 | - |
| HCM Control Delay (s) | 28.8 | 13.5 | - | - | 10.3 | - |
| HCM Lane LOS | D | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.4 | 0.1 | - | - | 0.1 | - |

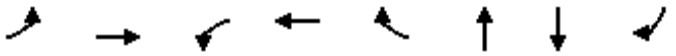
| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 49 | 86 | 306 | 105 | 149 | 13 | 1028 | 208 | 209 | 805 | 38 |
| v/c Ratio | 0.21 | 0.42 | 0.89 | 0.29 | 0.33 | 0.03 | 0.70 | 0.26 | 0.61 | 0.40 | 0.04 |
| Control Delay | 23.5 | 32.4 | 55.5 | 30.3 | 5.0 | 8.3 | 22.7 | 2.7 | 17.6 | 10.8 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.5 | 32.4 | 55.5 | 30.3 | 5.0 | 8.3 | 22.7 | 2.7 | 17.6 | 10.8 | 0.1 |
| Queue Length 50th (ft) | 18 | 30 | 132 | 47 | 0 | 2 | 222 | 0 | 43 | 101 | 0 |
| Queue Length 95th (ft) | 41 | 69 | #239 | 87 | 26 | 10 | 299 | 25 | 97 | 190 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 228 | 423 | 342 | 549 | 593 | 380 | 1465 | 790 | 371 | 2024 | 980 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.21 | 0.20 | 0.89 | 0.19 | 0.25 | 0.03 | 0.70 | 0.26 | 0.56 | 0.40 | 0.04 |

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

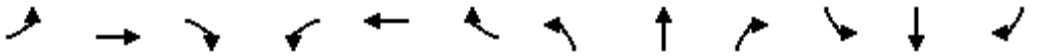
| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 514 | 106 | 491 | 70 | 200 |
| v/c Ratio | 0.70 | 0.22 | 0.46 | 0.23 | 0.45 |
| Control Delay | 17.0 | 4.5 | 6.0 | 21.3 | 7.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.0 | 4.5 | 6.0 | 21.3 | 7.8 |
| Queue Length 50th (ft) | 103 | 8 | 49 | 16 | 0 |
| Queue Length 95th (ft) | 198 | 23 | 103 | 51 | 42 |
| Internal Link Dist (ft) | 2130 | | 3893 | 1523 | |
| Turn Bay Length (ft) | | 350 | | 350 | |
| Base Capacity (vph) | 1635 | 509 | 1789 | 1007 | 984 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.31 | 0.21 | 0.27 | 0.07 | 0.20 |

Intersection Summary



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 194 | 400 | 3 | 317 | 391 | 29 | 224 | 342 |
| v/c Ratio | 0.83 | 0.72 | 0.02 | 0.57 | 0.53 | 0.03 | 0.31 | 0.34 |
| Control Delay | 50.2 | 28.1 | 14.7 | 23.2 | 4.7 | 7.0 | 11.3 | 2.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.2 | 28.1 | 14.7 | 23.2 | 4.7 | 7.0 | 11.3 | 2.5 |
| Queue Length 50th (ft) | 73 | 143 | 1 | 107 | 0 | 3 | 44 | 0 |
| Queue Length 95th (ft) | 138 | 212 | 6 | 164 | 41 | 17 | 112 | 35 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 499 | 1192 | 361 | 1192 | 1146 | 909 | 712 | 1007 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.34 | 0.01 | 0.27 | 0.34 | 0.03 | 0.31 | 0.34 |

Intersection Summary



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Future Volume (veh/h) | 46 | 57 | 24 | 272 | 71 | 106 | 10 | 767 | 234 | 306 | 862 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 270 | 101 | 43 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.12 | 0.16 | 0.16 | 0.01 | 0.42 | 0.42 | 0.14 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 3.9 | 8.7 | 3.0 | 5.4 | 0.3 | 15.0 | 9.3 | 7.9 | 13.8 | 1.2 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 270 | 0 | 144 | 339 | 284 | 240 | 309 | 1443 | 643 | 444 | 1883 | 840 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.65 | 0.93 | 0.29 | 0.51 | 0.04 | 0.62 | 0.42 | 0.80 | 0.53 | 0.06 |
| Avail Cap(c_a), veh/h | 312 | 0 | 420 | 339 | 531 | 450 | 401 | 1443 | 643 | 584 | 1883 | 840 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 0.0 | 33.0 | 28.9 | 27.8 | 28.8 | 12.3 | 17.1 | 15.4 | 13.1 | 10.9 | 8.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.0 | 31.7 | 0.6 | 1.7 | 0.1 | 2.0 | 2.0 | 6.0 | 1.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 4.1 | 1.2 | 1.9 | 0.1 | 5.2 | 3.1 | 2.8 | 4.1 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 29.5 | 0.0 | 38.0 | 60.7 | 28.3 | 30.5 | 12.3 | 19.1 | 17.4 | 19.1 | 12.0 | 8.2 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 522 | | | 1176 | | | 1409 | |
| Approach Delay, s/veh | | 34.9 | | | 48.4 | | | 18.6 | | | 13.6 | |
| Approach LOS | | C | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.0 | 35.4 | 13.2 | 10.7 | 5.6 | 44.8 | 7.8 | 16.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 16.5 | 28.8 | 8.7 | 18.0 | 5.0 | 40.3 | 5.1 | 21.6 |
| Max Q Clear Time (g_c+I1), s | 9.9 | 17.0 | 10.7 | 5.9 | 2.3 | 15.8 | 4.0 | 7.4 |
| Green Ext Time (p_c), s | 0.6 | 4.9 | 0.0 | 0.3 | 0.0 | 6.8 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.0 |
| HCM 6th LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 475 | 126 | 165 | 355 | 59 | 184 |
| Future Volume (veh/h) | 475 | 126 | 165 | 355 | 59 | 184 |
| 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 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 552 | 147 | 192 | 413 | 69 | 214 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 657 | 175 | 382 | 1181 | 318 | 283 |
| Arrive On Green | 0.47 | 0.47 | 0.09 | 0.65 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1389 | 370 | 1739 | 1826 | 1739 | 1547 |
| Grp Volume(v), veh/h | 0 | 699 | 192 | 413 | 69 | 214 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1759 | 1739 | 1826 | 1739 | 1547 |
| Q Serve(g_s), s | 0.0 | 18.4 | 2.6 | 5.4 | 1.8 | 6.9 |
| Cycle Q Clear(g_c), s | 0.0 | 18.4 | 2.6 | 5.4 | 1.8 | 6.9 |
| Prop In Lane | | 0.21 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 831 | 382 | 1181 | 318 | 283 |
| V/C Ratio(X) | 0.00 | 0.84 | 0.50 | 0.35 | 0.22 | 0.76 |
| Avail Cap(c_a), veh/h | 0 | 1516 | 573 | 2092 | 675 | 601 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 12.2 | 10.1 | 4.3 | 18.4 | 20.5 |
| Incr Delay (d2), s/veh | 0.0 | 2.4 | 1.0 | 0.2 | 0.3 | 4.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.2 | 0.6 | 0.8 | 0.7 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 14.6 | 11.1 | 4.4 | 18.7 | 24.6 |
| LnGrp LOS | A | B | B | A | B | C |
| Approach Vol, veh/h | 699 | | | 605 | 283 | |
| Approach Delay, s/veh | 14.6 | | | 6.5 | 23.2 | |
| Approach LOS | B | | | A | C | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 14.1 | 9.2 | 29.4 | | 38.6 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 20.5 | 10.5 | 45.5 | | 60.5 |
| Max Q Clear Time (g_c+I1), s | | 8.9 | 4.6 | 20.4 | | 7.4 |
| Green Ext Time (p_c), s | | 0.7 | 0.2 | 4.6 | | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.0 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Future Vol, veh/h | 581 | 17 | 17 | 429 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 676 | 20 | 20 | 499 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 696 | 0 | 1215 | 676 |
| Stage 1 | - | - | - | - | 676 | - |
| Stage 2 | - | - | - | - | 539 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 576 | - | 138 | 337 |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 448 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 576 | - | 133 | 337 |
| Mov Cap-2 Maneuver | - | - | - | - | 133 | - |
| Stage 1 | - | - | - | - | 379 | - |
| Stage 2 | - | - | - | - | 432 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 27.1 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 133 | 337 | - | - | 576 | - |
| HCM Lane V/C Ratio | 0.175 | 0.069 | - | - | 0.034 | - |
| HCM Control Delay (s) | 37.7 | 16.5 | - | - | 11.5 | - |
| HCM Lane LOS | E | C | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 316 | 83 | 123 | 12 | 892 | 272 | 356 | 1002 | 51 |
| v/c Ratio | 0.23 | 0.44 | 1.04 | 0.25 | 0.29 | 0.04 | 0.69 | 0.36 | 0.76 | 0.48 | 0.05 |
| Control Delay | 24.6 | 33.9 | 93.4 | 31.1 | 3.3 | 8.7 | 25.4 | 4.3 | 25.3 | 11.1 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.6 | 33.9 | 93.4 | 31.1 | 3.3 | 8.7 | 25.4 | 4.3 | 25.3 | 11.1 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | ~146 | 38 | 0 | 2 | 202 | 0 | 94 | 129 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #211 | 74 | 12 | 9 | 273 | 43 | #215 | 243 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 235 | 421 | 303 | 509 | 563 | 306 | 1289 | 746 | 494 | 2089 | 984 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.22 | 1.04 | 0.16 | 0.22 | 0.04 | 0.69 | 0.36 | 0.72 | 0.48 | 0.05 |

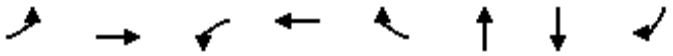
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 699 | 192 | 413 | 69 | 214 |
| v/c Ratio | 0.82 | 0.47 | 0.33 | 0.28 | 0.53 |
| Control Delay | 21.4 | 7.1 | 4.3 | 29.6 | 10.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.4 | 7.1 | 4.3 | 29.6 | 10.4 |
| Queue Length 50th (ft) | 179 | 17 | 41 | 21 | 0 |
| Queue Length 95th (ft) | 333 | 38 | 84 | 66 | 51 |
| Internal Link Dist (ft) | 2130 | | 3893 | 1523 | |
| Turn Bay Length (ft) | | 350 | | 350 | |
| Base Capacity (vph) | 1402 | 480 | 1685 | 632 | 701 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.50 | 0.40 | 0.25 | 0.11 | 0.31 |

Intersection Summary

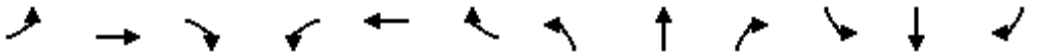


| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 238 | 491 | 21 | 492 | 451 | 31 | 445 | 306 |
| v/c Ratio | 1.01 | 0.63 | 0.09 | 0.63 | 0.49 | 0.04 | 0.74 | 0.36 |
| Control Delay | 91.3 | 24.3 | 16.5 | 24.4 | 3.7 | 0.1 | 28.6 | 4.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 91.3 | 24.3 | 16.5 | 24.4 | 3.7 | 0.1 | 28.6 | 4.8 |
| Queue Length 50th (ft) | ~135 | 211 | 7 | 212 | 0 | 0 | 198 | 18 |
| Queue Length 95th (ft) | #269 | 296 | 21 | 297 | 43 | 0 | 299 | 57 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 235 | 781 | 235 | 782 | 920 | 865 | 602 | 850 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 1.01 | 0.63 | 0.09 | 0.63 | 0.49 | 0.04 | 0.74 | 0.36 |

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Future Volume (veh/h) | 46 | 57 | 24 | 295 | 101 | 144 | 12 | 974 | 205 | 206 | 762 | 37 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 53 | 66 | 28 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 260 | 100 | 43 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| Arrive On Green | 0.04 | 0.08 | 0.08 | 0.13 | 0.16 | 0.16 | 0.02 | 0.46 | 0.46 | 0.10 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1739 | 1217 | 516 | 1739 | 1826 | 1547 | 1739 | 3469 | 1547 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h | 53 | 0 | 94 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1739 | 0 | 1733 | 1739 | 1826 | 1547 | 1739 | 1735 | 1547 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 4.0 | 9.5 | 4.3 | 7.7 | 0.3 | 19.9 | 7.4 | 5.1 | 12.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 260 | 0 | 143 | 351 | 298 | 253 | 347 | 1594 | 711 | 337 | 1865 | 832 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.66 | 0.98 | 0.39 | 0.66 | 0.04 | 0.71 | 0.33 | 0.71 | 0.47 | 0.05 |
| Avail Cap(c_a), veh/h | 300 | 0 | 412 | 351 | 540 | 458 | 433 | 1594 | 711 | 394 | 1865 | 832 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.8 | 0.0 | 33.7 | 29.5 | 28.3 | 29.7 | 10.7 | 16.4 | 13.1 | 14.3 | 10.9 | 8.3 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 5.1 | 41.8 | 0.8 | 2.9 | 0.0 | 2.7 | 1.3 | 4.9 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 1.7 | 5.4 | 1.8 | 2.8 | 0.1 | 6.8 | 2.4 | 1.8 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.2 | 0.0 | 38.8 | 71.3 | 29.2 | 32.6 | 10.8 | 19.1 | 14.3 | 19.2 | 11.7 | 8.4 |
| LnGrp LOS | C | A | D | E | C | C | B | B | B | B | B | A |
| Approach Vol, veh/h | | 147 | | | 627 | | | 1385 | | | 1169 | |
| Approach Delay, s/veh | | 35.7 | | | 53.1 | | | 18.2 | | | 13.2 | |
| Approach LOS | | D | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.7 | 39.3 | 14.0 | 10.7 | 5.8 | 45.2 | 7.9 | 16.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.7 | 34.8 | 9.5 | 18.0 | 5.0 | 39.5 | 5.1 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 21.9 | 11.5 | 6.0 | 2.3 | 14.0 | 4.1 | 9.7 |
| Green Ext Time (p_c), s | 0.2 | 6.4 | 0.0 | 0.3 | 0.0 | 5.9 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.8 |
| HCM 6th LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 399 | 102 | 113 | 466 | 75 | 212 |
| Future Volume (veh/h) | 399 | 102 | 113 | 466 | 75 | 212 |
| 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 | 1826 | 1826 | 1826 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h | 464 | 119 | 131 | 542 | 87 | 247 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, % | 5 | 5 | 5 | 5 | 5 | 5 |
| Cap, veh/h | 577 | 148 | 404 | 1087 | 370 | 329 |
| Arrive On Green | 0.41 | 0.41 | 0.09 | 0.60 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1402 | 359 | 1739 | 1826 | 1739 | 1547 |
| Grp Volume(v), veh/h | 0 | 583 | 131 | 542 | 87 | 247 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1761 | 1739 | 1826 | 1739 | 1547 |
| Q Serve(g_s), s | 0.0 | 13.6 | 1.7 | 8.0 | 1.9 | 7.0 |
| Cycle Q Clear(g_c), s | 0.0 | 13.6 | 1.7 | 8.0 | 1.9 | 7.0 |
| Prop In Lane | | 0.20 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 725 | 404 | 1087 | 370 | 329 |
| V/C Ratio(X) | 0.00 | 0.80 | 0.32 | 0.50 | 0.24 | 0.75 |
| Avail Cap(c_a), veh/h | 0 | 1672 | 567 | 2240 | 872 | 776 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 12.1 | 8.4 | 5.5 | 15.3 | 17.3 |
| Incr Delay (d2), s/veh | 0.0 | 2.1 | 0.5 | 0.4 | 0.3 | 3.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.8 | 0.4 | 1.2 | 0.7 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 14.3 | 8.9 | 5.8 | 15.6 | 20.7 |
| LnGrp LOS | A | B | A | A | B | C |
| Approach Vol, veh/h | 583 | | | 673 | 334 | |
| Approach Delay, s/veh | 14.3 | | | 6.4 | 19.4 | |
| Approach LOS | B | | | A | B | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 14.5 | 8.6 | 23.8 | | 32.4 |
| Change Period (Y+Rc), s | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | | 23.5 | 8.5 | 44.5 | | 57.5 |
| Max Q Clear Time (g_c+I1), s | | 9.0 | 3.7 | 15.6 | | 10.0 |
| Green Ext Time (p_c), s | | 1.0 | 0.1 | 3.7 | | 3.4 |

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

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Future Vol, veh/h | 481 | 17 | 17 | 522 | 20 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 275 | 200 | - | 0 | 50 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, % | 5 | 100 | 100 | 5 | 85 | 85 |
| Mvmt Flow | 559 | 20 | 20 | 607 | 23 | 23 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 579 | 0 | 1206 | 559 |
| Stage 1 | - | - | - | - | 559 | - |
| Stage 2 | - | - | - | - | 647 | - |
| Critical Hdwy | - | - | 5.1 | - | 7.25 | 7.05 |
| Critical Hdwy Stg 1 | - | - | - | - | 6.25 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 6.25 | - |
| Follow-up Hdwy | - | - | 3.1 | - | 4.265 | 4.065 |
| Pot Cap-1 Maneuver | - | - | 649 | - | 140 | 400 |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 393 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 649 | - | 136 | 400 |
| Mov Cap-2 Maneuver | - | - | - | - | 136 | - |
| Stage 1 | - | - | - | - | 437 | - |
| Stage 2 | - | - | - | - | 381 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 25.8 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 136 | 400 | - | - | 649 | - |
| HCM Lane V/C Ratio | 0.171 | 0.058 | - | - | 0.03 | - |
| HCM Control Delay (s) | 36.9 | 14.6 | - | - | 10.7 | - |
| HCM Lane LOS | E | B | - | - | B | - |
| HCM 95th %tile Q(veh) | 0.6 | 0.2 | - | - | 0.1 | - |

| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 53 | 94 | 343 | 117 | 167 | 14 | 1133 | 238 | 240 | 886 | 43 |
| v/c Ratio | 0.23 | 0.45 | 1.07 | 0.34 | 0.38 | 0.04 | 0.74 | 0.29 | 0.75 | 0.43 | 0.04 |
| Control Delay | 24.2 | 33.9 | 98.4 | 31.7 | 6.8 | 7.9 | 23.0 | 3.4 | 30.0 | 10.9 | 0.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.2 | 33.9 | 98.4 | 31.7 | 6.8 | 7.9 | 23.0 | 3.4 | 30.0 | 10.9 | 0.1 |
| Queue Length 50th (ft) | 20 | 35 | ~160 | 54 | 0 | 3 | 247 | 0 | 57 | 112 | 0 |
| Queue Length 95th (ft) | 44 | 75 | #227 | 96 | 37 | 10 | 329 | 36 | #167 | 212 | 0 |
| Internal Link Dist (ft) | | 1862 | | 5754 | | | 1432 | | | 1594 | |
| Turn Bay Length (ft) | 200 | | 200 | | 200 | 275 | | 250 | 350 | | 250 |
| Base Capacity (vph) | 229 | 413 | 321 | 517 | 569 | 367 | 1526 | 815 | 321 | 2070 | 976 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.23 | 0.23 | 1.07 | 0.23 | 0.29 | 0.04 | 0.74 | 0.29 | 0.75 | 0.43 | 0.04 |

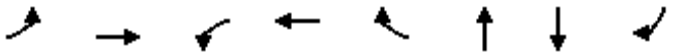
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

| Lane Group | EBT | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|
| Lane Group Flow (vph) | 583 | 131 | 542 | 87 | 247 |
| v/c Ratio | 0.72 | 0.29 | 0.48 | 0.29 | 0.52 |
| Control Delay | 17.6 | 5.1 | 6.2 | 24.7 | 8.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 17.6 | 5.1 | 6.2 | 24.7 | 8.5 |
| Queue Length 50th (ft) | 131 | 11 | 60 | 23 | 0 |
| Queue Length 95th (ft) | 252 | 29 | 127 | 68 | 49 |
| Internal Link Dist (ft) | 2130 | | 3893 | 1523 | |
| Turn Bay Length (ft) | | 350 | | 350 | |
| Base Capacity (vph) | 1509 | 503 | 1739 | 890 | 916 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.39 | 0.26 | 0.31 | 0.10 | 0.27 |

Intersection Summary



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 222 | 460 | 3 | 358 | 430 | 32 | 247 | 385 |
| v/c Ratio | 0.88 | 0.73 | 0.02 | 0.57 | 0.53 | 0.04 | 0.38 | 0.39 |
| Control Delay | 53.6 | 25.8 | 12.7 | 20.8 | 4.1 | 8.9 | 14.6 | 3.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 53.6 | 25.8 | 12.7 | 20.8 | 4.1 | 8.9 | 14.6 | 3.0 |
| Queue Length 50th (ft) | 84 | 161 | 1 | 116 | 0 | 3 | 54 | 0 |
| Queue Length 95th (ft) | 158 | 232 | 5 | 172 | 38 | 20 | 147 | 41 |
| Internal Link Dist (ft) | | 3893 | | 1270 | | 729 | 1301 | |
| Turn Bay Length (ft) | 400 | | 150 | | 300 | | | 350 |
| Base Capacity (vph) | 501 | 1257 | 346 | 1257 | 1199 | 842 | 656 | 978 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.44 | 0.37 | 0.01 | 0.28 | 0.36 | 0.04 | 0.38 | 0.39 |

Intersection Summary