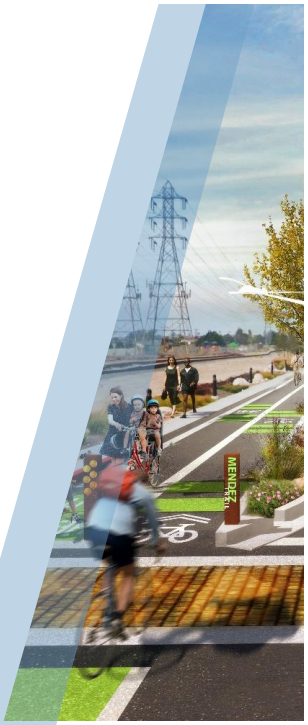
# APPENDIX E

## TRAFFIC IMPACT STUDY

# Simmerhorn Ranch Traffic Impact Study

Raney Planning and Management



**Final Report**

GHD | 943 Reserve Drive, Roseville, Suite 100, CA 95678 | 11194613 | November 6 2019

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# 1. Introduction

This report has been prepared to present the results of the Transportation Impact Analysis performed by GHD, Inc., sub-consultant to Raney Planning & Management, Inc. to evaluate the potential change in transportation impacts created by the Simmerhorn Ranch site. The term "Project" as used in this study refers to the proposed 338-acre annexation of the East Galt Infill Annexation Area, and development of the approximately 119.5-acre Simmerhorn Ranch site located within the annexation area.

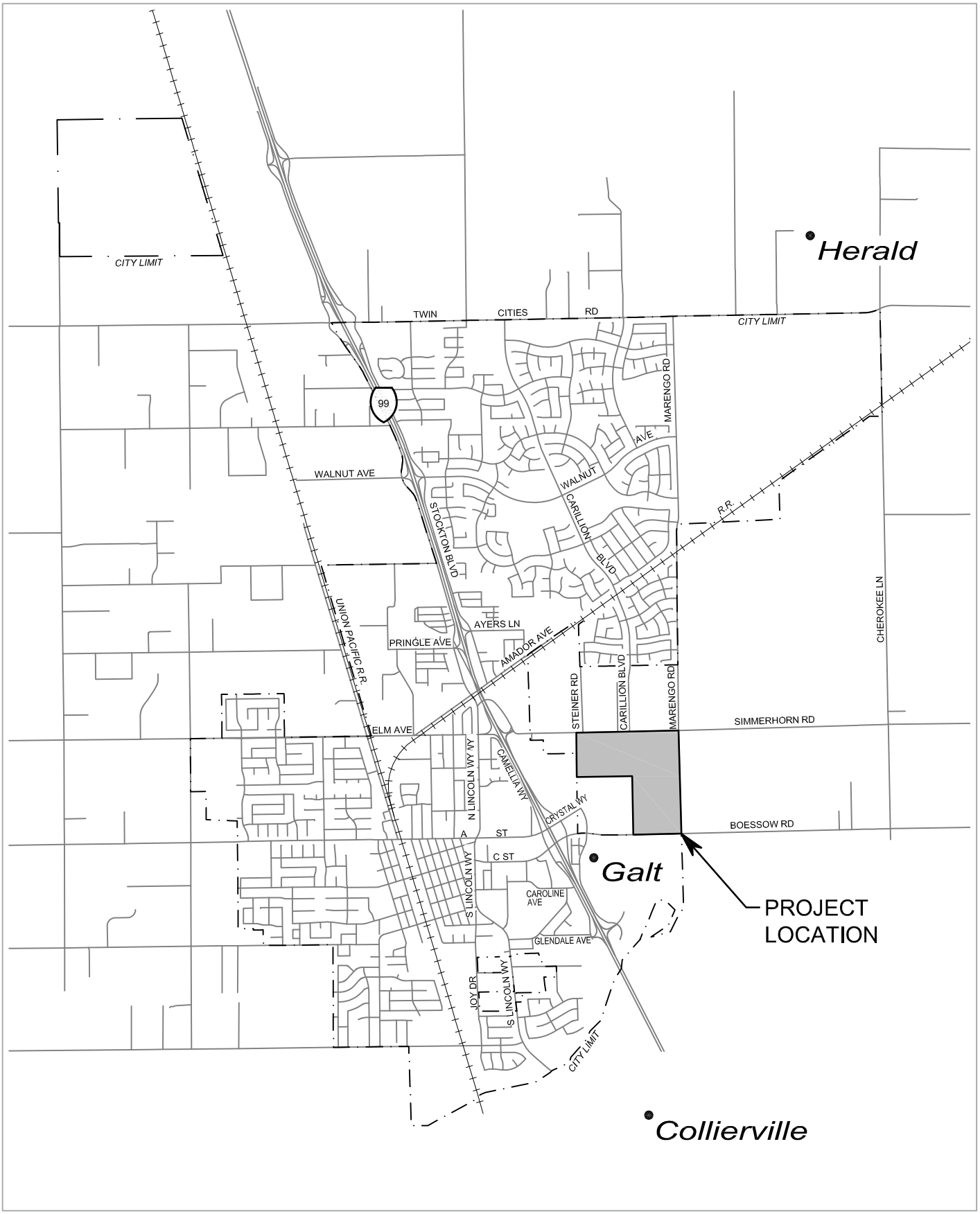
The East Galt Infill Annexation Area is located within Sacramento County, California, east of the City of Galt, but within the Galt Sphere of Influence. The annexation area is generally bounded by Marengo Road to the east, SR 99 to the west, Amador Avenue to the north, and Boessow Road to the south. The Simmerhorn Ranch development is located south of Simmerhorn Road, north of Boessow Road, east of Crystal Way, and west of Marengo Road. Development activity in the remaining East Galt Infill Annexation Area is not currently proposed, and all existing uses would remain unchanged with implementation of the proposed Project.

Currently, the Project site exists as an agricultural – urban reserve use. The Project will consist of a residential subdivision consisting of 431 single-family lots with a mix of lot sizes and densities, as well as a proposed 6.6-acre Park, 5.1 acres of open space/water quality basin, and a 10.1-acre Elementary School site. Under the direction of City Staff, the following traffic scenarios were analyzed as part of this Traffic Impact Study:

- Existing conditions
- Existing Plus Project conditions
- Cumulative No Project conditions
- Cumulative Plus Project conditions
- Cumulative Plus Project conditions with Road Diet

Existing conditions analyze the existing traffic operations at the study locations using Year 2019 peak hour traffic counts and intersection configurations. Existing Plus Project analyze the current conditions with the trips generated by the proposed project superimposed on existing traffic counts. Under these conditions, existing intersection configurations remain the same.

Cumulative No Project conditions analyze the scenario that considers the projected developments within the City over the next approximately 20 years, but without the proposed project. Cumulative Plus Project conditions analyze the scenario in which traffic impacts associated with the project are investigated in comparison to the Cumulative No Project conditions. The Cumulative Plus Project with Road Diet conditions analyzes the scenario in which traffic impacts associated with the project are investigated in comparison to the Cumulative No Project conditions. This scenario utilizes the recommendations proposed by the *Carillion Boulevard Complete Street Corridor Study*, referred to as "Road Diet" in this study. Adverse project impacts and improvements identified to mitigate project impacts will be detailed in the final section of this report.

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GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**STUDY AREA MAP**

Project No. **11194613**
Report No. **01**
Date **June 20, 2019**

**FIGURE 1.1**

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## 1.1 Existing Roadway System

### *State Route 99 (SR 99)*

State Route 99 (SR 99) is a major state freeway facility that traverses in the north-south direction through central and northern California. Regionally, SR 99 serves as the primary interregional auto and truck travel route that connects the Central Valley cities of Stockton, Modesto, Merced, and Fresno with the Sacramento urban area to the north and the Los Angeles/ Bakersfield urban basin to the south. Within the City of Galt, SR 99 bisects the City, and is a major north-south commuter route between the Cities of Sacramento and Stockton. Within the City of Galt planning area, SR 99 is a four-lane divided freeway with a posted speed limit of 65 mph.

### *A Street*

A Street is an east-west arterial facility. The western segment of A Street between the Galt city limit and Lincoln Way is a 2-lane arterial facility. A Street expands to four lanes through the Central Galt interchange, and continues across SR 99 to its eastern terminus at Crystal Way. A Street connects to two SR 99 Ramps, making up the northern half of a spread diamond interchange in Central Galt.

### *C Street*

C Street is an east-west arterial facility. The western segment of C Street is two lanes, and through the Central Galt interchange, C Street is 4 lanes. C Street connects to two SR 99 ramps, making up the southern half of a spread diamond interchange in Central Galt. C Street continues as Boessow Road at the SR 99 Northbound Off-Ramp.

### *Carillion Boulevard*

Carillion Boulevard is a divided, north-south arterial facility that generally serves northeast Galt. Currently, Carillion Boulevard traverses between Twin Cities Road to the north and Simmerhorn Road to the south. The segment of Carillion Boulevard between Twin Cities Road and Vauxhall Avenue is a four-lane arterial, and south of Vauxhall Avenue, Carillion Boulevard currently tapers to a two-lane section to its terminus at Simmerhorn Road.

### *Crystal Way*

Crystal Way is a two-lane, north-south arterial facility that runs parallel to SR 99. At its southern terminus, Crystal Way connects to SR 99 northbound via hook ramps, and provides access to the Dry Creek Ranch Golf Course. At its northern end, Crystal Way connects to C Street/Boessow Road and terminates at A Street.

### *Boessow Road*

Boessow Road is a two-lane, east-west arterial facility that provides access to SR 99 at C Street, Crystal Way, Marengo Road, and continues east into rural County lands. Boessow Road intersects with Cherokee Lane and Alta Mesa Road. At its western terminus, Boessow Road forms an intersection with C Street and the SR 99 Northbound Off-Ramp. Boessow Road forms the southern boundary of the project site.

### *Elm Avenue*

Elm Avenue is an east-west two-lane collector which begins at Lincoln Way/SR 99 Southbound on and off ramps and continues as Orr Road west of McFarland Street. Elm Avenue provides access to SR 99 Southbound via hook ramps, and residential and industrial areas in western Galt.

### *Lincoln Way*

Lincoln Way is a north-south arterial facility that generally serves southwest Galt. Within the study area, it has three-lanes (two lanes with a continuous center turn lane) with Class II Bike Lanes. Lincoln Way continues as West Stockton Boulevard north of Live Oak Avenue, and is the frontage road west of SR 99. Lincoln Way provides access to/from SR 99 southbound via hook ramps at its intersection with Elm Avenue.

### *Marengo Road*

Marengo Road is a two-lane, north-south arterial facility that represents a parallel route to Carillion Boulevard, and connects northeast Galt with the Simmerhorn Road and Boessow Road corridors. Marengo Road forms a T-intersection with Twin Cities Road to the north, and ends in a T-intersection with Boessow Road to the south. Marengo Road forms the eastern boundary of the project.

### *Simmerhorn Road*

Simmerhorn Road is a two-lane, east-west arterial facility that connects between SR 99 and Marengo Road. East of Marengo Road, Simmerhorn Road extends further east into County lands, past Cherokee Lane and Alta Mesa Road, and ultimately ending at Clay Station Road. Simmerhorn Road also extends northwest of the hook ramps with SR 99, forms an overcrossing across SR 99, and intersects with North Lincoln Way. Simmerhorn Road forms the northern boundary of the project site.

### *Walnut Avenue*

Walnut Avenue is an east-west four-lane arterial with a continuous center turn lane, except for a three-lane section immediately east of E. Stockton Boulevard. Walnut Avenue connects to SR 99 via hook ramps, but does not currently provide cross-freeway access. Walnut Avenue intersects with Carillion Boulevard with all-way stop control, and ends at Marengo Road.

## 1.2 Study Locations and Data Collection

For this study, fourteen (14) study intersections were identified for study under AM and PM peak hour traffic conditions, plus four (4) future major intersections were studied. The AM peak hour is defined as the one continuous hour of peak traffic flow counted between 7:00 AM and 9:00 AM, and the PM peak hour is defined as the one continuous hour of peak traffic flow counted between 4:00 PM and 6:00 PM under typical weekday conditions. Bicycle and pedestrian counts were also collected at the study intersections. The study intersections are listed below with the date of the traffic count at that intersection in parenthesis:

1. Carillion Boulevard / Walnut Avenue (Wednesday 10/25/2017)
2. Simmerhorn Road / Lincoln Way (Thursday 05/09/2019)

3. SR 99 Southbound Ramps / Elm Avenue / Lincoln Way (Thursday 05/09/2019)
4. SR 99 Northbound Ramps / Simmerhorn Road (Thursday 02/15/2018)
5. Carillion Boulevard / Simmerhorn Road (Wednesday 10/25/2017)
6. Marengo Road / Simmerhorn Road (Wednesday 02/14/2017)
7. SR 99 Southbound Off-Ramp / A Street (Wednesday 02/14/2018)
8. SR 99 Northbound On-Ramp/ A Street (Thursday 02/15/2018)
9. Fairway Drive / C Street (Thursday 05/09/2019)
10. SR 99 Northbound Off-Ramp / C Street / Boessow Road (Wednesday 02/14/2018)
11. Crystal Way / Boessow Road (Thursday 05/09/2019)
12. SR 99 Southbound On-Ramp / Fairway Drive (Wednesday 02/14/2018)
13. Marengo Road / Boessow Road (Thursday 05/09/2019)
14. SR 99 Northbound Ramps / Crystal Way (Wednesday 02/14/2018)
15. Carillion Boulevard / Boessow Road (Future)
16. A Street / Crystal Way (Future)
17. Carillion Boulevard / A Street (Future)
18. Marengo Road / A Street (Future)

Figure 1.2 presents the existing lane geometrics and intersection control types that are currently in place at the study intersections. Figure 1.3 presents the existing weekday AM and PM peak hour volumes.

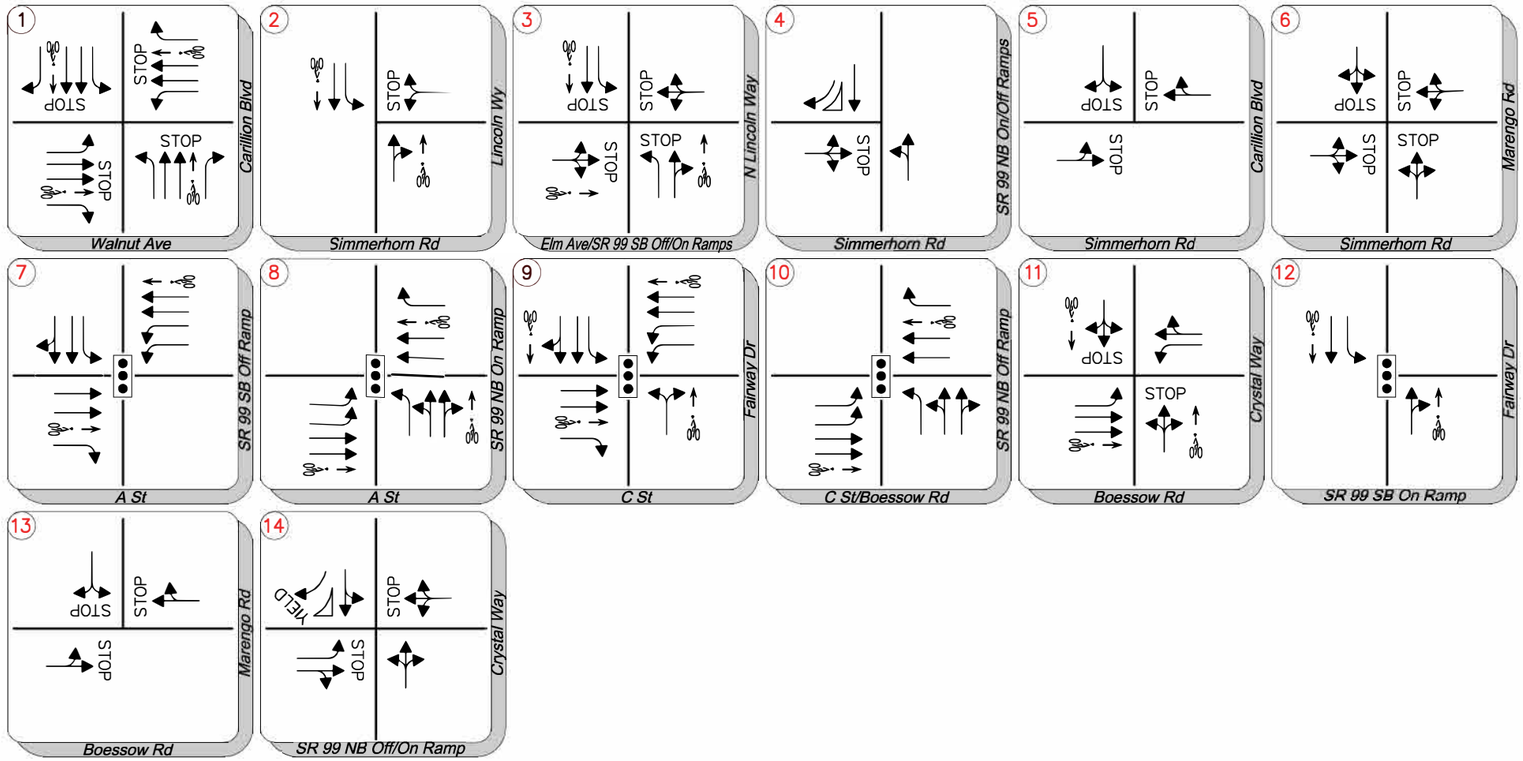
As indicated among these above intersections, seven (7) intersections are at ramp termini with SR 99. These intersections were included to meet the requirement of the Caltrans Traffic Impact Study Guidelines. In addition, and based on Caltrans request in a comment letter dated April 18, 2019, SR 99 ramp merge, diverge, and weave operations were evaluated in terms of density and LOS for the analysis scenarios at the following locations:

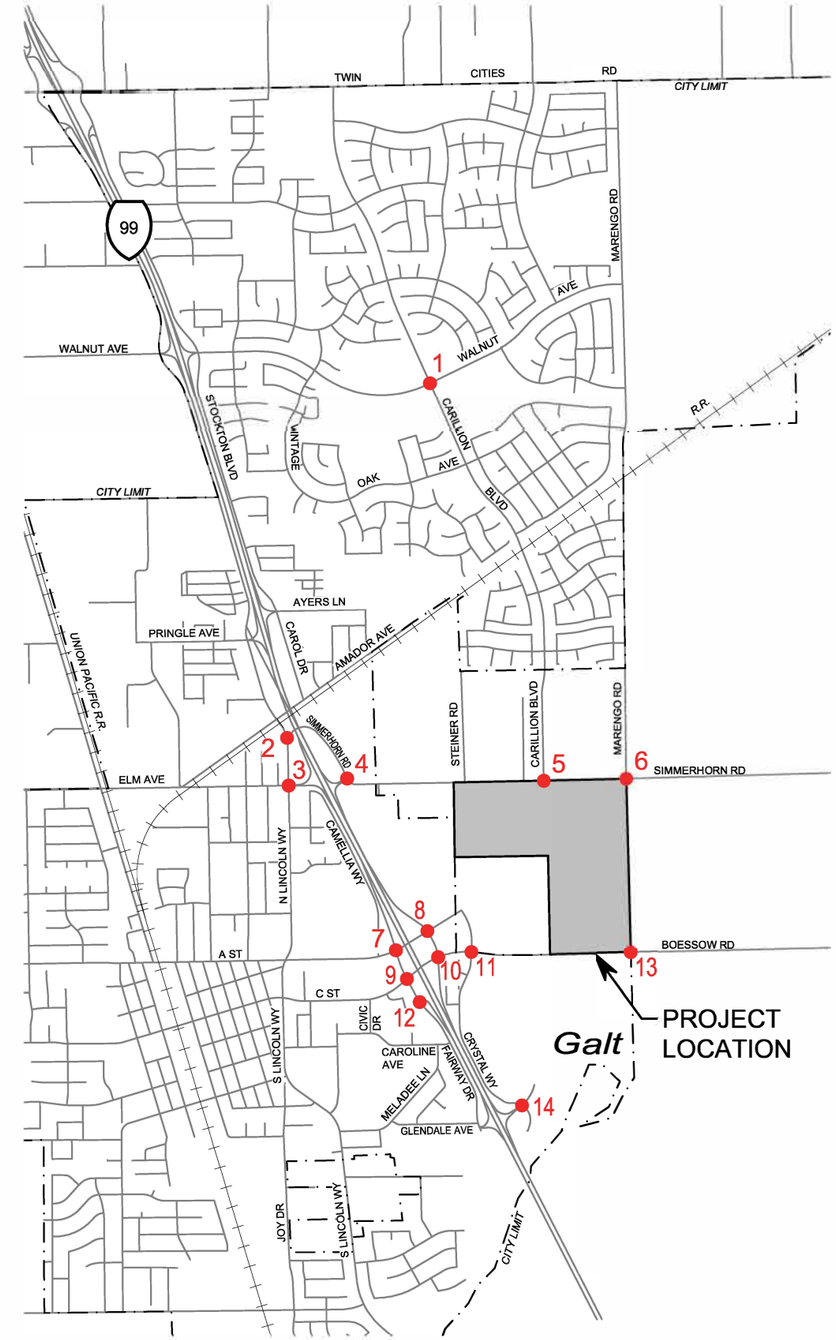
1. SR 99 Northbound / Crystal Way Off Ramp
2. SR 99 Northbound Auxiliary lane (weave analysis) between Crystal Way and Boessow Road
3. SR 99 Northbound Auxiliary lane (weave analysis) between A Street and Simmerhorn Road
4. SR 99 Northbound / Simmerhorn Road On Ramp
5. SR 99 Southbound / Elm Avenue Off Ramp
6. SR 99 Southbound Auxiliary lane (weave analysis) between Elm Avenue and A Street
7. SR 99 Southbound Auxiliary lane (weave analysis) between Fairway Drive On Ramp and Fairway Drive (South) Off Ramp

Mainline daily and peak hour volumes were obtained from the Caltrans Performance Measurement System (PeMS) data, based on the average annual peak hour volumes for 2018. This date range was utilized to be consistent with the majority of the intersection counts. The PeMS data for the ramps was obtained on SR 99 at A Street/C Street. Table 1.1 below presents the SR 99 mainline volumes utilized in this study under Existing Conditions, north of the C Street ramps, as well as the K and D factors. Caltrans Traffic Census Program data was also utilized to obtain Heavy Vehicle data, which is 14.37% for SR 99 at A Street/C Street (based on 2017 data, which is the most recent available). Ramp volumes were based on the intersection traffic counts. The intersection counts and SR 99 data collected, as described above, form the basis for the Existing conditions for the ramp analyses.

**Table 1.1 SR 99 Existing 2018 Peak Hour Volumes at A Street/C Street Interchange**

| Direction | Northbound | Southbound | Total |
|---|---|---|---|
| AADT | 36,300 | 37,300 | **73,600** |
| **AM Peak Hour Volume** | **1,784** | **2,009** | **3,793** |
| K Factor | 5.2 | | |
| D Factor | 53.0% Southbound | | |
| **PM Peak Hour Volume** | **2,566** | **2,532** | **5,098** |
| K Factor | 6.9 | | |
| D Factor | 50.3% Northbound | | |




LEGEND:

BICYCLE LANE

VEHICLE LANE

TRAFFIC SIGNAL

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**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**EXISTING LANE GEOMETRICS AND CONTROL**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 1.2**

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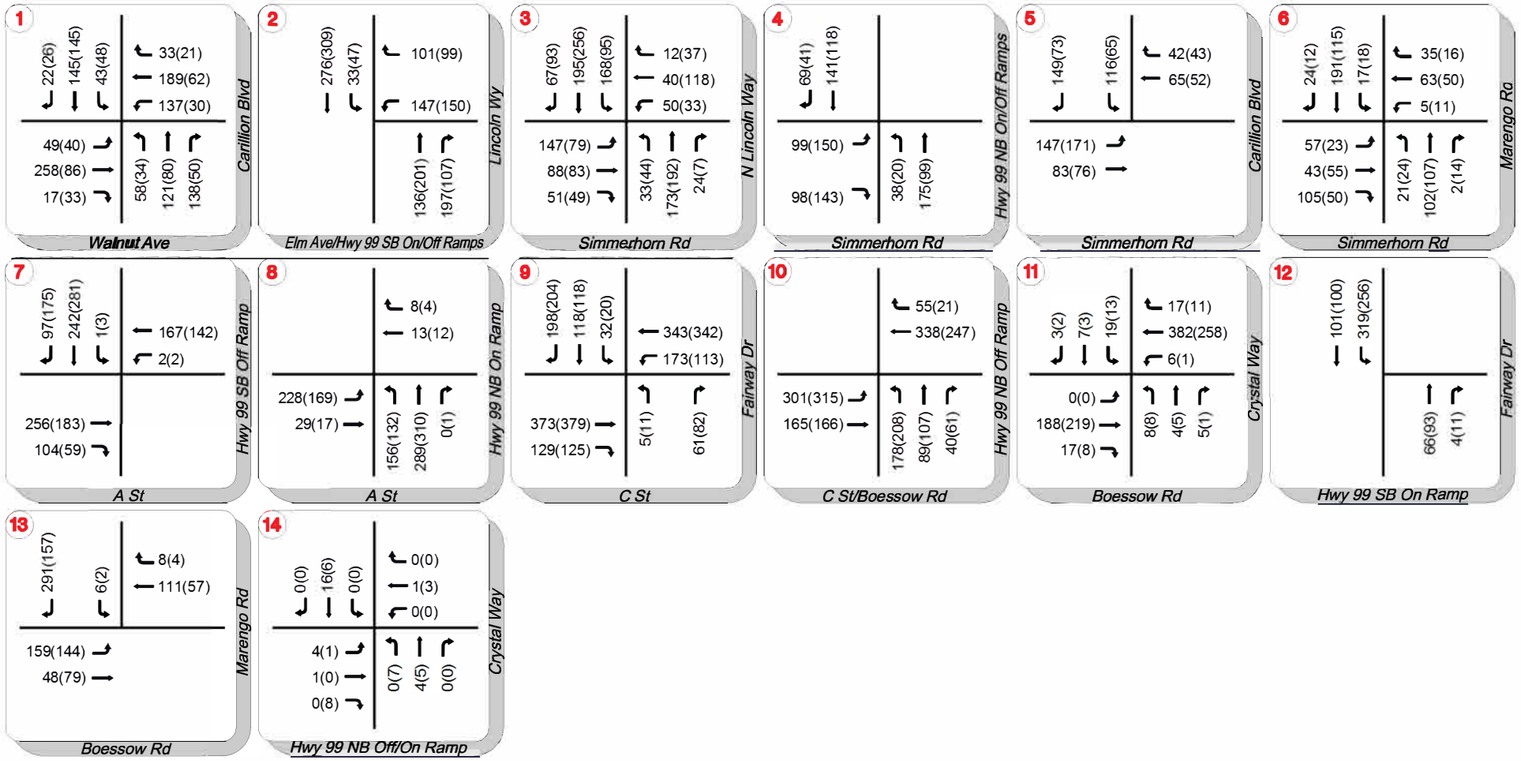


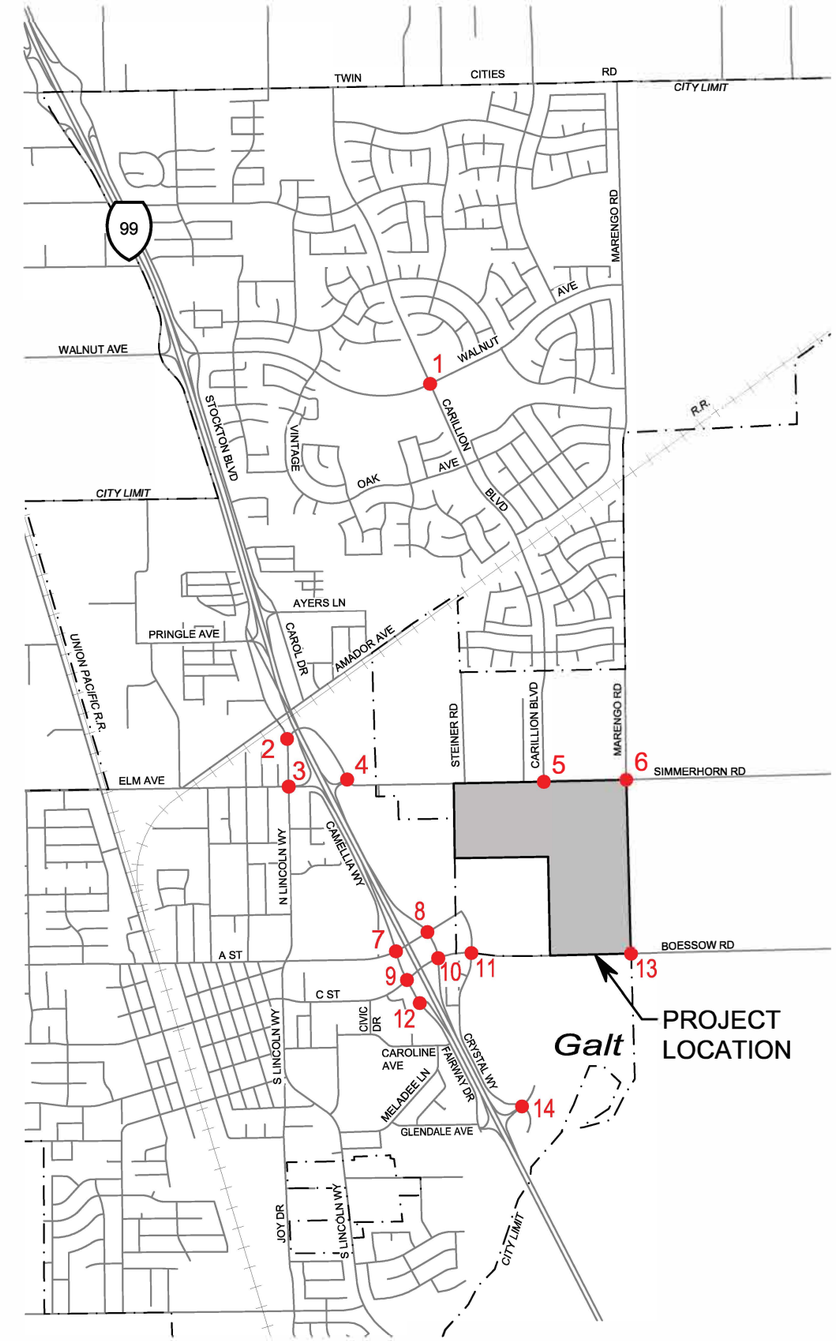


LEGEND:

XX - AM PEAK HOUR TRAFFIC VOLUMES

(XX) - PM PEAK HOUR TRAFFIC VOLUMES

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**SIMMERHORN RANCH TIAR**

**EXISTING PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 1.3**

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# 2. Technical Analysis Methodologies and Parameters

The following section outlines the analysis parameters and methodologies that were used in the transportation impact study to quantify the measures of effectiveness for the analysis scenarios.

## 2.1 Vehicle Miles Traveled (VMT)

Trip-based VMT for the project was also estimated using the California Emissions Estimator Model (CalEEMod). Sources of methodologies and default vehicle activity data in CalEEMod include California Air Resources Board (CARB) vehicle emission model EMFAC. In addition, some local air districts provide customized values for their default data and existing regulation methodologies for use for projects located in their jurisdictions. When no customized information is provided, and no regional differences are defined for local air districts, then statewide default values are utilized. For the Galt area, the CalEEMod uses customized values from the Sacramento Metropolitan Air Quality Management District. VMT was not used to determine CEQA impacts, lacking any operative baseline or impact thresholds under the lead agency, the City of Galt. Published regional VMT figures were compared to the resulting VMT estimates, per service population.

## 2.2 Level of Service Methodologies

Traffic operations were quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection, or roadway segment, representing progressively worsening traffic conditions. LOS "A" represents free-flow operating conditions and LOS "F" represents over-capacity conditions. Levels of Service was calculated for all intersection control types, and freeway ramp merge, diverge, and weave sections using the methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Sixth Edition, A Guide for Multimodal Mobility Analysis, 2016* (HCM 6).

### 2.2.1 Intersection Operations

The Synchro 10 (Trafficware) software program was used to implement the HCM 6 analysis methodologies for signalized and stop-controlled intersections. Sidra version 8 software program was used to implement HCM 6 analysis methodologies for roundabout intersections. Intersection Level of Service (LOS) was calculated for all control types using the methods documented in HCM 6. For signalized or all-way stop-controlled (AWSC) intersections, an LOS determination is based on the calculated averaged delay for all approaches and movements. For two-way or side-street stop controlled (TWSC) intersections, an LOS determination is based upon the calculated average delay for all movements of the worst performing approach. The vehicular-based LOS criteria for different types of intersection controls are presented in Table 2.1.

## Table 2.1 Level of Service (LOS) Criteria for Intersections

| Level of Service | Type of Flow | Delay | Maneuverability | Stopped Delay/Vehicle | |
|---|---|---|---|---|---|
| | | | | Signalized | Un-signalized |
| A | Stable Flow | Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all. | Turning movements are easily made, and nearly all drivers find freedom of operation. | ≤10.0 | ≤10.0 |
| B | Stable Flow | Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay. | Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles. | >10.0 and ≤20.0 | >10.0 and ≤15.0 |
| C | Stable Flow | Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping. | Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted | >20.0 and ≤35.0 | >15.0 and ≤25.0 |
| D | Approaching Unstable Flow | The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. | Maneuverability is severely limited during short periods due to temporary back-ups. | >35.0 and ≤55.0 | >25.0 and ≤35.0 |
| E | Unstable Flow | Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences. | There are typically long queues of vehicles waiting upstream of the intersection. | >55.0 and ≤80.0 | >35.0 and ≤50.0 |
| F | Forced Flow | Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors. | Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions. | >80.0 | >50.0 |

Source: *Highway Capacity Manual Sixth Edition, A Guide for Multimodal Mobility Analysis*, 2016 (HCM 6)

To determine whether “significance” should be associated with unsignalized intersection operations, a supplemental traffic signal “warrant” analysis was completed. The term “signal warrants” refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection. This study employed the signal warrant criteria presented in the latest edition of the Federal Highway Administration’s (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD),* as amended by the *MUTCD 2014 California Supplement*. The signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, frequency of accidents, location of school areas etc. Both the FHWA’s MUTCD and the *MUTCD 2014 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. The ultimate decision to signalize an intersection should be determined after careful analysis of all intersection and area characteristics.

This traffic operations analysis specifically utilized the Peak-Hour-Volume based Warrant 3 as one representative type of traffic signal warrant analysis. Warrant 3 criteria are basically identical for both the FHWA’s MUTCD and the *MUTCD 2014 California Supplement*. The Signal Warrant analysis worksheets are provided in Appendix D. Since Warrant 3 provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating at or above 40 mph), study intersections that use this specialized criteria are clearly identified within the Appendix. Signal warrant analyses were conducted for intersections which are projected to operate beyond the LOS thresholds, or at locations which assume traffic signals or roundabouts in the Cumulative conditions analysis scenario.

### 2.2.2 Ramp Merge & Diverge Operations

In addition to the study intersections, this study evaluated ramp merge, diverge, and weave operations for SR 99 ramps between Crystal Way and Simmerhorn Road in the northbound direction, and between Elm Avenue and Fairway Drive in the southbound direction, for each analysis scenario. Peak hour vehicular LOS for the ramp merge, diverge, and weave operations was determined using HCS 7 software program, which implements the HCM 6 methodologies. Table 2.2 presents the LOS thresholds for the freeway and ramp segments.

**Table 2.2 Highway, Ramp, & Weave Level of Service Criteria**

| Segment Type | Density (pc/mi/ln) | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| Basic Freeway & Multilane Highway | ≤11 | ≤18 | ≤26 | ≤35 | >35 | Demand Exceeds Capacity |
| Merge | ≤10 | ≤20 | ≤28 | ≤35 | ≤43 | >43 |
| Diverge | ≤10 | ≤20 | ≤28 | ≤35 | ≤43 | >43 |
| Weave | ≤10 | ≤20 | ≤28 | ≤35 | ≤43 | >43 |

Source: *Highway Capacity Manual Sixth Edition, A Guide for Multimodal Mobility Analysis*, 2016 (HCM 6)

### 2.2.3 Technical Analysis Parameters

This traffic study focuses on a “planning level” evaluation of traffic operating conditions, which is considered sufficient for CEQA purposes. The planning level evaluation incorporates appropriate heavy vehicle adjustment factors, peak hour factors, and signal lost time factors and reports the resulting operational analysis as estimated using the HCM 6 based analysis methodologies. Assessments of “design level” parameters (including queuing on intersection lane groups, stacking length requirements, etc.) are not included in this study.

Table 2.3 presents the technical parameters that were utilized for the evaluation of the study intersections and ramp segments for the analysis scenarios. All parameters not listed should be assumed as default values or calculated based on parameters listed.

**Table 2.3 Technical Analysis Parameters**

| | Technical Parameter | Assumption |
|---|---|---|
| 1 | Intersection Peak Hour Factor | Based on counts for Existing and Existing Plus Project conditions; and 0.92 or higher under Cumulative Conditions, based on current conditions. |
| 2 | Intersection Heavy Vehicle % | Based on counts, intersection overall, minimum 2% |
| 3 | Pedestrian & Bicycle Volumes | Based on counts |
| 4 | Freeway/Ramp Peak Hour Factor | Freeway: 0.92<br>Ramps: Based on counts for Existing and Existing Plus Project conditions; and 0.92 or higher under Cumulative Conditions, based on current conditions. |
| 5 | Grades | 2% or less, level terrain |
| 6 | Freeway/Ramp Heavy Vehicle % | 14.37% Based on Caltrans published data on SR 99. |
| 7 | Mainline volumes (SR 99) | Based on PeMS average February-May 2018. This is consistent with when the intersection counts were taken. |
| 8 | Freeway Free-flow speed | 65 mph based on posted speed limit |
| 9 | Ramp Free-flow speed | 25 mph for hook-ramps, otherwise 35 mph (default) |
| 10 | Signal Timings | Based on Caltrans and City timing plans |
| 11 | Right Turn on Red at Signals | Intersection counts (collected with new counts), or based on Synchro |

### 2.2.4 Level of Service Policies

#### *Caltrans*

Caltrans' Guide for the Preparation of Traffic Impact Studies contains the following policy pertaining to the LOS standards within Caltrans jurisdiction:

> *Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.*

#### *City of Galt*

The City of Galt 2030 General Plan Circulation Element (April 2009) specifies the following minimum Level of Service standards for all streets and intersections within the City’s jurisdiction:

*Policy C-1.3: Level of Services*

*The City should develop and manage its roadway system to maintain LOS "E" on all streets and intersections within a quarter-mile of State Routes, along A Street and C Street between State Route 99 to the railroad tracks, and along Lincoln Way between Pringle Avenue to Meladee Lane. The City should develop a LOS "D" or better on all other streets and intersections."*

### *Sacramento County*

The County's LOS policy is generally consistent with the policy set for the City. The following LOS policy is from Sacramento County's General Plan Circulation Element (Amended December 14, 2017).

*C 1-9. Plan and design the roadway system in a manner that meets Level of Service (LOS) D on rural roadways and LOS E on urban roadways, unless it is infeasible to implement project alternatives or mitigation measures that would achieve LOS D on rural roadways or LOS E on urban roadways. The urban areas are those areas within the Urban Service Boundary as shown in the Land Use Element of the Sacramento County General Plan. The areas outside the Urban Service Boundary are considered rural.*

# 3. Existing Conditions

The Existing conditions describe the existing transportation facilities serving the project site, and establish the traffic conditions which currently exist for those facilities. The Existing conditions analysis scenario was utilized as the baseline scenario for the proposed project impact analysis. Existing conditions is the analysis scenario in which current operations at study locations are analyzed and establishes the baseline traffic operations.

## 3.1 Existing Conditions Intersection Operations

Existing weekday AM and PM peak hour intersection traffic operations were quantified using existing traffic volumes, lane geometrics, and intersection controls. Table 3.1 presents a summary of the LOS and delay (in sec/veh) at each study intersection during the Existing conditions.

**Table 3.1 Existing Conditions Intersection Operations**

| # | Intersection | Control Type[1,2] | Target LOS | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS |
| 1 | Carillion Boulevard / Walnut Avenue[3] | AWSC | D | 10.2 | B | 6.4 | A |
| 2 | Simmerhorn Road / Lincoln Way | TWSC | E | 18.0 | C | 16.7 | C |
| 3 | SR 99 SB Ramps / Elm Avenue / Lincoln Way | AWSC | D | 19.0 | C | 15.4 | C |
| 4 | SR 99 NB Ramps / Simmerhorn Road | TWSC | D | 11.8 | B | 10.6 | B |
| 5 | Carillion Boulevard / Simmerhorn Road | AWSC | D | 11.2 | B | 9.2 | A |
| 6 | Marengo Road / Simmerhorn Road | AWSC | D | 10.9 | B | 8.7 | A |
| 7 | SR 99 SB Off-Ramp / A Street | Signal | D | 7.5 | A | 7.3 | A |
| 8 | SR 99 NB On-Ramp/ A Street | Signal | D | 10.7 | B | 9.4 | A |
| 9 | Fairway Drive / C Street | Signal | D | 15.1 | B | 15.4 | B |
| 10 | SR 99 NB Off-Ramp / C Street / Boessow Road | Signal | D | 13.1 | B | 12.4 | B |
| 11 | Crystal Way / Boessow Road | TWSC | E | 15.3 | C | 13.0 | B |
| 12 | SR 99 SB On-Ramp / Fairway Drive | Signal | D | 4.5 | A | 4.6 | A |
| 13 | Marengo Road / Boessow Road | TWSC | D | 11.9 | B | 9.5 | A |
| 14 | SR 99 NB Ramps / Crystal Way | TWSC | D | 9.2 | A | 9.3 | A |

Notes:
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Delay based on SimTraffic results
4. **Bold** = Unacceptable Conditions
5. Study intersections # 15, 16, 17, and 18 are future intersections, and thus do not appear in this table.

As presented in Table 3.1, all intersections operate at an acceptable LOS during Existing conditions in the AM and PM peak hours.

## 3.2 Existing Conditions Ramp & Weaving Segment Operations

Existing weekday AM and PM peak hour ramp and weaving segment operations were quantified using existing traffic volumes from ramp-adjacent intersections as well as PeMS and Caltrans data. Table 3.2 presents a summary of the LOS and density (in pc/mi/ln) at each analysis location during the Existing conditions.

**Table 3.2 Existing Conditions Ramp & Weaving Segment Operations**

| # | Location | Segment Type | No. of Lanes | Target LOS | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ramp Volume(s) | Density (pc/mi/ln) | LOS | Ramp Volume(s) | Density (pc/mi/ln) | LOS |
| **SR 99 NORTHBOUND** | | | | | | | | | | |
| 1 | Crystal Way Off Ramp | Diverge | 1 | D | 5 | 24.4 | C | 9 | 33.5 | D |
| 2 | Crystal Way to C Street Auxiliary Lane | Weave | 1 | D | 1 / 307 | 15.6 | B | 10 / 376 | 21.5 | C |
| 3 | A Street to Simmerhorn Road Auxiliary Lane | Weave | 1 | D | 525 / 197 | 18.2 | B | 483 / 293 | 23.0 | C |
| 4 | Simmerhorn On Ramp | Merge | 1 | D | 107 | 26.1 | C | 61 | 31.9 | D |
| **SR 99 SOUTHBOUND** | | | | | | | | | | |
| 5 | Elm Avenue Off Ramp | Diverge | 1 | D | 102 | 25.0 | C | 188 | 33.8 | D |
| 6 | Elm Avenue to A Street Auxiliary Lane | Weave | 1 | D | 280 / 340 | 17.3 | B | 185 / 459 | 22.5 | C |
| 7 | C Street to Fairway Drive Auxiliary Lane | Weave | 1 | D | 323 / 35 | 16.7 | B | 267 / 59 | 20.3 | C |

Notes:
1. Ramp volumes based on PeMS average weekday aggregates between February and April 2019.
2. For weaving sections, volumes listed are for On-Ramp/Off-Ramp.
3. For merging and diverging ramps, volumes listed are ramp volumes.
4. **Bold** = Unacceptable Conditions

As presented in Table 3.2, all ramp and weaving segments operate at an acceptable LOS during Existing conditions in the AM and PM peak hours.

# 4. Project Description

The term “Project” as used in this study will refer to the proposed 338-acre annexation of the East Galt Infill Annexation Area, and development of the approximately 119.5-acre Simmerhorn Ranch site located within the annexation area. The East Galt Infill Annexation Area is located within Sacramento County, California, east of the City of Galt, but within the Galt Sphere of Influence. The annexation area is generally bounded by Marengo Road to the east, SR 99 to the west, Amador Avenue to the north, and Boessow Road to the south. The Simmerhorn Ranch development is located south of Simmerhorn Road, north of Boessow Road, west of Marengo Road, and a proposed extension of Carillion Boulevard and Crystal Way from Simmerhorn Road would define the western boundary of the Simmerhorn Ranch site. Development activity in the remaining East Galt Infill Annexation Area is not currently proposed, and all existing uses would remain unchanged with implementation of the proposed Project. The proposed 119.5-acre Simmerhorn Ranch development is comprised of 431 single-family lots, a roughly 6.6-acre park, 5.1 acres of open space/water quality basin, and a 10.1-acre Elementary School site. Currently, the project site exists as an agricultural – urban reserve use. The project consists of a mix of residential lot sizes and densities, including: low, medium, and medium-high-residential density.

## 4.1 Project Site Plan

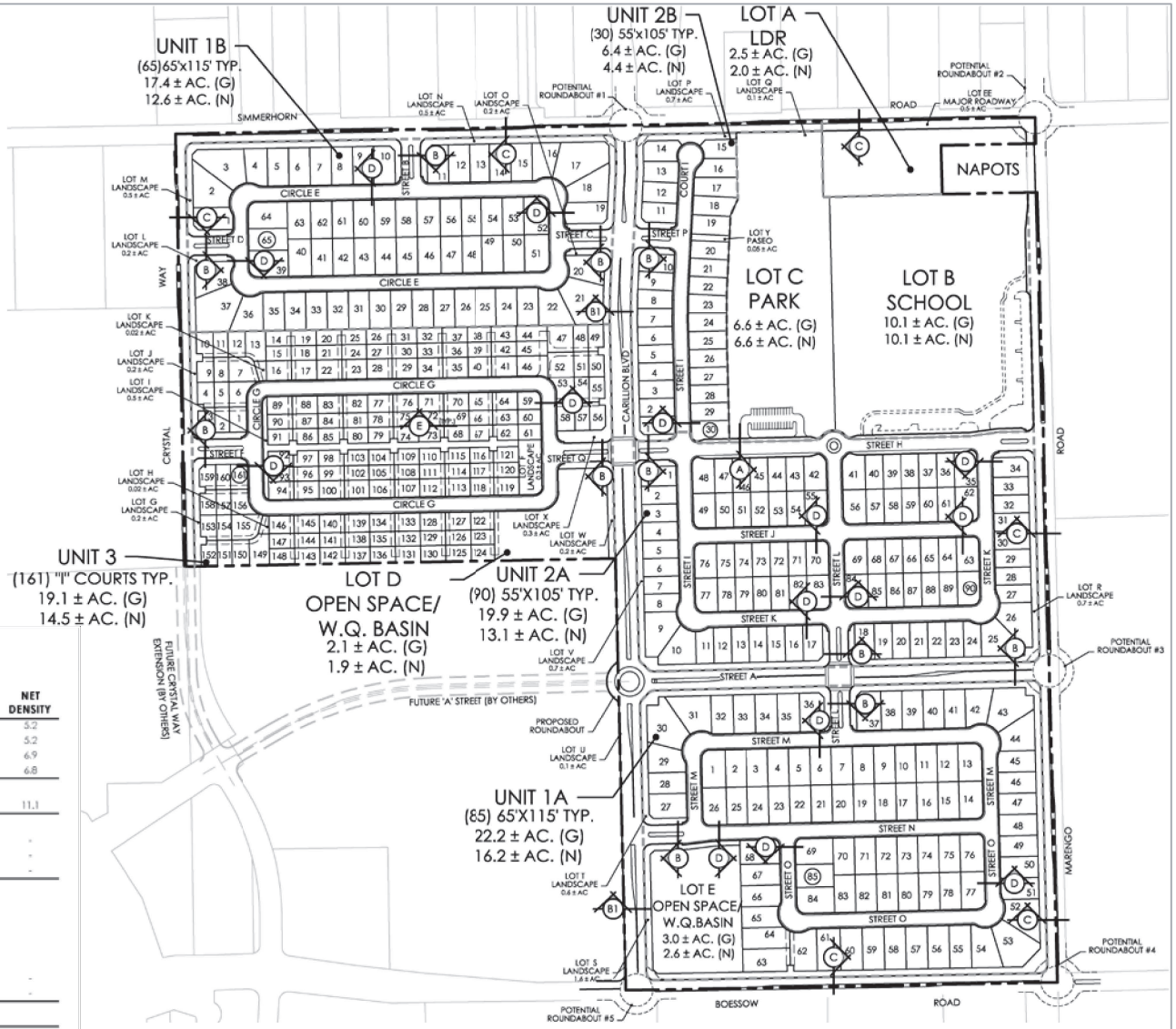
As part of this project, Carillion Boulevard is proposed to be extended south to Boessow Road, bisecting the development in the north-south direction, providing access between the east and west sections of the project site, and providing access between Simmerhorn Road and Boessow Road. The Project also proposes to construct a portion of the Crystal Way extension south of Simmerhorn Road fronting the Project site. The proposed site will provide 9 access points directly to the development along the exterior and within the development, including two via Crystal Way, one via Simmerhorn Road, two via Marengo Road, one via A Street (with access across), and three via Carillion Boulevard (two with access across). Additionally, the school will be located in the northeast section of the project site, with access via Marengo Road and H Street, and the park will be located adjacent to the school.

Land within the Simmerhorn Ranch site is currently designated in the City’s General Plan for a variety of residential uses, a park, and public space. The Project proposes to redistribute the land use designations within the site, but would not introduce any new land use designations not previously anticipated for the project site. A General Plan Amendment is required for the Simmerhorn Ranch site due to the reorganization of the land uses proposed. Below summarizes the Project site, based on the Large Lot Tentative Subdivision Map.

- **Lot A:** Low-Density Residential (2.5 ± acres)
  - Located at the northeast section of the project site, at the intersection of Marengo Road and Simmerhorn Road
  - Currently contains 2 residential dwellings; no further development as part of Simmerhorn Ranch
- **Lot B:** Elementary School Site (10.1 ± acres)
  - Located south of Lot A and east of Marengo Road
  - General Plan calls for an Elementary School

- **Lot C:** Park Site (6.6 ± gross acres)
  - Located south of Simmerhorn Road and west of the School Site (Lot B)
- **Lot D:** Open Space/Water Quality Basin (2.1 ± acres)
  - Located west of Carillion Boulevard and south of Unit 3
- **Lot E:** Open Space/Water Quality Basin (3.0 ± acres)
  - Located east of Carillion Boulevard and south of Unit 1A
- **Unit 1A:** Low Density Residential (22.2 ± acres)
  - 85 single-family dwelling units
  - Located at the southeast section of the project, with Marengo Road to the east, Carillion Boulevard to the west, Boessow Road to the south and the proposed portion of A Street to the north.
- **Unit 1B**: Low Density Residential (17.4 ± acres)
  - 65 single-family dwelling units
  - Located at the northwest section of the project, Crystal Way to the west and Simmerhorn Boulevard to the north, and proposed minor residential circle within
- **Unit 2A**: Medium Density Residential (19.9 ± acres)
  - 90 single-family dwelling units
  - Located between Carillion Boulevard at the west, and Marengo Boulevard at the east
- **Unit 2B**: Medium Density Residential (6.4 ± gross acres)
  - 30 single-family dwelling units
  - Located with Simmerhorn Road at the north, Carillion Boulevard to the west, Lot C to the west and Unit 2A to the south
- **Unit 3:** Medium-High Density Residential (19.1 ± gross acres)
  - 161 single-family dwelling units
  - Located south of Unit 1B, east of Crystal Way and west of Carillion Boulevard

Figure 4.1 presents the site plan for the proposed project (Small Lot Tentative Subdivision map).




## LAND USE SUMMARY

| UNIT NO. | LAND USE | LOT SIZE | GROSS ACRES ± | NET ACRES ± | DWELLING UNITS ± | GROSS DENSITY | NET DENSITY |
|---|---|---|---|---|---|---|---|
| 1A | LOW DENSITY RES. | 65'x115' | 22.2 | 16.2 | 85 | 3.8 | 5.2 |
| 1B | LOW DENSITY RES. | 65'x115' | 17.4 | 12.6 | 65 | 3.7 | 5.2 |
| 2A | MEDIUM DENSITY RES. | 55'x105' | 19.9 | 13.1 | 90 | 4.5 | 6.9 |
| 2B | MEDIUM DENSITY RES. | 55'x105' | 6.4 | 4.4 | 30 | 4.7 | 6.8 |
| **SUBTOTAL** | | | **65.9** | **46.3** | **270** | | |
| 3 | MEDIUM-HIGH DENSITY RES. | I-COURTS | 19.1 | 14.5 | 161 | 8.4 | 11.1 |
| **SUBTOTAL** | | | **19.1** | **14.5** | **161** | | |
| A | LOW DENSITY RES. | - | 2.5 | 2.0 | - | | - |
| B | SCHOOL | - | 10.1 | 10.1 | - | | - |
| C | PARK | - | 6.6 | 6.6 | - | | - |
| **SUBTOTAL** | | | **19.2** | **18.7** | | | |
| D | WATER QUALITY BASIN | - | 2.1 | 1.9 | | | |
| E | WATER QUALITY BASIN | - | 3.0 | 2.6 | | | |
| F-X | LANDSCAPE | - | - | 7.35 | | | |
| Y | PASEO | - | - | 0.05 | | | |
| | OUT PARCEL MJR. ROW | - | - | 0.5 | | | |
| | MINOR RIGHT-OF-WAY | - | - | 17.4 | - | | - |
| | MAJOR RIGHT-OF-WAY | - | 10.2 | 10.2 | - | | - |
| **SUBTOTAL** | | | **15.3** | **40.0** | | | |
| **TOTAL** | | | **119.5 AC** | **119.5 AC** | **431** | **Units** | |

NOTE: NET ACREAGE/ DENSITY EXCLUDES W.Q. BASINS, PARKS, PASEOS & LANDSCAPE CORRIDORS.

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**PROJECT SITE PLAN**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 4.1**

Filename: N:\US\Roseville\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 31 October 2019 - 10:24 AM

Source:

## 4.2 Project Infrastructure, Site Access & Circulation

The Project is assumed to construct the following new roadways and intersection improvements:

- Carillion Boulevard extension south from Simmerhorn Road to Boessow Road
- Portion of A Street extension (east) between Carillion Boulevard (extension) and Marengo Road.
- Crystal Way extension south of Simmerhorn Road, forming the western boundary of the project site.
- Roundabouts at Marengo Road/Simmerhorn Road, Marengo Road/A Street Extension, and Marengo Road/Boessow Road.
- All-way stop control at Carillion Boulevard/Simmerhorn Road.

The proposed project includes requests for amendments to the Circulation Element of the City's General Plan, to allow for the development of the extensions of A Street and Carillion Boulevard, as well as the improvements to Simmerhorn Road and Marengo Road to include only two lanes, within the East Galt Infill Annexation Area, rather than the previously anticipated four lanes along these facilities. The Project also proposes an amendment to realign A Street to have a perpendicular connection to Marengo Road, rather than the curved alignment per the General Plan.

Based on the analyses conducted in this study, forecasted traffic volumes in approximately 20 years along the A Street extension between Crystal Way and Marengo Road, the Carillion Boulevard extension south to Boessow Road, along Marengo Road south of Simmerhorn Road, and along Simmerhorn Road can be accommodated with 2 lanes. The proposed alignment and design of Carillion Boulevard is consistent with the recently completed *Carillion Boulevard Complete Street Corridor Study*. The Project site plan contains detail of the proposed roadway typical cross-sections for all facilities proposed. Carillion Boulevard is proposed to have a roadway width of 64 feet with buffered bike lanes, and A Street is proposed is have a roadway width of 58 feet with buffered bike lanes. The cross-sections for A Street and Carillion Boulevard include 20 feet of landscaped sidewalks on both sides. The Project proposes to construct improvements to Simmerhorn Road, Marengo Road, Boessow Road, and Crystal Way along the frontage portions of the project site, with buffered bike lanes.

A roundabout at Marengo Road/Simmerhorn Road will accommodate a single lane through Existing Plus Project conditions. However, under Cumulative (20-year forecast) conditions, which are detailed subsequently in this report, this roundabout will require two circulating lanes and entry lanes to accommodate the projected forecasts, with or without the Carillion Road Diet. Additionally, the Cumulative conditions include the widening of Marengo Road to 4 lanes north of Simmerhorn Road. For the other five proposed roundabouts fronting the project site along Marengo Road and Carillion Boulevard, single-lane roundabouts will be adequate for the projected forecasts. The Site Plan appears to reserve adequate rights-of-way for the design of modern roundabouts, however lacks detail required for review of specific design standards. All streets should follow local roadway design and roundabout design standards, and national guidelines such as the National Cooperative Highway Research Program (NCHRP) Report 672, *Roundabouts: An Informational Guide*.

### 4.2.1 Recommendations for Site Access and Circulation

As previously mentioned, the Project proposes to have numerous access points along several roadways fronting the Project site and internally. Site access along Carillion Boulevard is proposed at Street C and Street P, at Street H and Street Q north of A Street, and at Street N south of A Street, per the Site Plan. Due to the projected volumes along Carillion Boulevard, and the close spacing with Simmerhorn Road, access to Street C/Street P is recommended to be restricted to have partial (3/4) access with right-in/right-out while allowing left turns inbound on the northbound approach of Carillion Boulevard. The intersection of Street H/Street Q at Carillion Boulevard is projected to experience higher turning volumes to access the Project site. Without implementation of a Road Diet along Carillion Boulevard, volumes are projected to be higher along Carillon Boulevard, and a roundabout or a traffic signal is recommended to be installed at this location. With implementation of a Road Diet along Carillion Boulevard, a roundabout or an all-way stop-control with appropriate traffic calming measures (as deemed appropriate by the City's Traffic Engineering Department) should be implemented at Street H/Street Q/Carillion Boulevard. Site access via Street N should remain to allow full access to Carillion Boulevard.

Site access along A Street is proposed at Street L. Due to the high volumes projected along A Street under Cumulative conditions, access at Street L should be restricted to 3/4 access or implement a roundabout. With implementation of the Road Diet along Carillion Boulevard, traffic volume forecasts on A Street will increase, and a roundabout should be implemented at Street L, or restrict the intersection access to right turns only (right-in/right-out). With the option to restrict left turning traffic, vehicles can reroute through the adjacent roundabouts at Carillion Boulevard and at Marengo Road.

Site access along Marengo Road is proposed at Street H and access to the school site north of Street H. Access to the Elementary School site will be on Marengo Road and on Street H. Due to the high volumes projected on Marengo Road, with and without the Road Diet along Carillion Boulevard, access to the school site via Marengo Road is recommended to be restricted to right turns only. Due to the projected high volume on Marengo Road, and projected school-related and residential traffic turning from Street H, the intersection of Marengo Road/Street H is recommended to be improved to be a roundabout to provide adequate circulation and improve safety. Additionally, the median on Street H should be extended to prevent left turns from/to the school site and Street K, due to the close spacing on Marengo Road (right-turn only access at Street K/School driveway/ Street H). The westernmost access for the school site and the eastern park driveway should be unified with the roundabout at Street L to consolidate the number of driveways along Street H.

The intersection of Crystal Way at Simmerhorn Road should consider implementing a roundabout or an all-way stop-control, and with implementation of a Road Diet along Carillion Boulevard, consider a traffic signal. Evaluation of multi-way stop warrants or traffic signal warrants will need to be analyzed with further development along Crystal Way to determine the need for improvements at Crystal Way/Simmerhorn Road.

Site access along Crystal Way is proposed at Street D and at Street F. Site access along Simmerhorn Road is proposed at Street B, in between Carillion Boulevard and Crystal Way. Full access along Crystal Way and along Simmerhorn Road at Streets D, F, and B will be accommodated in the interim. However, due to the close spacing of Street D to Simmerhorn Road

and projected traffic from developments along Crystal Way, access at Street D should be restricted to right turns only, with further development in the area. Adjacent developments along Crystal Way could potentially meet the warrant for a traffic signal at Street F, and provide access at Street F. With forecasted development, traffic volumes along Simmerhorn Road will also be higher, and Street B should be restricted to right turns only.

## 4.3 Project Trip Generation

Project site trip generation has been estimated for the total number of dwelling units, all assumed to be single-family dwelling units, and the proposed elementary school. These estimations were achieved by utilizing the Institute of Transportation Engineers (ITE) Publication *Trip Generation Manual (10th Ed.)* Trip rates for the residential uses used the land use code 210 for single-family detached housing units, and the land use code 520 for the elementary school. Trip generation rates were not estimated for the park site, as it is expected to be local-serving.

The trip generation is based on the project description and site plan dated March 25, 2019, which included 438 dwelling units (submitted in the *Simmerhorn Ranch Draft Traffic Impact Study*). The project description and site plan has since been revised (September 9, 2019) to be 431 dwelling units. This lower difference in units is not projected to result in significant changes to the findings of this Traffic Impact Study, therefore the Project trip generation (and subsequent vehicle miles traveled calculations) remains to be based on the 438 dwelling units.

### *Internal Capture & School Enrollment*

Based on the *Galt Joint Union Elementary School District Demographic Study 2018/19* and discussion with the school district, the existing elementary schools in the area are not at capacity (River Oaks Elementary School is at 74.7% capacity), and the proposed elementary school within the Simmerhorn Ranch development would not draw attendance from the other elementary schools. Therefore, the new school-related trips would mostly draw attendance from the new residential development (locally-serving), and a small percentage of adjacent residential areas to account for any transfer students. Based on the school district Demographic Study, the student per housing yield rate is 33.7%. The development of 438 new homes would yield approximately 148 students. The trip generation for the proposed elementary school estimates 200 students total, including the project development and transfer students. The new school-related trips also include teacher and staff trips. Based on the average student-teacher ratio for the school district elementary schools, and discussion with the district staff, the approximate student-teacher ratio is 20:1, and the student-staff ratio is 10:1. The teacher and staff trips would make up approximately 20% of the school-related trips. Since the school enrollment will increase between Existing Plus Project conditions and Cumulative Plus Project conditions, two trip generation estimates are provided. Based on discussion with school district staff and the projected school enrollment, 600 students are projected for enrollment in the proposed elementary school under Cumulative Plus Project conditions.

Table 4.1 presents the project trip generation for Existing Plus Project conditions. As shown, the net new (external) project trip generation is 3,857 daily trips, 250 trips for the AM peak hour, and 403 trips for the PM peak hour under Exiting Plus Project conditions. Table 4.2 presents the project trip generation for Cumulative Plus Project conditions. The net new (external) project trip generation is 4,501 daily trips, 540 trips for the AM peak hour and 459 for the PM peak hour under Cumulative

Plus Project conditions. The Project Trip Generations were confirmed from the Memorandum of Assumptions, dated July 23, 2019.

### Table 4.1 Existing Plus Project Trip Generation

| Land Use Category (ITE Code) | Unit[1] | Daily Trip Rate/Unit[2] | AM Peak Hour Trip Rate/Unit | | | PM Peak Hour Trip Rate/Unit | | |
|---|---|---|---|---|---|---|---|---|
| | | | Total | In % | Out % | Total | In % | Out % |
| Single-Family Detached (210) | DU | 9.24 | 0.72 | 25% | 75% | 0.96 | 63% | 37% |
| Elementary School (520) | STUD | 1.89 | 0.67 | 54% | 46% | 0.17 | 48% | 52% |
| NOTCH AREA | Quantity (Units) | Daily Trips | AM Peak Hour Trips | | | PM Peak Hour Trips | | |
| | | | Total | In | Out | Total | In | Out |
| Residential Total | 438 | 4,047 | 316 | 79 | 237 | 419 | 264 | 155 |
| *Internal Capture with School* | | *-284* | *-100* | *-46* | *-54* | *-25* | *-13* | *-12* |
| **Total External Residential Trips** | | ***3,763*** | ***216*** | ***33*** | ***183*** | ***394*** | ***251*** | ***143*** |
| Elementary School | 200 | 378 | 134 | 72 | 62 | 34 | 16 | 18 |
| *Internal Capture with Residential* | | *-284* | *-100* | *-54* | *-46* | *-25* | *-12* | *-13* |
| **Total External School Trips** | | **94** | **34** | **18** | **16** | **9** | **4** | **5** |
| **Net New Project Trips** | | **3,857** | **250** | **51** | **199** | **403** | **255** | **148** |

*Notes:*
*1. GKSF = 1,000 Sq. Ft. Gross Floor Area DU = dwelling unit*
*2. Trip rates based on fitted curve equations or average rates within ITE Trip Generation Manual, 10th Edition, 2017.*
*3. Internal Capture trip pairs are based on a 75% internal capture rate, and the lower number of trips shared internally.*

### Table 4.2 Cumulative Plus Project Trip Generation

| Land Use Category (ITE Code) | Unit[1] | Daily Trip Rate/Unit[2] | AM Peak Hour Trip Rate/Unit | | | PM Peak Hour Trip Rate/Unit | | |
|---|---|---|---|---|---|---|---|---|
| | | | Total | In % | Out % | Total | In % | Out % |
| Single-Family Detached (210) | DU | 9.24 | 0.72 | 25% | 75% | 0.96 | 63% | 37% |
| Elementary School (520) | STUD | 1.89 | 0.67 | 54% | 46% | 0.17 | 48% | 52% |
| NOTCH AREA | Quantity (Units) | Daily Trips | AM Peak Hour Trips | | | PM Peak Hour Trips | | |
| | | | Total | In | Out | Total | In | Out |
| Residential Total | 438 | 4,047 | 316 | 79 | 237 | 419 | 264 | 155 |
| *Internal Capture with School* | | *-340* | *-89* | *-24* | *-65* | *-31* | *-16* | *-15* |
| **Total External Residential Trips** | | ***3,707*** | ***227*** | ***55*** | ***172*** | ***388*** | ***248*** | ***140*** |
| Elementary School | 600 | 1,134 | 402 | 217 | 185 | 102 | 49 | 53 |
| *Internal Capture with Residential* | | *-340* | *-89* | *-65* | *-24* | *-31* | *-15* | *-16* |
| **Total External School Trips** | | **794** | **313** | **152** | **161** | **71** | **34** | **37** |
| **Net New Project Trips** | | **4,501** | **540** | **207** | **333** | **459** | **282** | **177** |

*Notes:*
*1. GKSF = 1,000 Sq. Ft. Gross Floor Area DU = dwelling unit*
*2. Trip rates based on fitted curve equations or average rates within ITE Trip Generation Manual, 10th Edition, 2017.*
*3. Internal Capture trip pairs are based on a 30% internal capture rate, and the lower number of trips shared internally.*

## 4.4 Trip Distribution & Assignment

The directional trip distribution and assignment of project-generated trips was estimated based on an understanding of existing and projected future traffic flows and travel patterns within the vicinity of the project site, location of employment commercial centers in relation to the proposed project site, and the use of the Citywide Travel Demand Model, developed by GHD (formerly Omni-Means). The Project trip distributions were confirmed from the Memorandum of Assumptions, dated July 23, 2019.

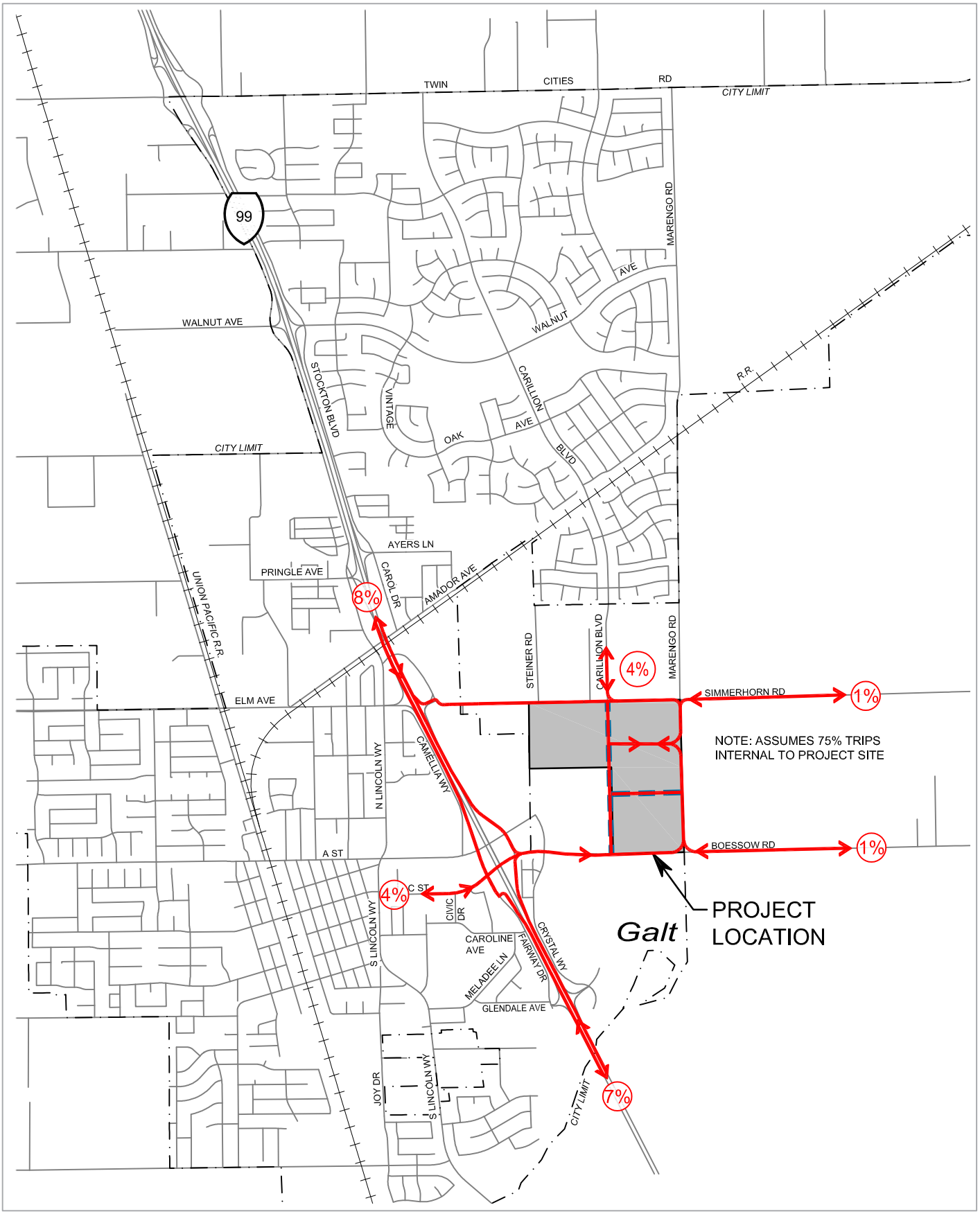
Figure 4.2 presents the trip distribution for school-generated project trips under Existing Plus Project conditions. Figure 4.3 presents the trip distribution for the residential-generated project trips under Existing Plus Project conditions. Figure 4.4 presents the trip distribution for school-generated project trips under Cumulative (Year 2040) Plus Project conditions. Figure 4.5 presents the trip distribution for the residential-generated project trips under Cumulative (Year 2040) Plus Project with Road Diet conditions.

The project-generated external trips were assigned to the study locations based on the trip distribution. Project-only trips for Existing and Cumulative conditions are assigned to the adjacent roadways and through the study intersections and ramps. Figure 4.6 presents the project-only traffic assignment under Existing Plus Project conditions. Figure 4.7 presents the project-only traffic assignment under Cumulative Plus Project conditions.

## 4.5 Multimodal Facilities

The project must be consistent with the City of Galt's 2030 General Plan Circulation Element Policy for Complete Streets, the 2011 City of Galt Bicycle Transportation Plan, and, upon adoption by the City Council, the *Carillion Boulevard Complete Street Corridor Study*. Carillion Boulevard is one of Galt's arterial roadways, which is proposed to extend south to Boessow Road through the proposed project, under Existing Plus Project conditions. Under Cumulative conditions, Carillion Boulevard will extend south from Boessow Road to Crystal Way/ SR 99 Northbound ramps. The Project proposes a school and a park within the development.

The project site plan does not detail pedestrian and bicycle facilities or amenities. The Project should provide safe and convenient multimodal facilities between the different land uses and connect with existing multimodal infrastructure. The proposed development should be consistent with the abovementioned plans and result in complete streets safe for all road users. The 2011 Bicycle Transportation Plan proposes Class II Bike Lanes along Simmerhorn Road, A Street, Boessow Road, Crystal Way, Carillion Boulevard, and Marengo Road.




LEGEND:

- CITY LIMIT
- NEW ROADWAY
- TRIP DISTRIBUTION PATH

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**EXISTING PLUS PROJECT EXTERNAL SCHOOL TRIP DISTRIBUTION**

Project No. **11194613**
Report No. **01**
Date **June 20, 2019**

**FIGURE 4.2**

Filename: N:\US\Rosevlle\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 24 June 2019 - 2:41 PM

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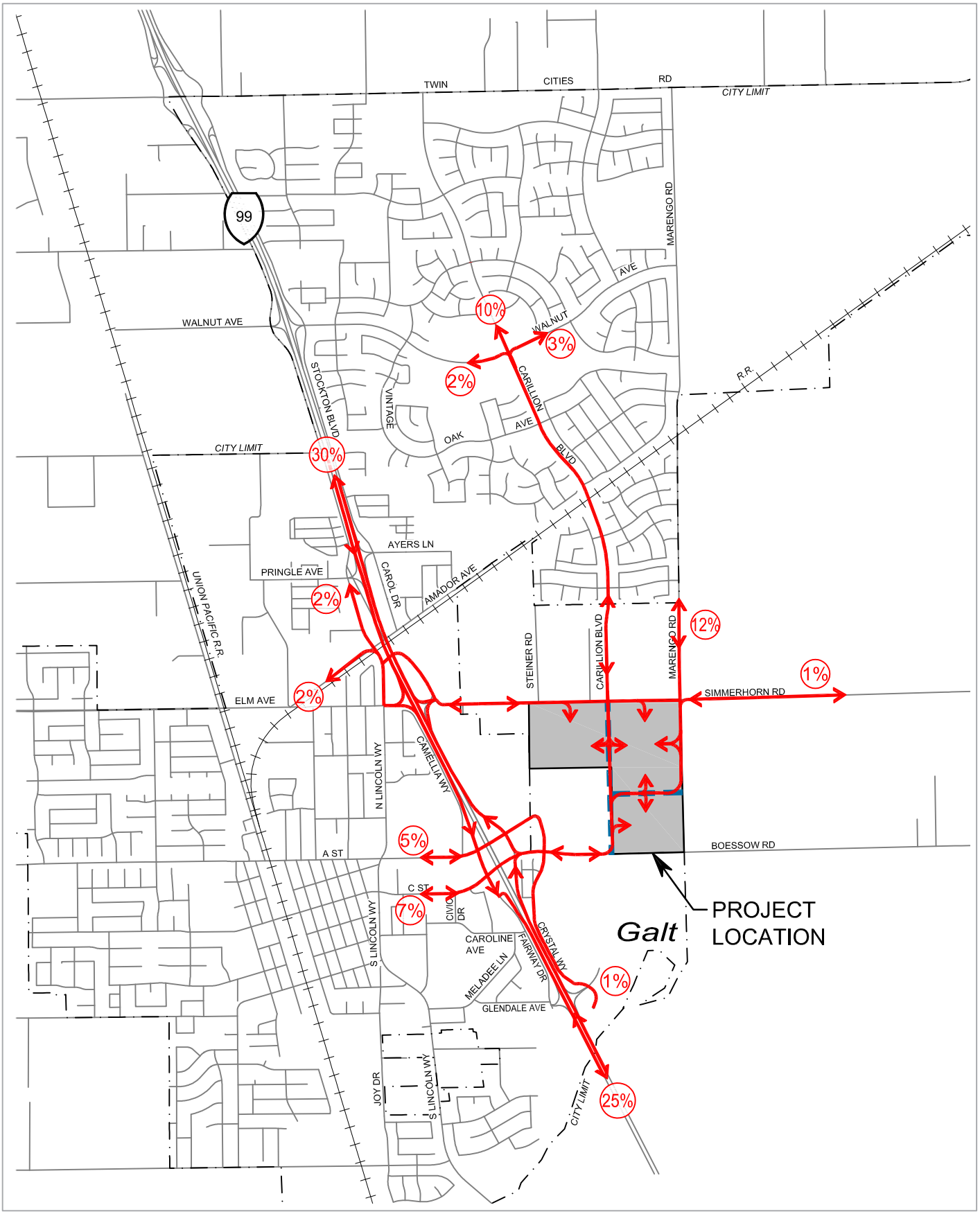


LEGEND:

- CITY LIMIT
- NEW ROADWAY
- TRIP DISTRIBUTION PATH

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**EXISTING PLUS PROJECT EXTERNAL RESIDENTIAL TRIP DISTRIBUTION**

Project No. **11194613**
Report No. **01**
Date **July 23, 2019**

**FIGURE 4.3**

Filename: N:\US\Rosevlle\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 23 July 2019 - 3:44 PM

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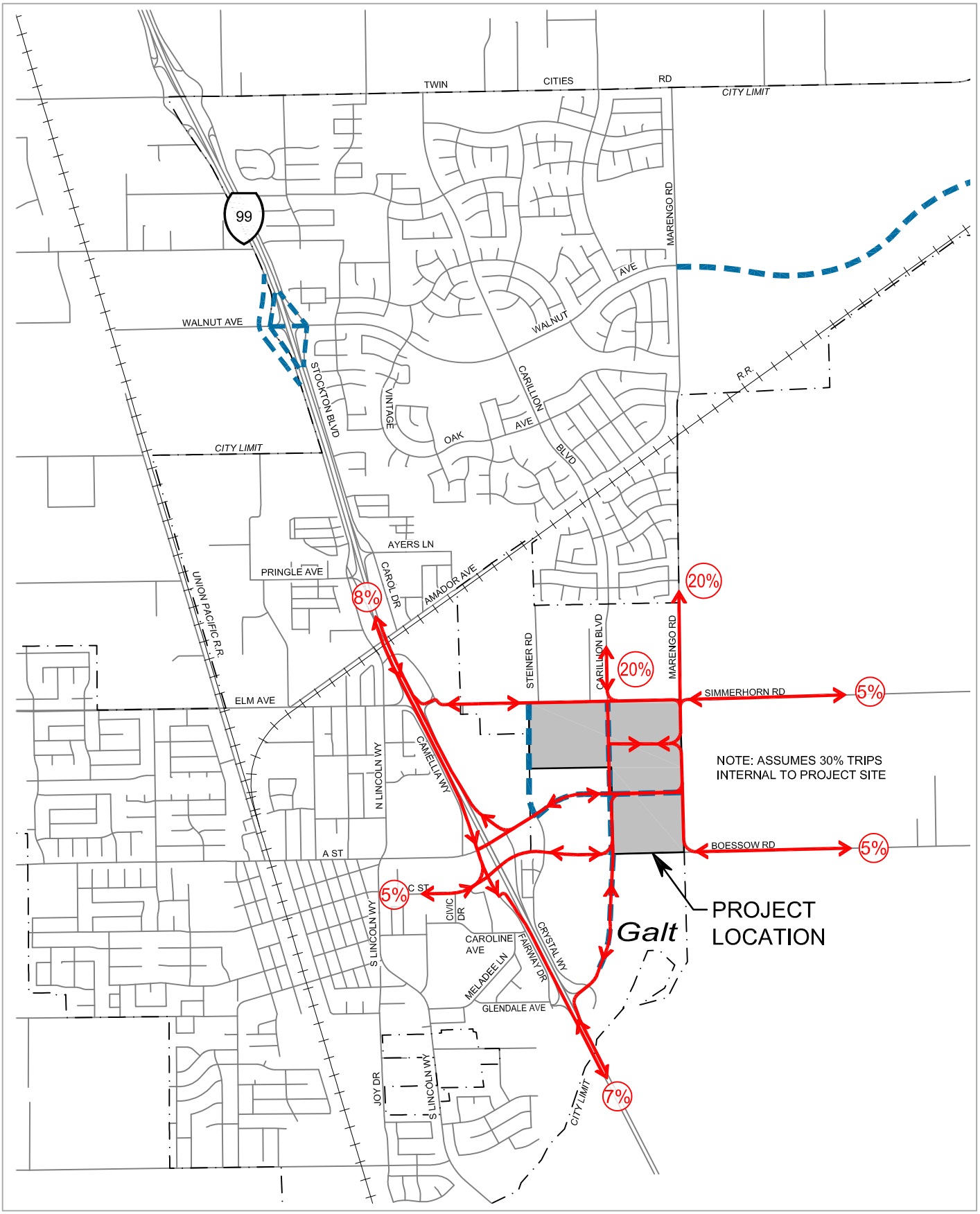


LEGEND:

- CITY LIMIT
- NEW ROADWAY
- TRIP DISTRIBUTION PATH

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**2040 PLUS PROJECT EXTERNAL SCHOOL TRIP DISTRIBUTION**

Project No. **11194613**
Report No. **01**
Date **July 23, 2019**

**FIGURE 4.4**

Filename: N:\US\Rosevlle\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 23 July 2019 - 3:45 PM

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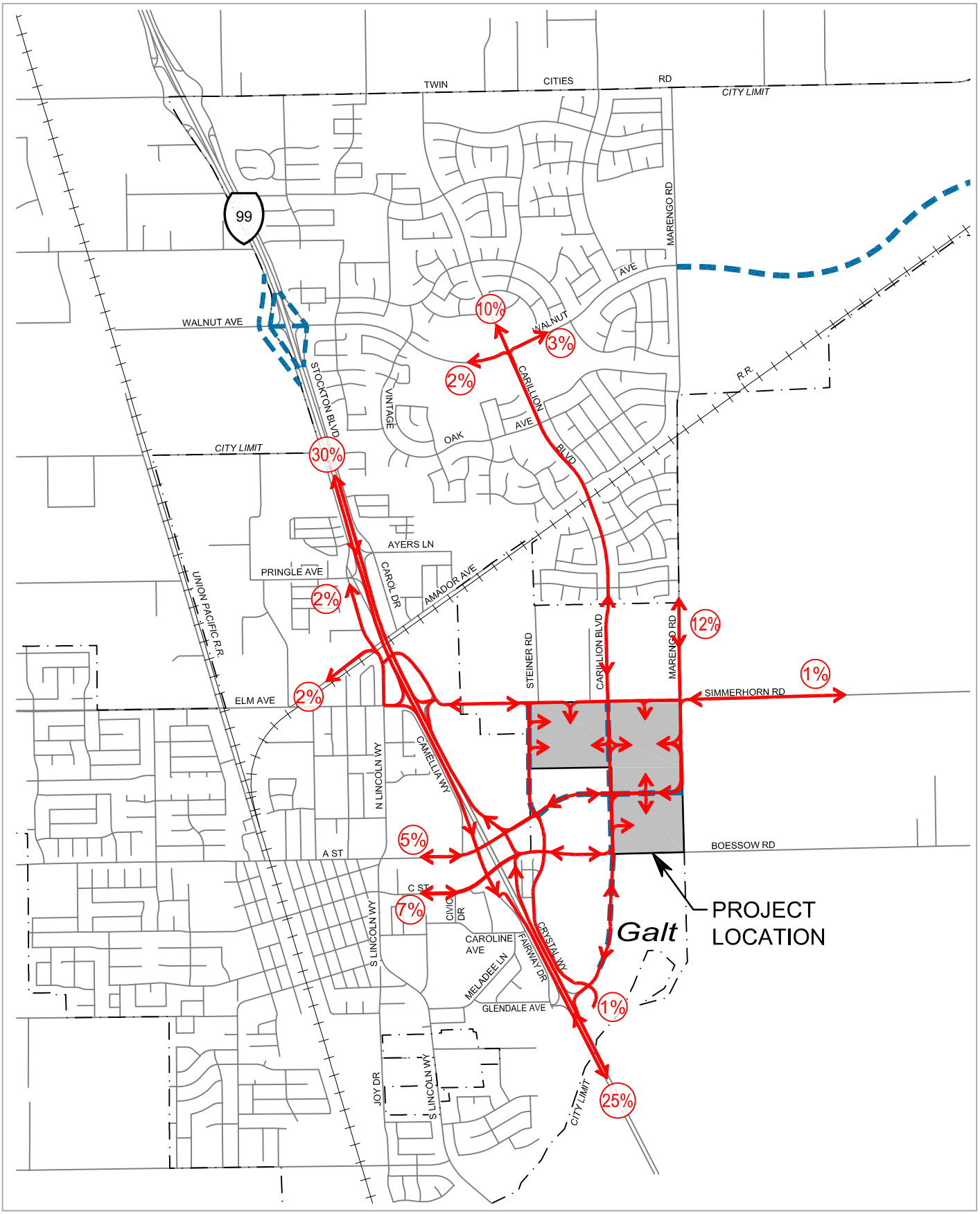


LEGEND:

- CITY LIMIT
- NEW ROADWAY
- TRIP DISTRIBUTION PATH

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**2040 PLUS PROJECT EXTERNAL RESIDENTIAL TRIP DISTRIBUTION**

Project No. **11194613**
Report No. **01**
Date **July 23, 2019**

**FIGURE 4.5**

Filename: N:\US\Rosevlle\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 23 July 2019 - 3:47 PM

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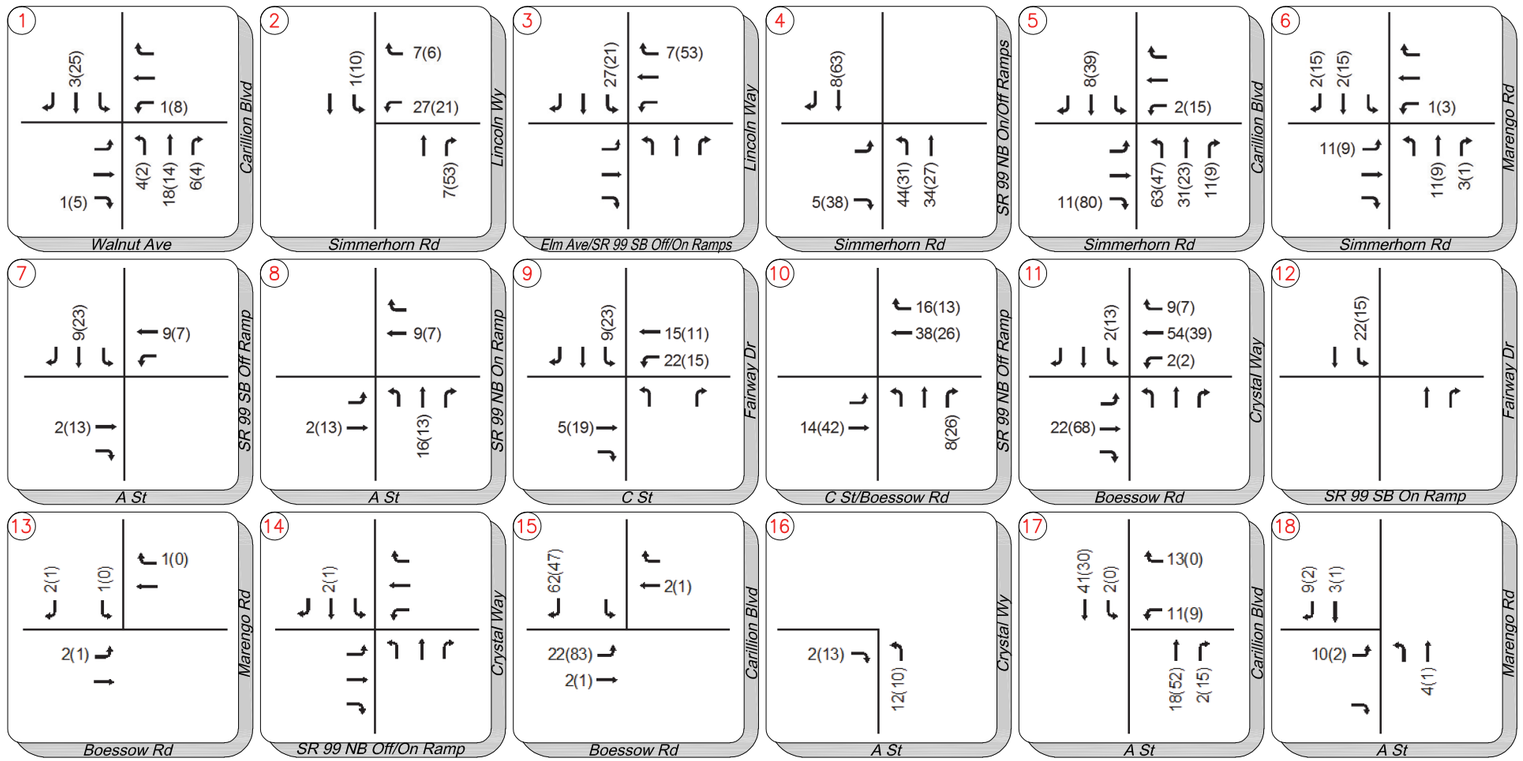


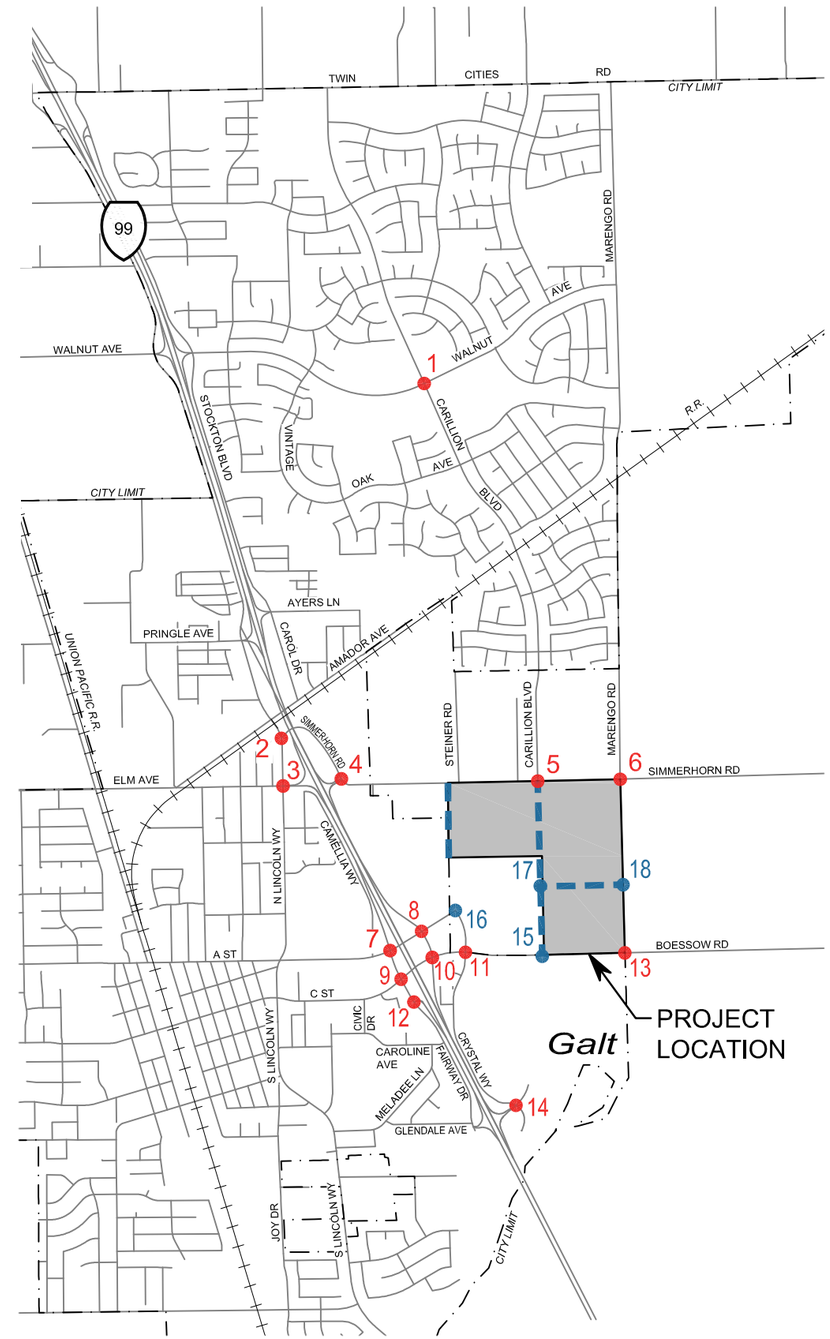


LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**EXISTING PROJECT ONLY**
**PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 4.6**

Filename: \\ghdnet\ghd\US\Rosevilla\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 9 September 2019 - 8:31 AM

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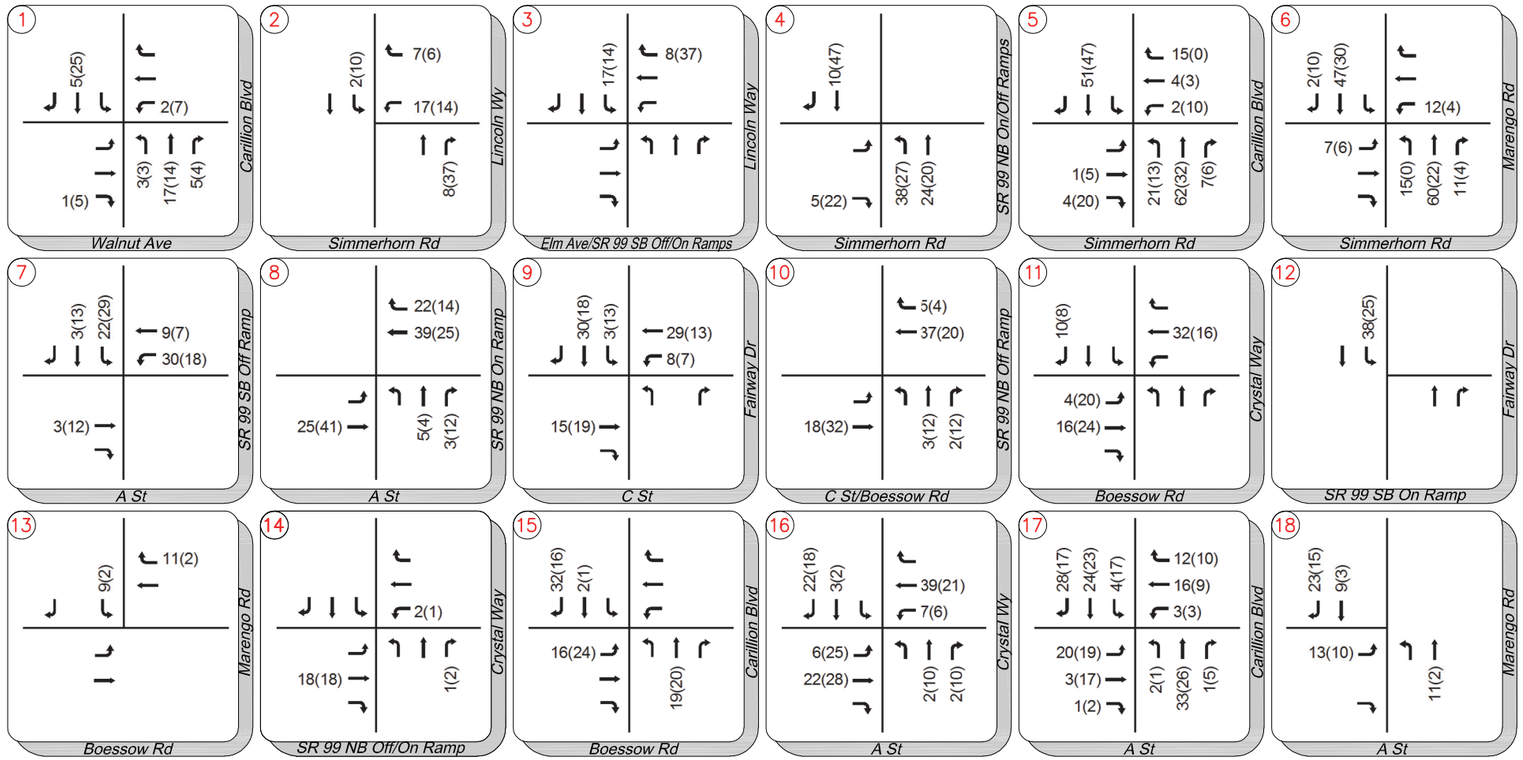
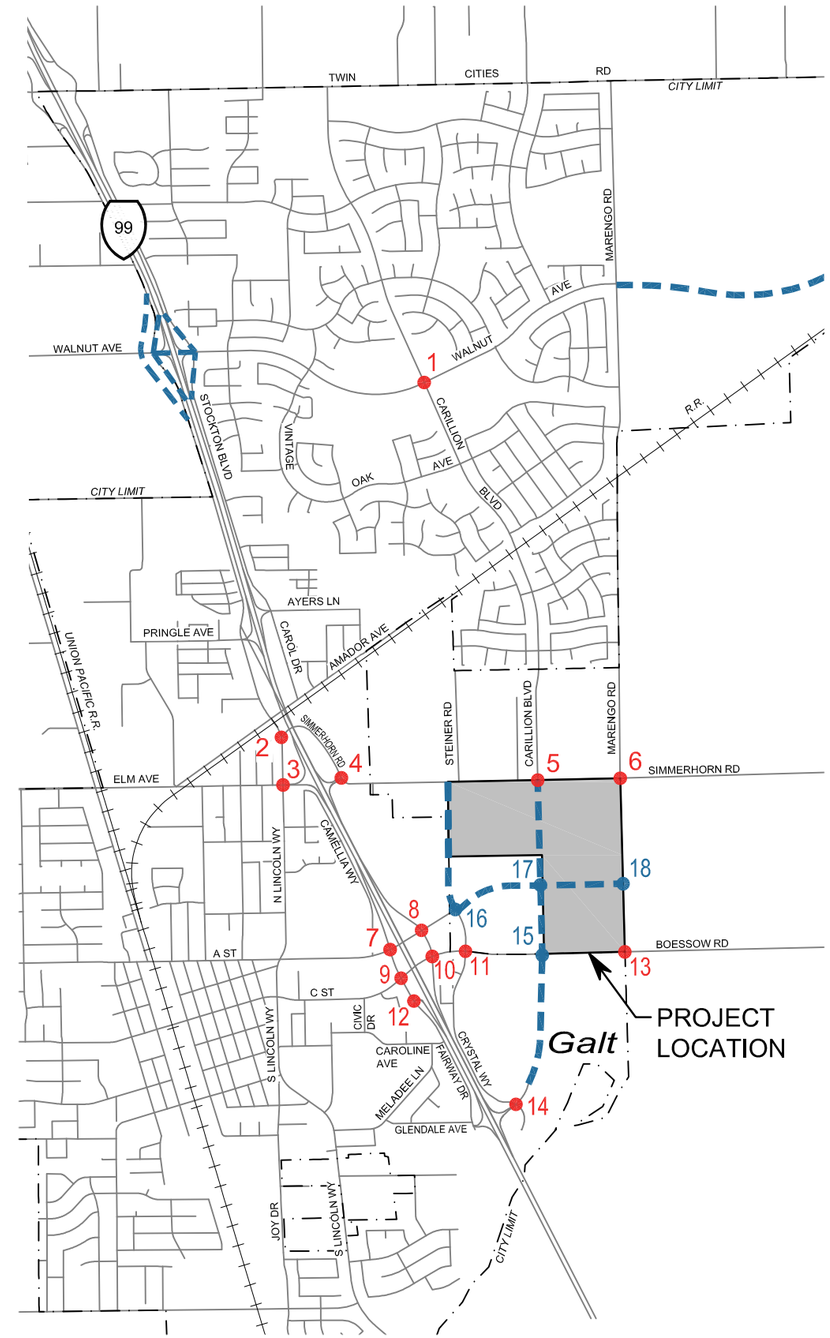



LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**YEAR 2040 PROJECT ONLY**
**PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 4.7**

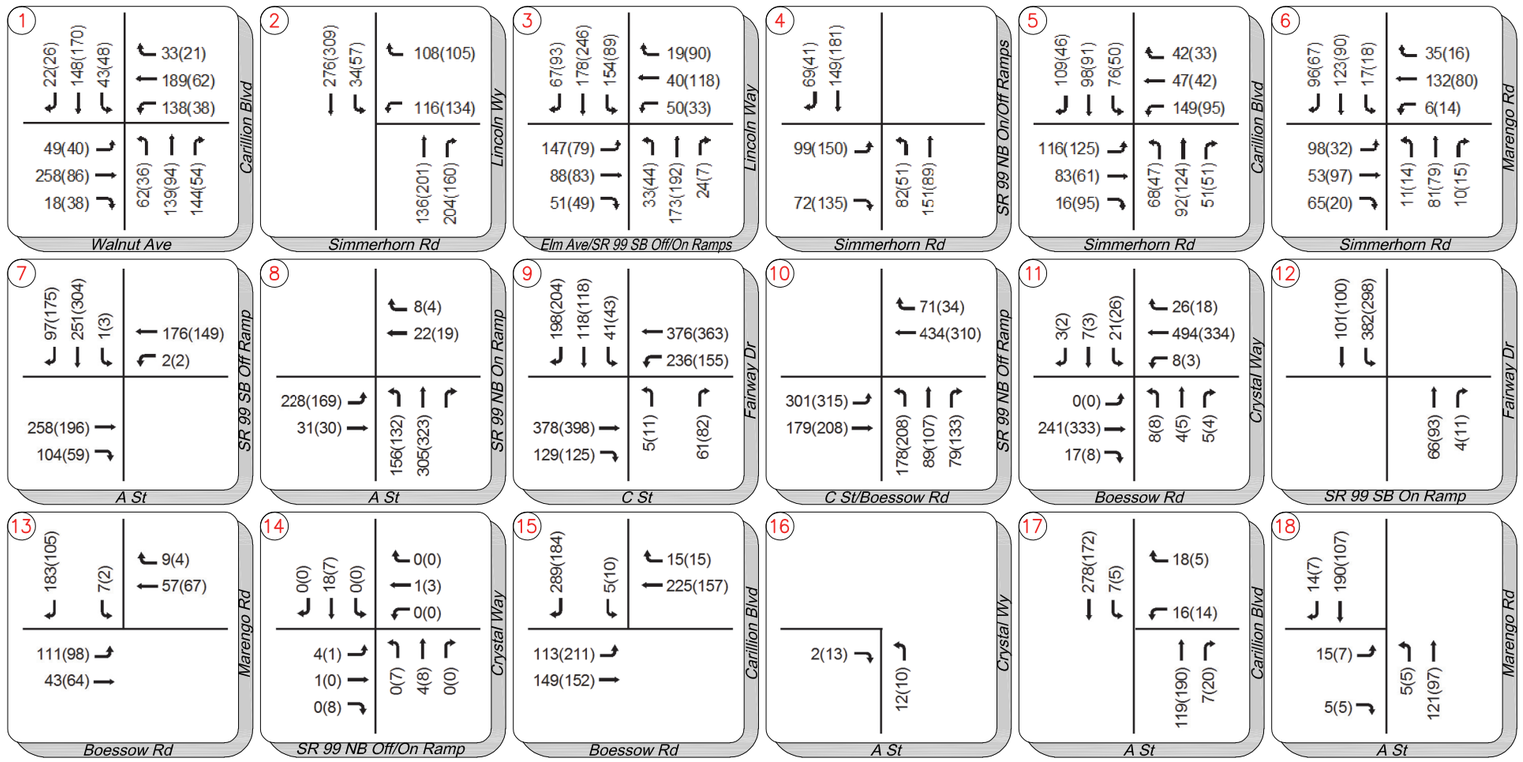
Filename: \\ghdnet\ghd\US\Roseville\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 4 September 2019 - 7:35 PM

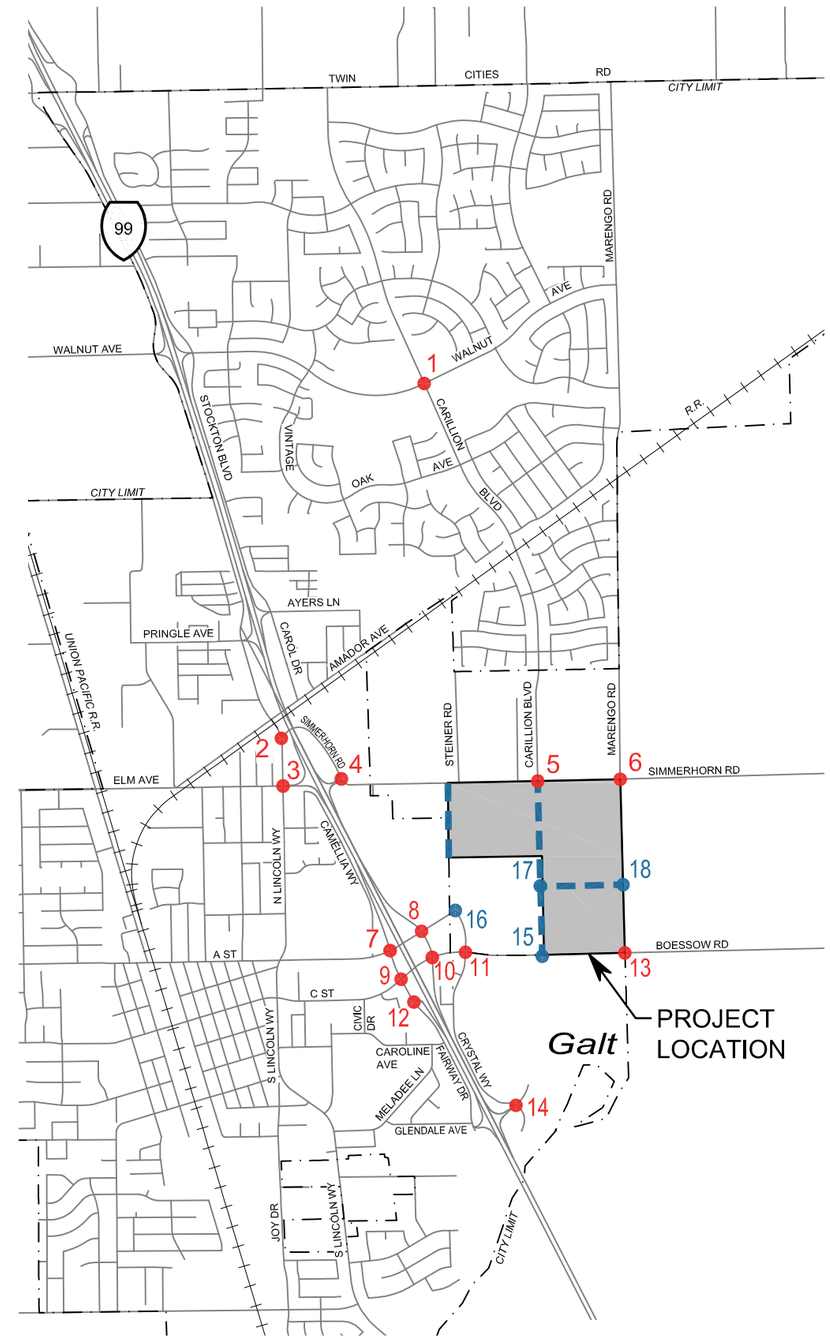
Source:

# 5. Existing Plus Project Conditions

Existing Plus Project conditions refers to the analysis scenario in which projected trips generated by the proposed project are compared to the existing traffic volumes. Due to the Project constructing the new road segment, extending Carillion Boulevard south from Simmerhorn Road to Boessow Road, existing background traffic is expected to divert along the new road to/from Central Galt and the east. The Citywide Travel Demand Model was utilized to estimate background peak hour traffic volumes along the Carillion Boulevard extension, and. Then, Existing Plus Project AM and PM peak hour intersection traffic operations were quantified by superimposing the project-generated peak hour volumes onto existing “background” traffic volumes.

Figure 5.1 presents the Existing Plus Project peak hour traffic volumes.




LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**EXISTING PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 5.1**

Filename: \\ghdnetighd\US\Rosevilla\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 9 September 2019 - 12:57 PM

Source:

## 5.1 Existing Plus Project Intersection Operations

Table 5.1 presents a summary of the LOS and delay (in sec/veh) at each study intersection during the Existing Plus Project conditions.

**Table 5.1 Existing Plus Project Conditions Intersection Operations**

| # | Intersection | Control Type[1,2] | Target LOS | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS |
| 1 | Carillion Boulevard / Walnut Avenue[3] | AWSC | D | 10.5 | B | 6.5 | A |
| 2 | Simmerhorn Road / Lincoln Way | TWSC | E | 16.3 | C | 16.7 | C |
| 3 | SR 99 SB Ramps / Elm Avenue / Lincoln Way | AWSC | D | 18.3 | C | 16.0 | C |
| 4 | SR 99 NB Ramps / Simmerhorn Road | TWSC | D | 13.1 | B | 11.8 | B |
| 5 | Carillion Boulevard / Simmerhorn Road | AWSC | D | 19.0 | C | 12.3 | B |
| 6 | Marengo Road / Simmerhorn Road | RNDBT | D | 6.1 | A | 5.4 | A |
| 7 | SR 99 SB Off-Ramp / A Street | Signal | D | 7.5 | A | 7.4 | A |
| 8 | SR 99 NB On-Ramp/ A Street | Signal | D | 11.0 | B | 9.7 | A |
| 9 | Fairway Drive / C Street | Signal | D | 15.3 | B | 15.9 | B |
| 10 | SR 99 NB Off-Ramp / C Street / Boessow Road | Signal | D | 14.4 | B | 12.4 | B |
| 11 | Crystal Way / Boessow Road | TWSC | E | 19.2 | C | 15.0 | B |
| 12 | SR 99 SB On-Ramp / Fairway Drive | Signal | D | 4.6 | A | 4.6 | A |
| 13 | Marengo Road / Boessow Road | RNDBT | D | 5.8 | A | 5.8 | A |
| 14 | SR 99 NB Ramps / Crystal Way | TWSC | D | 9.2 | A | 9.3 | A |
| 15 | Carillion Boulevard / Boessow Road | TWSC | D | 12.9 | B | 11.3 | B |
| 17 | Carillion Boulevard / A Street | TWSC | D | 10.4 | B | 10.8 | B |
| 18 | Marengo Road / A Street | RNDBT | D | 4.2 | A | 4.2 | A |

Notes:
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Delay based on SimTraffic results
4. **Bold** = Unacceptable Conditions
5. Study intersection #16 does not exist under Existing Plus Project conditions

As presented in Table 5.1, all intersections operate at an acceptable LOS during Existing Plus Project conditions in the AM and PM peak hours.

## 5.2 Existing Plus Project Ramp & Weaving Segment Operations

Existing Plus Project weekday AM and PM peak hour ramp and weaving segment operations were quantified by superimposing the additional increments in traffic generated by the proposed project onto existing traffic volumes from ramp-adjacent intersections and PeMS and Caltrans data. Table 5.2 presents a summary of the LOS and density (in pc/mi/ln) at each analysis location during the Existing Plus Project conditions.

### Table 5.2 Existing Plus Project Conditions Ramp & Weaving Segment Operations

| # | Location | Segment Type | No. of Lanes | Target LOS | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ramp Volume(s) | Density (pc/mi/ln) | LOS | Ramp Volume(s) | Density (pc/mi/ln) | LOS |
| **SR 99 NORTHBOUND** | | | | | | | | | | |
| **1** | **Crystal Way Off Ramp** | **Diverge** | **1** | **D** | 5 | 24.6 | C | 9 | 34.1 | D |
| 2 | Crystal Way to C Street Auxiliary Lane | Weave | 1 | D | 1 / 346 | 15.9 | B | 10 / 448 | 22.2 | C |
| 3 | A Street to Simmerhorn Road Auxiliary Lane | Weave | 1 | D | 541 / 171 | 18.1 | B | 496 / 285 | 23.1 | C |
| 4 | Simmerhorn On Ramp | Merge | 1 | D | 151 | 26.7 | C | 92 | 32.4 | D |
| **SR 99 SOUTHBOUND** | | | | | | | | | | |
| 5 | Elm Avenue Off Ramp | Diverge | 1 | D | 109 | 25.2 | C | 241 | 34.7 | D |
| 6 | Elm Avenue to A Street Auxiliary Lane | Weave | 1 | D | 266 / 349 | 17.2 | B | 179 / 482 | 22.7 | C |
| 7 | C Street to Fairway Drive Auxiliary Lane | Weave | 1 | D | 386 / 35 | 17.1 | B | 309 / 59 | 20.7 | C |

Notes:
1. Ramp volumes based on PeMS average weekday aggregates between February and April 2019.
2. For weaving sections, volumes listed are for On-Ramp/Off-Ramp.
3. For merging and diverging ramps, volumes listed are ramp volumes.
4. **Bold** = Unacceptable Conditions

As presented in Table 5.2, all ramp and weaving segments operate at an acceptable LOS during Existing Plus Project conditions in the AM and PM peak hours.

# 6. Cumulative No Project Conditions

Cumulative conditions refers to the analysis scenario which reflects future conditions represented by local and regional growth in approximately 20 years (Year 2040). Based on City direction, Cumulative No Project conditions will analyze the scenario that considers the projected 20-Year development forecast, including the currently planned and approved developments, but without the proposed Simmerhorn Ranch project.

## 6.1 Citywide Travel Demand Model & 20-Year Development Forecast

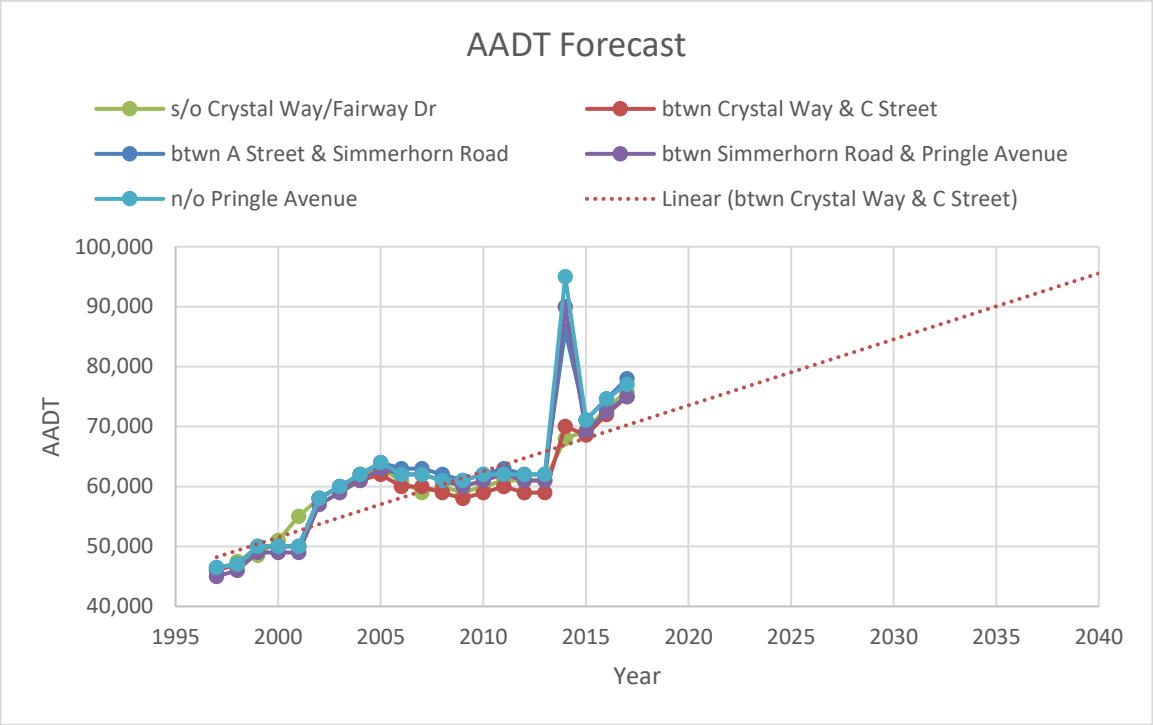
GHD (formerly, Omni-Means) created the Galt Citywide Travel Demand Model in 2006 as part of the General Plan Circulation Element Update. In 2009, and subsequently in 2014, the City also contracted Omni-Means to perform an update to the City's Traffic Capital Improvements Program (TCIP) and the Northeast Area Public Facilities Program. As part of this effort, an update to the City's Travel Demand Model was performed, including a 20-year land use development forecast scenario (2015 Prioritized TCIP). GHD performed minor updates to the 20-year development forecast in the *Carillion Boulevard Complete Street Corridor Study* to account for changes to current development proposals. The information from the Carillion Boulevard study will be used as the baseline scenario for Cumulative conditions. The use of the 20-year forecasts were confirmed by the City from the Memorandum of Assumptions, dated July 23, 2019.

### 6.1.1 Carillion Boulevard Complete Street Corridor Study

The *Carillion Boulevard Complete Street Corridor Study* evaluates two alternatives for Carillion Boulevard. The first alternative analyzes Carillion Boulevard as a four-lane arterial. The second alternative analyzes Carillion Boulevard with road diet implementation. Since the plan is currently pending approval, the two alternatives for Carillion Boulevard will be considered under Cumulative conditions analysis for this Traffic Impact Study.

## 6.2 SR 99 Forecasts

Caltrans historical data along SR 99 in the project vicinity was reviewed over the past 10-20 years to obtain a general forecast for the SR 99 at A Street/C Street interchange. The graph below presents the Caltrans historical data from 1997 to 2017. As shown, there was a 'spike' in traffic with 95,000 ADT reported in 2014, which is not consistent with the historical trends and is likely an error. Without considering the 2014 outlier, a straight-line annual growth rate between 2008 and 2017 is calculated to be 2.6%. The graph projects a trendline to year 2040, based on SR 99 between Crystal Way and C Street. This location did not show as much of an outlier in AADT, so it is used as reference. As shown, the historical data projects SR 99 south of C Street is be approximately 95,000 ADT.




The Citywide Travel Demand Model was also utilized to compare forecasts. The model considers growth based on developments within the City, as well as regional growth on SR 99, over the next 20 years. The model projects a growth of approximately 19,800 ADT on SR 99 at the C Street/A Street Interchange. 2018 PeMS data is located just north of the C Street ramps, with current traffic volumes on SR 99 at 73,600 ADT. Adding the model delta to the current count, at this location, accounting for 22 years of growth from 2018 to 2040 results in a projection estimated at **95,400** ADT. Therefore, the model and the historical Caltrans trendline were utilized to estimate SR 99 forecasts. The Existing K (peak) and D (Directional) factors were then applied to the 2040 ADT forecast to obtain the peak hour forecasts on SR 99. The SR 99 Mainline forecasts (north of C Street ramps) are shown below for the AM and (PM) peak hours.

- SR 99 Northbound: 2,310 (3,330)
- SR 99 Southbound: 2,610 (3,280)

## 6.3 Cumulative Improvements

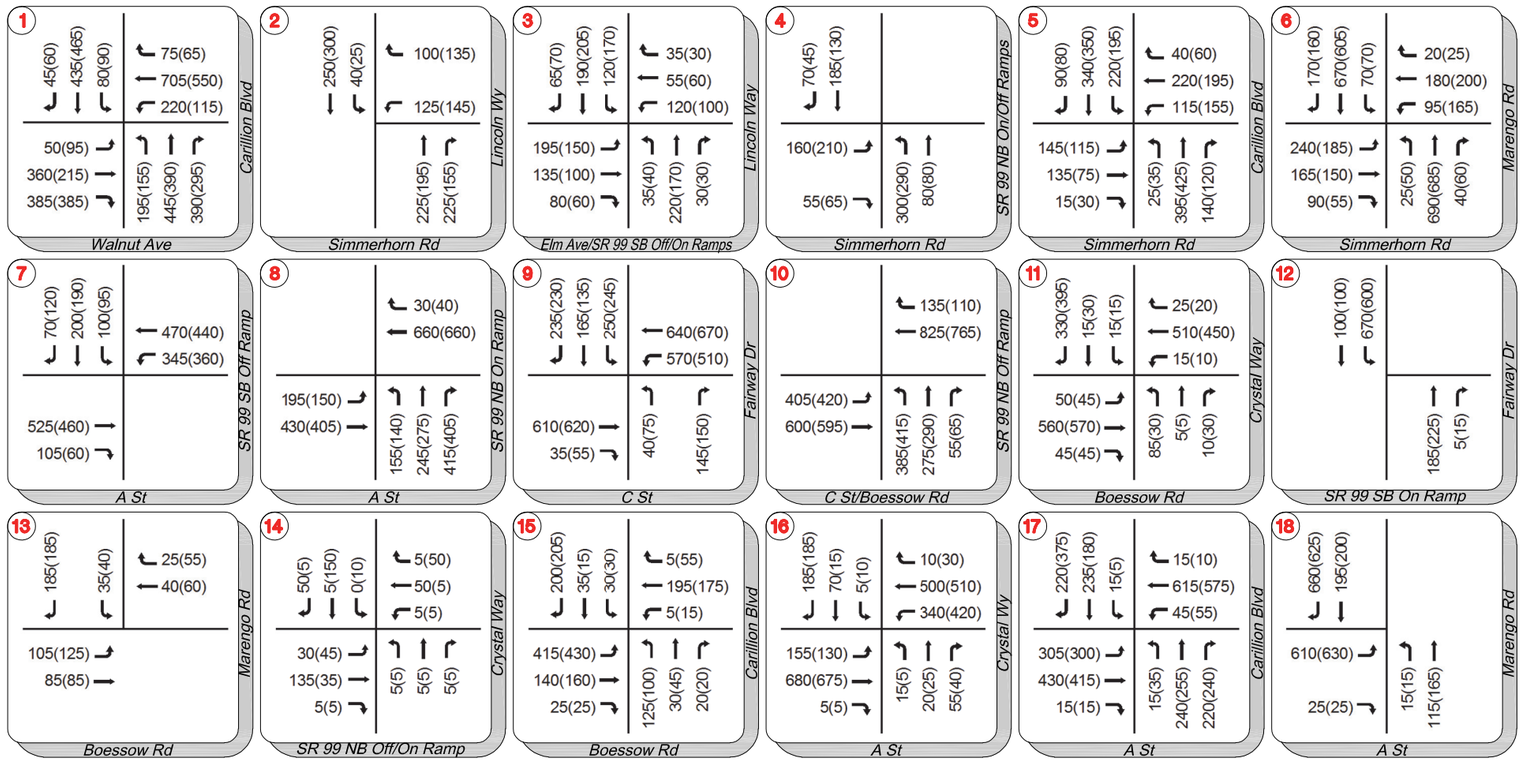
Under Cumulative No Project conditions, forecasted roadway improvements include the following:

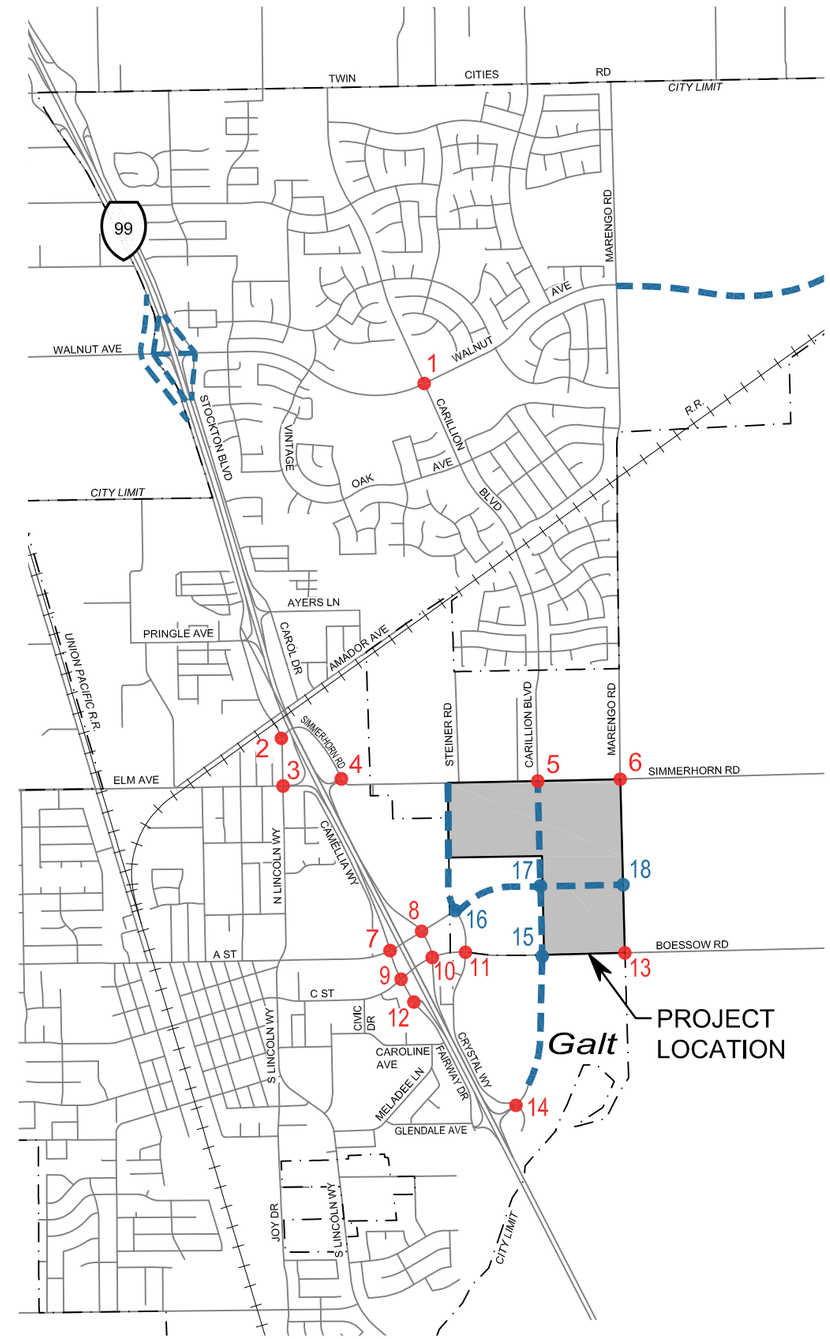
- Carillion Boulevard extension south between Boessow Road and Crystal Way/SR 99 Northbound ramps
- A Street extension east between Crystal Way and Carillion Boulevard
- Crystal Way extension north between A Street and Simmerhorn Road
- Walnut Avenue Interchange
- Walnut Avenue extension east through the Eastview Specific Plan area

- Widening of Twin Cities Road to four lanes, west of Marengo Road
- Widening of Marengo Road to four lanes, north of Simmerhorn Road
- Implementation of traffic signals at the following intersections:
    - Carillion Boulevard at Walnut Avenue (or a Roundabout with Carillion Boulevard Road Diet),
    - Carillion Boulevard at Simmerhorn Road (or a Roundabout with Carillion Boulevard Road Diet),
    - Boessow Road at Crystal Way
    - Carillion Boulevard at Boessow Road (or a Roundabout with Carillion Boulevard Road Diet),
    - A Street at Crystal Way, and
    - Carillion Boulevard at A Street (or a Roundabout with Carillion Boulevard Road Diet),
- Implementation of a roundabout at Simmerhorn Road at SR 99 Northbound Ramps (consistent with the 2015 TCIP).

### 6.3.1 Cumulative No Project Peak Hour Forecasts

The 20-year development forecasts identified in the *Carillion Boulevard Complete Street Corridor Study* includes the Simmerhorn development (Project). Therefore, the *Carillion Boulevard Complete Street Corridor Study* was utilized as a basis for determining the 2040 (Cumulative) No Project traffic forecasts at the study locations. The 2040 Project Only peak hour traffic volumes were subtracted from the forecasts, rounded to the nearest 5 vehicles, and checked for consistency (volume balance without the proposed project) between intersections near the project site, to obtain 2040 No Project peak hour volume forecasts. Figure 6.1 presents the Cumulative (2040 No Project) peak hour traffic volumes.




LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**CUMULATIVE (2040 NO PROJECT)**
**PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 6.1**

Filename: \\ghdnet\ghd\US\Roseville\Projects\561\11194613\Digital_Design\ACAD 2018\TRAFFIC GRAPHICS\11194613_TG001.dwg Plot Date: 10 September 2019 - 1:20 PM

Source:

## 6.4 Cumulative No Project Intersection Operations

Table 6.1 presents a summary of the LOS and delay (in sec/veh) at each study intersection during the Cumulative No Project conditions.

**Table 6.1 Cumulative No Project Conditions Intersection Operations**

| # | Intersection | Control Type[1,2] | Target LOS | AM Peak Hour | | PM Peak Hour | | Warrant Met? |
|---|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS | |
| 1 | Carillion Boulevard / Walnut Avenue[3] | Signal | D | 23.2 | C | 20.2 | C | |
| 2 | Simmerhorn Road / Lincoln Way | TWSC | E | 16.6 | C | 16.6 | C | |
| 3 | SR 99 SB Ramps / Elm Avenue / Lincoln Way | AWSC | D | 27.4 | D | 16.6 | C | |
| 4 | SR 99 NB Ramps / Simmerhorn Road | RNDBT | D | 8.3 | A | 8.5 | A | Yes |
| 5 | Carillion Boulevard / Simmerhorn Road | Signal | D | 23.5 | C | 21.7 | C | Yes |
| 6 | Marengo Road / Simmerhorn Road | RNDBT | D | 7.8 | A | 8.2 | A | Yes |
| 7 | SR 99 SB Off-Ramp / A Street | Signal | D | 10.7 | B | 10.4 | B | |
| 8 | SR 99 NB On-Ramp/ A Street | Signal | D | 14.1 | B | 12.4 | B | |
| 9 | Fairway Drive / C Street | Signal | D | 28.9 | C | 47.5 | D | |
| 10 | SR 99 NB Off-Ramp / C Street / Boessow Road | Signal | D | 39.2 | D | 24.1 | C | |
| 11 | Crystal Way / Boessow Road | Signal | E | 19.4 | B | 14.2 | B | Yes |
| 12 | SR 99 SB On-Ramp / Fairway Drive | Signal | D | 6.3 | A | 6.2 | A | |
| 13 | Marengo Road / Boessow Road | RNDBT | D | 5.8 | A | 6.0 | A | No |
| 14 | SR 99 NB Ramps / Crystal Way | TWSC | D | 10.1 | B | 10.7 | B | |
| 15 | Carillion Boulevard / Boessow Road | Signal | D | 19.0 | B | 20.9 | C | Yes |
| 16 | Crystal Way / A Street | Signal | E | 34.6 | C | 43.9 | D | Yes |
| 17 | Carillion Boulevard / A Street | Signal | D | 37.8 | D | 28.4 | C | Yes |
| 18 | Marengo Road / A Street | RNDBT | D | 7.3 | A | 7.5 | A | Yes |

Notes:
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Delay based on SimTraffic results
4. **Bold** = Unacceptable Conditions

As presented in Table 6.1, all intersections operate at an acceptable LOS during Cumulative No Project conditions in the AM and PM peak hours.

## 6.5 Cumulative No Project Ramp & Weaving Segment Operations

Cumulative No Project weekday AM and PM peak hour ramp and weaving segment operations were quantified using forecasted traffic volumes from ramp-adjacent intersections and PeMS and Caltrans data. Table 6.2 presents a summary of the LOS and density (in pc/mi/ln) at each analysis location during the Cumulative No Project conditions.

### Table 6.2 Cumulative No Project Conditions Ramp & Weaving Segment Operations

| # | Location | Segment Type | No. of Lanes | Target LOS | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ramp Volume(s) | Density (pc/mi/ln) | LOS | Ramp Volume(s) | Density (pc/mi/ln) | LOS |
| **SR 99 NORTHBOUND** | | | | | | | | | | |
| **1** | **Crystal Way Off Ramp** | **Diverge** | **1** | **D** | **170** | **35.1** | **E** | **85** | **v/c = 1.10** | **F** |
| 2 | Crystal Way to C Street Auxiliary Lane | Weave | 1 | D | 105 / 715 | 23.0 | C | 15 / 770 | 32.6 | D |
| 3 | A Street to Simmerhorn Road Auxiliary Lane | Weave | 1 | D | 470 / 215 | 20.9 | C | 465 / 275 | 29.5 | D |
| **4** | **Simmerhorn On Ramp** | **Merge** | **1** | **D** | 370 | 32.4 | D | **335** | **v/c = 1.01** | **F** |
| **SR 99 SOUTHBOUND** | | | | | | | | | | |
| **5** | **Elm Avenue Off Ramp** | **Diverge** | **1** | **D** | 210 | 32.9 | D | **190** | **40.1** | **E** |
| 6 | Elm Avenue to A Street Auxiliary Lane | Weave | 1 | D | 285 / 370 | 22.3 | C | 300 / 405 | 28.3 | D |
| 7 | C Street to Fairway Drive Auxiliary Lane | Weave | 1 | D | 675 / 126 | 25.4 | C | 615 / 210 | 31.0 | D |

Notes:
1. Ramp volumes based on PeMS average weekday aggregates between February and April 2019.
2. For weaving sections, volumes listed are for On-Ramp/Off-Ramp.
3. For merging and diverging ramps, volumes listed are ramp volumes.
4. **Bold** = Unacceptable Conditions

As presented in Table 6.2, the following locations operate at unacceptable LOS under Cumulative No Project conditions:

- #1 – Crystal Way Off Ramp Diverging Segment
- #4 – Simmerhorn On Ramp Merging Segment
- #5 – Elm Avenue Off Ramp Diverging Segment

# 7. Cumulative Plus Project Conditions

Cumulative Plus Project conditions refers to the analysis scenario in which projected trips generated by the proposed project are superimposed on 2040 No Project traffic volumes, and analyzed using the lane geometrics and intersection controls as listed under Cumulative No Project conditions. Figure 7.1 presents the Cumulative Plus Project traffic volumes.

## 7.1 Cumulative Plus Project Intersection Operations

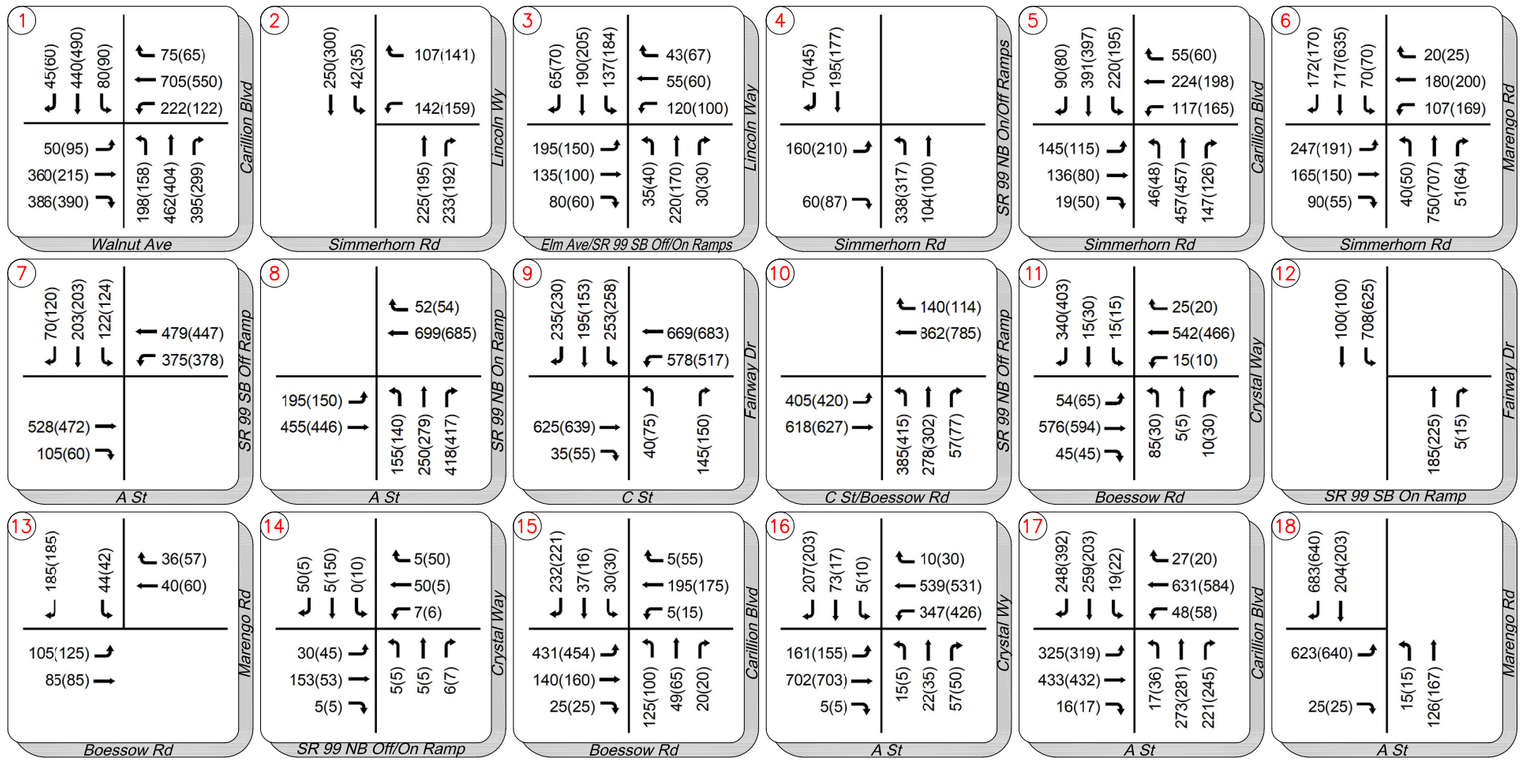
Table 7.1 presents a summary of the LOS and delay (in sec/veh) at each study intersection during the Cumulative Plus Project conditions.

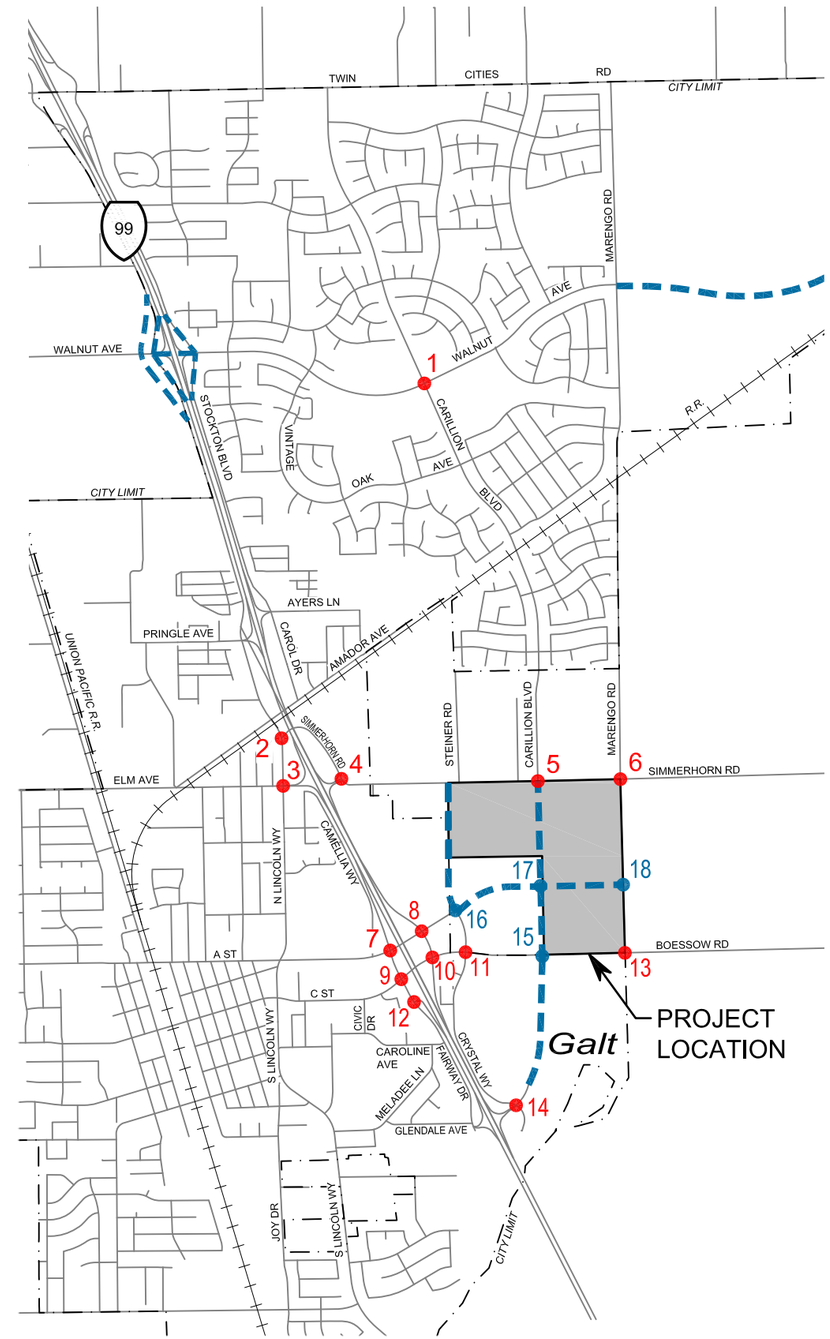
**Table 7.1 Cumulative Plus Project Conditions Intersection Operations**

| # | Intersection | Control Type[1,2] | Target LOS | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS |
| 1 | Carillion Boulevard / Walnut Avenue[3] | Signal | D | 23.5 | C | 20.8 | C |
| 2 | Simmerhorn Road / Lincoln Way | TWSC | E | 17.9 | C | 18.4 | C |
| 3 | SR 99 SB Ramps / Elm Avenue / Lincoln Way | AWSC | D | 28.5 | D | 17.6 | C |
| 4 | SR 99 NB Ramps / Simmerhorn Road | RNDBT | D | 8.4 | A | 8.5 | A |
| 5 | Carillion Boulevard / Simmerhorn Road | Signal | D | 25.8 | C | 22.4 | C |
| 6 | Marengo Road / Simmerhorn Road | RNDBT | D | 8.2 | A | 8.3 | A |
| 7 | SR 99 SB Off-Ramp / A Street | Signal | D | 10.8 | B | 10.6 | B |
| 8 | SR 99 NB On-Ramp/ A Street | Signal | D | 14.6 | B | 12.5 | B |
| 9 | Fairway Drive / C Street | Signal | D | 29.5 | C | 51.3 | D |
| 10 | SR 99 NB Off-Ramp / C Street / Boessow Road | Signal | D | 46.1 | D | 26.5 | C |
| 11 | Crystal Way / Boessow Road | Signal | E | 19.9 | B | 14.7 | B |
| 12 | SR 99 SB On-Ramp / Fairway Drive | Signal | D | 6.4 | A | 6.3 | A |
| 13 | Marengo Road / Boessow Road | RNDBT | D | 5.9 | A | 6.0 | A |
| 14 | SR 99 NB Ramps / Crystal Way | TWSC | D | 10.2 | B | 10.7 | B |
| 15 | Carillion Boulevard / Boessow Road | Signal | D | 19.0 | B | 21.0 | C |
| 16 | Crystal Way / A Street | Signal | E | 37.7 | D | 51.6 | D |
| 17 | Carillion Boulevard / A Street | Signal | D | 44.5 | D | 31.8 | C |
| 18 | Marengo Road / A Street | RNDBT | D | 7.3 | A | 7.5 | A |

Notes:
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Delay based on SimTraffic results
4. **Bold** = Unacceptable Conditions

As presented in Table 7.1, all intersections operate at an acceptable LOS during Cumulative Plus Project conditions in the AM and PM peak hours.




LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

N

GHD

**Raney Planning and Management**
**SIMMERHORN RANCH TIAR**

**CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 7.1**

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Source:

## 7.2 Cumulative Plus Project Ramp & Weaving Segment Operations

Cumulative Plus Project weekday AM and PM peak hour ramp and weaving segment operations were quantified by superimposing the additional increments in traffic generated by the proposed project in Cumulative conditions onto forecasted traffic volumes from ramp-adjacent intersections and PeMS and Caltrans data. Table 7.2 presents a summary of the LOS and density (in pc/mi/ln) at each analysis location during the Cumulative Plus Project conditions.

**Table 7.2 Cumulative Plus Project Conditions Ramp & Weaving Segment Operations**

| # | Location | Segment Type | No. of Lanes | Target LOS | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ramp Volume(s) | Density (pc/mi/ln) | LOS | Ramp Volume(s) | Density (pc/mi/ln) | LOS |
| **SR 99 NORTHBOUND** | | | | | | | | | | |
| **1** | **Crystal Way Off Ramp** | **Diverge** | **1** | **D** | **188** | **35.4** | **E** | **103** | **v/c = 1.12** | **F** |
| 2 | Crystal Way to C Street Auxiliary Lane | Weave | 1 | D | 105 / 720 | 23.1 | C | 15 / 794 | 33.1 | D |
| 3 | A Street to Simmerhorn Road Auxiliary Lane | Weave | 1 | D | 497 / 220 | 21.2 | C | 483 / 297 | 30.0 | D |
| **4** | **Simmerhorn On Ramp** | **Merge** | **1** | **D** | 408 | 33.0 | D | **362** | **v/c = 1.02** | **F** |
| **SR 99 SOUTHBOUND** | | | | | | | | | | |
| **5** | **Elm Avenue Off Ramp** | **Diverge** | **1** | **D** | 218 | 33.2 | D | **227** | **40.9** | **E** |
| 6 | Elm Avenue to A Street Auxiliary Lane | Weave | 1 | D | 302 / 395 | 22.7 | C | 314 / 447 | 28.9 | D |
| 7 | C Street to Fairway Drive Auxiliary Lane | Weave | 1 | D | 713 / 126 | 26.0 | C | 640 / 210 | 31.5 | D |

Notes:
1. Ramp volumes based on PeMS average weekday aggregates between February and April 2019.
2. For weaving sections, volumes listed are for On-Ramp/Off-Ramp.
3. For merging and diverging ramps, volumes listed are ramp volumes.
4. **Bold** = Unacceptable Conditions

As presented in Table 7.2, the following locations operate at unacceptable LOS under Cumulative Plus Project conditions:

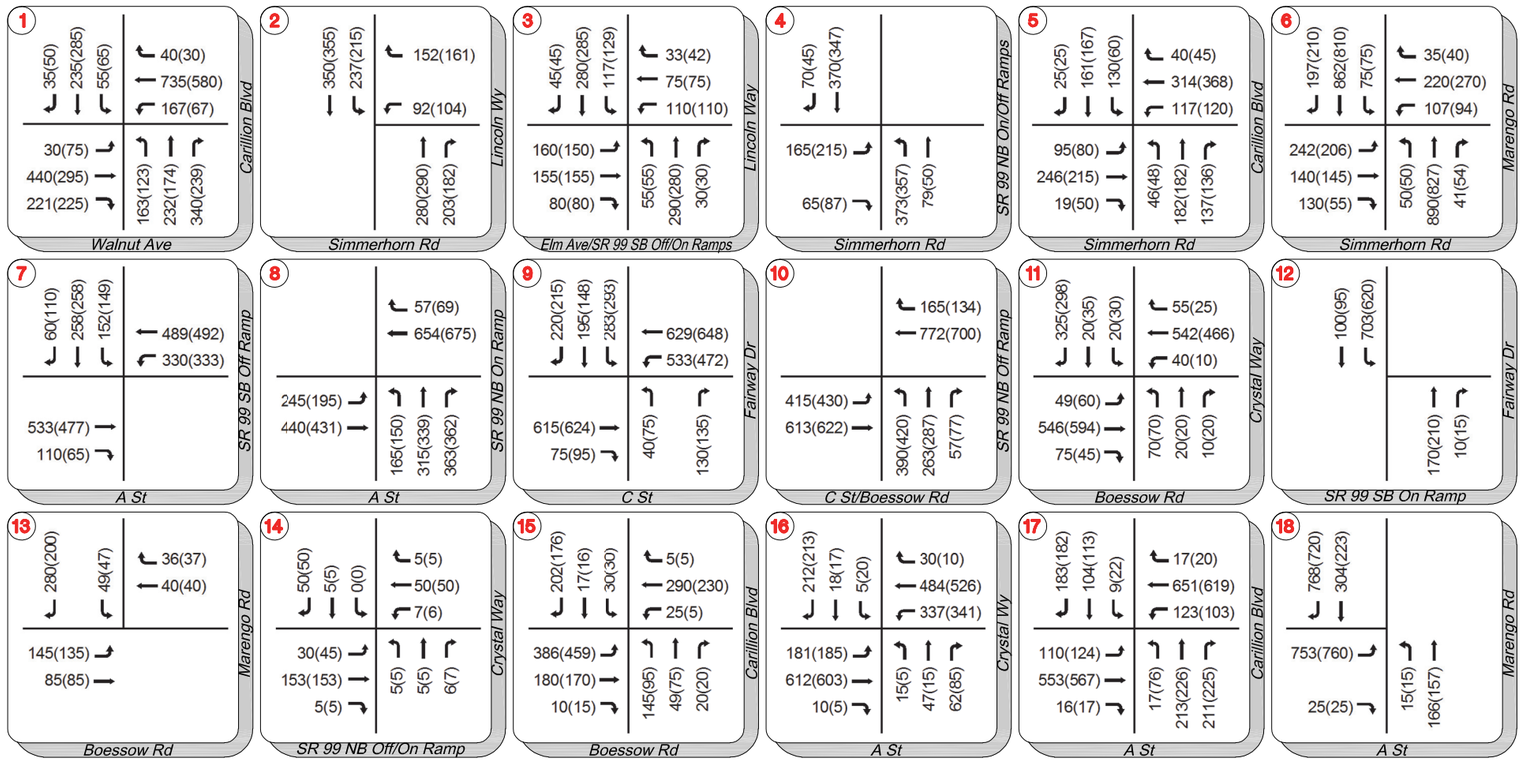
- #1 – Crystal Way Off Ramp Diverging Segment
- #4 – Simmerhorn On Ramp Merging Segment
- #5 – Elm Avenue Off Ramp Diverging Segment

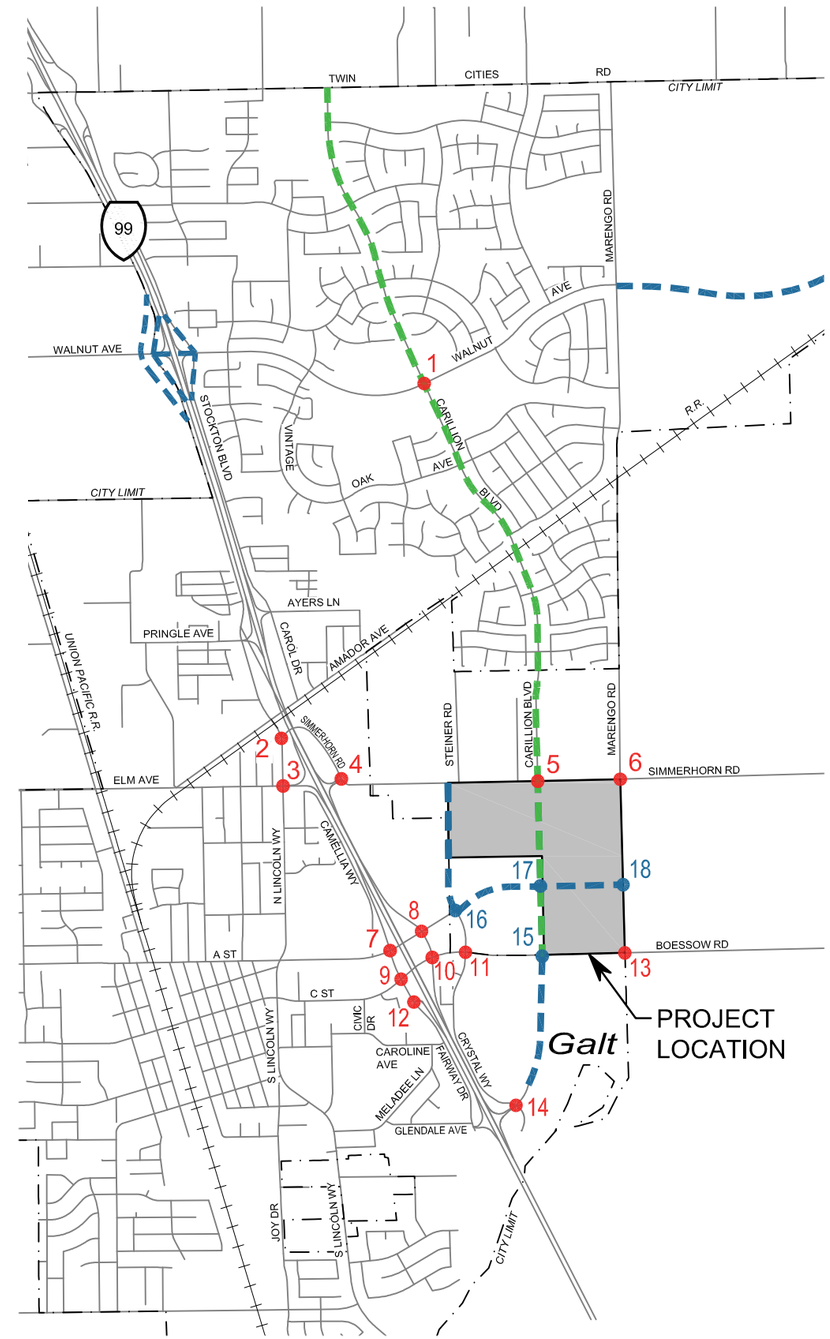
# 8. Cumulative Plus Project with Road Diet Conditions

Cumulative Plus Project with Road Diet conditions analyzes the scenario in which traffic impacts associated with the project are investigated in comparison to the Cumulative No Project conditions. This scenario utilizes the roadway and intersection improvements recommended by the *Carillion Boulevard Complete Street Corridor Study*, referred to as the "Road Diet" in this study. Under Cumulative Plus Project conditions with Road Diet, the following roadway geometry features vary from Cumulative No Project and Cumulative Plus Project conditions:

- Carillion Boulevard is narrowed to two (2) lanes between Twin Cities Road and Boessow Road, with roundabouts located in place of the 2040 No Project (four-lane scenario) intersection controls at the following study intersections:
    - Carillion Boulevard at Walnut Avenue
    - Carillion Boulevard at Simmerhorn Road
    - Carillion Boulevard at A Street
    - Carillion Boulevard at Boessow Road
    - Roundabouts at other locations along Carillion Boulevard not analyzed in this study are also assumed to be in place

The Cumulative Plus Project with Road Diet forecasts were derived from the *Carillion Boulevard Complete Street Corridor Study*. The forecasts were first derived for 2040 "No Project" with the road diet, to check for consistency and balancing between the study intersections, and then the 2040 Project Only traffic volumes were added to obtain the "2040 Plus Project with Road Diet" traffic forecast. Figure 8.1 presents the Cumulative Plus Project with Road Diet peak hour traffic volumes.




LEGEND:

XX AM PEAK HOUR TRAFFIC VOLUMES

(XX) PM PEAK HOUR TRAFFIC VOLUMES

FUTURE ROADWAY

ROAD DIET

N

GHD

Raney Planning and Management
SIMMERHORN RANCH TIAR

**CUMULATIVE PLUS PROJECT WITH CARILLION BLVD ROAD DIET PEAK HOUR TRAFFIC VOLUMES**

Project No. **11194613**
Report No. **01**
Date **September 2019**

**FIGURE 8.1**

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Source:

## 8.1 Cumulative Plus Project with Road Diet Intersection Operations

Table 8.1 presents a summary of the LOS and delay (in sec/veh) at each study intersection during the Cumulative Plus Project conditions with Road Diet.

**Table 8.1 Cumulative Plus Project Conditions with Road Diet Intersection Operations**

| # | Intersection | Control Type[1,2] | Target LOS | AM Peak Hour | | PM Peak Hour | | Warrant Met? |
|---|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS | |
| 1 | Carillion Boulevard / Walnut Avenue | RNDBT | D | 7.5 | A | 6.9 | A | |
| 2 | Simmerhorn Road / Lincoln Way | TWSC | E | 32.3 | D | 31.5 | D | |
| **3** | **SR 99 SB Ramps / Elm Avenue / Lincoln Way** | **AWSC** | **D** | **44.0** | **E** | **36.9** | **E** | **Yes** |
| 4 | SR 99 NB Ramps / Simmerhorn Road | RNDBT | D | 8.7 | A | 8.9 | A | |
| 5 | Carillion Boulevard / Simmerhorn Road | RNDBT | D | 8.2 | A | 7.6 | A | |
| 6 | Marengo Road / Simmerhorn Road | RNDBT | D | 13.8 | B | 8.9 | A | |
| 7 | SR 99 SB Off-Ramp / A Street | Signal | D | 11.0 | B | 10.6 | B | |
| 8 | SR 99 NB On-Ramp/ A Street | Signal | D | 14.1 | B | 12.9 | B | |
| 9 | Fairway Drive / C Street | Signal | D | 28.7 | C | 43.6 | D | |
| 10 | SR 99 NB Off-Ramp / C Street / Boessow Road | Signal | D | 29.8 | C | 19.4 | B | |
| 11 | Crystal Way / Boessow Road | Signal | E | 20.2 | C | 15.8 | B | |
| 12 | SR 99 SB On-Ramp / Fairway Drive | Signal | D | 6.3 | A | 6.2 | A | |
| 13 | Marengo Road / Boessow Road | RNDBT | D | 6.0 | A | 6.1 | A | |
| 14 | SR 99 NB Ramps / Crystal Way | TWSC | D | 10.2 | B | 10.2 | B | |
| 15 | Carillion Boulevard / Boessow Road | RNDBT | D | 8.9 | A | 8.6 | A | |
| 16 | Crystal Way / A Street | Signal | E | 23.8 | C | 18.8 | B | |
| 17 | Carillion Boulevard / A Street | RNDBT | D | 13.3 | B | 18.5 | B | |
| 18 | Marengo Road / A Street | RNDBT | D | 9.6 | A | 8.6 | A | |

Notes:
1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; RNDBT = Roundabout
2. LOS = Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, Signal, RNDBT
3. Delay based on SimTraffic results
4. **Bold** = Unacceptable Conditions

As presented in Table 8.1, the following intersection operates at unacceptable LOS under Cumulative Plus Project conditions with Road Diet:

- #3 – SR 99 Southbound Ramps/Elm Avenue at Lincoln Way

## 8.2 Cumulative Plus Project with Road Diet Ramp & Weaving Segment Operations

Cumulative Plus Project with Road Diet weekday AM and PM peak hour ramp and weaving segment operations were quantified by superimposing the additional increments in traffic generated by the proposed project in Cumulative conditions onto forecasted traffic volumes from ramp-adjacent intersections and PeMS and Caltrans data, utilizing roadway geometry proposed by the *Carillion Boulevard Complete Street Study*. Table 8.2 presents a summary of the LOS and density (in pc/mi/ln) at each analysis location during the Cumulative Plus Project conditions with Road Diet.

**Table 8.2 Cumulative Plus Project with Road Diet Conditions Ramp & Weaving Segment Operations**

| # | Location | Segment Type | No. of Lanes | Target LOS | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ramp Volume(s) | Density (pc/mi/ln) | LOS | Ramp Volume(s) | Density (pc/mi/ln) | LOS |
| **SR 99 NORTHBOUND** | | | | | | | | | | |
| **1** | **Crystal Way Off Ramp** | **Diverge** | **1** | **D** | **188** | **35.4** | **E** | **203** | **v/c = 1.12** | **F** |
| 2 | Crystal Way to C Street Auxiliary Lane | Weave | 1 | D | 105 / 710 | 23.1 | C | 105 / 784 | 33.2 | D |
| 3 | A Street to Simmerhorn Road Auxiliary Lane | Weave | 1 | D | 617 / 230 | 22.6 | C | 603 / 302 | 31.4 | D |
| **4** | **Simmerhorn On Ramp** | **Merge** | **1** | **D** | 443 | 34.5 | D | **402** | **v/c = 1.06** | **F** |
| **SR 99 SOUTHBOUND** | | | | | | | | | | |
| **5** | **Elm Avenue Off Ramp** | **Diverge** | **1** | **D** | 218 | 33.2 | D | **227** | **40.9** | **E** |
| 6 | Elm Avenue to A Street Auxiliary Lane | Weave | 1 | D | 302 / 470 | 22.9 | C | 314 / 517 | 29.0 | D |
| 7 | C Street to Fairway Drive Auxiliary Lane | Weave | 1 | D | 713 / 126 | 25.3 | C | 635 / 210 | 30.7 | D |

Notes:
1. Ramp volumes based on PeMS average weekday aggregates between February and April 2019.
2. For weaving sections, volumes listed are for On-Ramp/Off-Ramp.
3. For merging and diverging ramps, volumes listed are ramp volumes.
4. **Bold** = Unacceptable Conditions

As presented in Table 8.2, the following locations operate at unacceptable LOS under Cumulative Plus Project conditions with Road Diet:

- #1 – Crystal Way Off Ramp Diverging Segment
- #4 – Simmerhorn On Ramp Merging Segment
- #5 – Elm Avenue Off Ramp Diverging Segment

# 9. Vehicle Miles Traveled (VMT) Analysis

This chapter describes the methodology and results of the vehicle miles travelled (VMT) analysis performed for the project. Senate Bill (SB) 743 creates a process to change the way transportation impacts are analyzed under CEQA. Originally, SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative measure of effectiveness (MOE) to control delay and associated level of service (LOS) for evaluating transportation impacts. On December 28, 2018, the California Office of Administrative Law cleared the revised State CEQA Guidelines for use. Among the changes to the State CEQA Guidelines was removal of vehicle delay and LOS from consideration as environmental impacts under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles travelled (VMT). Lead agencies have the opportunity to opt in to the revised guidelines early, but the new guidelines become effective Statewide on July 1, 2020. Recommendations on thresholds of significance for VMT have been developed by the OPR. However, lacking any operative thresholds under the lead agency, the City of Galt, VMT was not used to determine CEQA impacts within this report.

## 9.1 Model Selection

The California Emissions Estimator Model (CalEEMod) was used for this VMT analysis. CalEEMod is referred to as a "sketch model" which uses statistical characterizations of land use projects and transportation networks to estimate project VMT. CalEEMod was developed in cooperation with the South Coast Air Quality Management District (SCAQMD) and other air districts throughout the state. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify VMT and potential criteria pollutant and greenhouse gas emissions associated with construction and operation from a variety of land uses. CalEEMod version 2016.3.2 was used to estimate VMT from this project's operation.

Sources of methodologies and default vehicle activity data in CalEEMod include California Air Resources Board (CARB) vehicle emission model EMFAC. In addition, some local air districts provided customized values for their default data and existing regulation methodologies for use for projects located in their jurisdictions. When no customized information was provided and no regional differences were defined for local air districts, then state-wide default values were utilized.

## 9.2 Project Characteristics

The project's operational activity assumptions and parameters are summarized below.

"Sacramento County" and "Urban" settings were selected in the CalEEMod model.

The land use types and quantities described in Chapter 4 (Project Description) of this study were used to identify the approximate corresponding CalEEMod land uses used in the VMT analysis. These land uses and weekday trip generation rates are summarized in Table 9.1 and Table 9.2 for Existing Plus Project Trip Generation and Cumulative Plus Project trip generation, respectively. It is important to note that the CalEEMod Land Use Subtype names are not the proposed project land

uses. They are the closest CalEEMod Land Use Subtypes available that approximately correspond to the proposed project land uses.

**Table 9.1 CalEEMod model project land uses and trip generation rates – Existing Plus Project Trip Generation**

| General Land Use | CalEEMod Land Use Subtype | Quantity | Unit Type | Trip Generation Rate (trips/unit/day) |
|---|---|---|---|---|
| Educational | Elementary School | 200 | Students | 0.47 |
| Residential | Single Family Housing | 438 | Dwelling Unit | 8.59 |

Source: GHD 2019, CalEEMod 2016.
The Trip Generation Rate includes the internal capture adjustments presented in the Trip Generation Table in Chapter 4 of this report.

**Table 9.2 CalEEMod model project land uses and trip generation rates – Cumulative Plus Project Trip Generation**

| General Land Use | CalEEMod Land Use Subtype | Quantity | Unit Type | Trip Generation Rate (trips/unit/day) |
|---|---|---|---|---|
| Educational | Elementary School | 600 | Students | 1.32 |
| Residential | Single Family Housing | 438 | Dwelling Unit | 8.46 |

Source: GHD 2019, CalEEMod 2016.
The Trip Generation Rate includes the internal capture adjustments presented in the Trip Generation Table in Chapter 4 of this report.

## 9.3 Methodology

CalEEMod contains assumptions for trip length based on the type of trip, distribution of trip types, and trip purpose. Each of these components is used in the VMT calculations. The trip types, trip lengths, distribution and trip purpose distribution are detailed in the CalEEMod output, which is included in Appendix E.

## 9.4 Trip Types and Distribution

Land use trip types used in the analysis consist of the following categories, each with its own trip length: home—work (H-W) / commercial—work (C-W), home—school (H-S) / commercial-commercial (C-C), and home—other (H-O) / commercial-nonwork (C-NW) such as delivery trips.

The model includes a trip type distribution for each land use type. For example, CalEEMod assumes that:

- Educational land use type: 65 percent of land use trips are H-W / C-W trips, 30 percent are H-S / C-C trips, and 5 percent are H-O / C-NW trips for both existing and cumulative scenarios.
- Residential land use type: 46.5 percent of land use trips are H-W / C-W trips, 12.5 percent are H-S / C-C trips, and 21 percent are H-O / C-NW trips for both existing and cumulative scenarios.

## 9.5 Trip Length and Purpose

The model then modifies the trip lengths according to trip purpose. Trip purposes are:

- Primary: Primary trips are assumed to be dedicated to travel to the land use from the originating source or from the land use to the ultimate destination.
- Diverted: Diverted trips are trips that may occur as a result of travel to multiple land uses, such as would occur for running errands or other trip linking activity. Diverted trips are assumed to be 25 percent of the primary trip length.
- Pass-by trips: Pass-by trips are those that occur along the path of another trip, such as pulling into a gas station while on the way to work. Pass-by trips are assumed to be 0.1 mile in length and are a result of no diversion from the primary route.

The trip length per trip type assumptions are for primary trip purposes, and serve as the 'starting point' for the VMT calculations. The model default trip lengths for primary trips for all land use types are 10 miles for H-W / C-W, 5 miles for H-S / C-C, and 6.5 miles for H-O / C-NW. These values hold true for both the existing and cumulative scenarios.

Due to the location and nature of the project, the model assumed for each land use type that:

- Educational land use type: 63 percent of trips would be primary, 25 percent of the trips would be diverted, and 12 percent of the trips would be pass-by for residential land use.
- Residential land use type: 86 percent of trips would be primary, 11 percent of the trips would be diverted, and 3 percent of the trips would be pass-by for residential land use.

## 9.6 VMT Results

The VMT calculation results are provided in Table 9.3 and Table 9.4 for Existing Plus Project Trip Generation and Cumulative Plus Project Trip Generation, respectively. The detailed CalEEMod output is included in Appendix E. The projected VMT per capita for the proposed Project, based on the CalEEMod annual outputs, is calculated by taking the projected annual VMT divided by 365 days per year, the current persons per household for the City of Galt (3.2 based on current US Census data) and the number of dwelling units proposed (438 units).

**Table 9.3 Operational Vehicle Miles Travelled – Existing Plus Project Trip Generation**

| Land Use | Quantity | Trip Generation | | Vehicle Miles Traveled | | |
|---|---|---|---|---|---|---|
| | Existing | Trips/Day /Unit | Daily | Annual | Daily | Per Capita |
| Elementary School | 200 students | 0.47 | 114.00 | 120,013 | 329 | - |
| Single Family Housing | 438 dwelling units | 8.59 | 58.82 | 8,330,760 | 22,824 | 16.28 |
| | | | **Total** | **8,450,773** | **23,153** | **16.52** |

Source: GHD 2019, CalEEMod 2016.
Note: Assumes 3.2 persons per Household based on 2013-2017 American Community Survey 5-year estimates

**Table 9.4 Operational Vehicle Miles Travelled – Cumulative Plus Project Trip Generation**

| Land Use | Quantity | Trip Generation | | Vehicle Miles Traveled | | |
|---|---|---|---|---|---|---|
| | Cumulative | Trips/Day /Unit | Daily | Annual | Daily | Per Capita |
| Elementary School | 600 students | 1.32 | 792 | 942,754 | 2,583 | - |
| Single Family Housing | 438 dwelling units | 8.46 | 4,047.12 | 8,242,048 | 22,581 | 16.11 |
| | | | **Total** | **9,184,802** | **25,164** | **17.95** |

Source: GHD 2019, CalEEMod 2016.
Note: Assumes 3.2 persons per Household based on 2013-2017 American Community Survey 5-year estimates

### 9.6.1 SACOG Regional VMT

The current Household Generated VMT per capita is 17.95, for the Sacramento Area Council of Governments (SACOG) regional average, based on the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS; Table 5B.3).

The projected VMT per capita for the proposed Project is 16.52 for Existing Plus Project conditions, and is 17.95 VMT per capita for Cumulative Plus Project conditions. These are lower for Existing Plus Project, and the same under Cumulative conditions, compared to the regional average.

# 10. Project Impacts and Mitigation Measures

## 10.1 Significance Thresholds

According to the current State CEQA Guidelines being utilized for this study, a Project results in a significant impact if the Project causes an increase in traffic that is substantial and adverse in relation to the traffic load and capacity of the existing street system. This standard of significance relates to automobile traffic only and does not address the potential effects on other travel modes including transit, bicycle, and pedestrian facilities. The following standards of significance will apply to the transportation impacts determined within this transportation impact study. For intersections at which the proposed project creates a significant impact, mitigations will be presented to reduce the project impact to less than significant.

### *Signalized Intersections*

The project is considered to have a significant impact if it would:

- Result in a signalized intersection that will operate at an acceptable LOS (LOS D or E, or better) in the No Project condition to deteriorate to an unacceptable LOS E or F in the Plus Project condition
- Increase the delay by more than 5.0 seconds at a signalized intersection that is already operating or will already operate at an unacceptable LOS in the No Project condition

### *Unsignalized Intersections:*

The project is considered to have a significant impact if it would:

- Result in an unsignalized intersection that will operate at an acceptable LOS (LOS D or E, or better) in the No Project condition to deteriorate to an unacceptable LOS in the Plus Project condition
- Increase the delay by more than 5.0 seconds at an unsignalized intersection that is already operating or will already operate at an unacceptable LOS in the No Project condition

### *Freeway Ramps:*

A project is considered to have a significant effect if it would:

- Result in a facility operating at an acceptable LOS to deteriorate to an unacceptable LOS, according to the LOS threshold defined by Caltrans (LOS D).
- Increase the density by more than 5% at a ramp segment that is already operating or will already operate at LOS E in the No Project condition
- Increase the v/c ratio by more than 0.05 at a ramp segment that is already operating or will already operate at LOS F in the No Project condition

### *Transit, Bicycle, and Pedestrian Impacts*

The proposed project is considered to result in a potentially significant transit, bicycle, and/or pedestrian impact if any of the following would occur:

- The project conflicts with existing, planned, or possible future transit, bicycle, and/or pedestrian facilities and services;
- The path of travel between the project site and transit stops does not meet current ADA accessibility standards.

#### *Vehicle Miles Traveled (VMT)*

VMT was not used to determine CEQA impacts, lacking any operative baseline or impact thresholds under the lead agency, the City of Galt.

## 10.2 Existing Plus Project Impacts & Mitigation Measures

#### *Intersection Impacts*

All study intersections are projected to operate at an acceptable level of service for the weekday AM and PM peak hours under Existing Plus Project conditions. No mitigation measures are required.

#### *Ramp and Weaving Segment Impacts*

All study ramp and weaving segments are projected to operate at an acceptable level of service for the weekday AM and PM peak hours under Existing Plus Project conditions. No mitigation measures are required.

## 10.3 Cumulative Plus Project Impacts & Mitigation Measures

#### *Intersection Impacts*

All study intersections are projected to operate at an acceptable level of service for the weekday AM and PM peak hours under Cumulative Plus Project conditions. No mitigation measures are required.

#### *Ramp and Weaving Segment Impacts*

Under Cumulative Plus Project conditions, locations #1, #4, and #5 operate at an unacceptable LOS. All other ramp and merging segments operate at an acceptable LOS under Cumulative Plus Project conditions during the AM and PM peak hours.

Table 10.1 presents the project impacts on ramp and weaving segments by comparing LOS, density (in pc/mi/ln), and v/c ratio between Cumulative No Project conditions and Cumulative Plus Project conditions.

### Table 10.1 Project Impacts on Ramp Segments Under Cumulative Conditions

| # | 1 | | 4 | | 5 | |
|---|---|---|---|---|---|---|
| Location | Crystal Way Off Ramp | | Simmerhorn On Ramp | | Elm Avenue Off Ramp | |
| SCENARIO | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| **AM PEAK HOUR** | | | | | | |
| Cumulative No Project | 35.1 | **E** | 32.4 | **D** | 32.9 | **D** |
| Cumulative Plus Project | 35.4 | **E** | 33.0 | **D** | 33.2 | **D** |
| Difference | 0.3 | | 0.6 | | 0.3 | |
| Percent Change | 0.9% | | 1.9% | | 0.9% | |
| Significant Impact? | No | | No | | No | |
| **PM PEAK HOUR** | | | | | | |
| Cumulative No Project | v/c = 1.10 | **F** | v/c = 1.01 | **F** | 40.1 | **E** |
| Cumulative Plus Project | v/c = 1.12 | **F** | v/c = 1.02 | **F** | 40.9 | **E** |
| Difference | 0.02 | | 0.01 | | 0.8 | |
| Percent Change | 1.8% | | 1.0% | | 2.0% | |
| Significant Impact? | No | | No | | No | |

Notes: 1. Target LOS at all locations = LOS D
2. **Bold** = Unacceptable Conditions

As presented in Table 10.1, the project impact is less than significant on the identified study locations under Cumulative Plus Project conditions. No mitigation measures are necessary under Cumulative Plus Project Conditions.

## 10.4 Cumulative Plus Project with Road Diet Impacts & Mitigation Measures

### *Intersection Impacts*

Under Cumulative Plus Project conditions with Road Diet, #3 – SR 99 Southbound Ramps/Elm Avenue at Lincoln Way operates at an unacceptable LOS in the AM and PM peak hours. All other locations operate at an acceptable LOS under these conditions.

Table 10.2 presents the project impacts on study intersections by comparing LOS and delay (in sec/veh) between Cumulative No Project conditions and Cumulative Plus Project conditions with Road Diet.

**Table 10.2 Project Impacts on Study Intersections Under Cumulative Plus Project Conditions with Road Diet**

| # | 3 | |
|---|---|---|
| Location | SR 99 SB Ramps / Elm Avenue / Lincoln Way | |
| SCENARIO | Delay (sec/veh) | LOS |
| **AM PEAK HOUR** | | |
| Cumulative No Project | 27.4 | D |
| Cumulative (Road Diet) | **44.0** | **E** |
| Difference | 16.6 | |
| Significant Impact? | **Yes** | |
| **PM PEAK HOUR** | | |
| Cumulative No Project | 16.6 | C |
| Cumulative (Road Diet) | **36.9** | **E** |
| Difference | 20.3 | |
| Significant Impact? | **Yes** | |

Notes:
1. **Bold** = Unacceptable Conditions
2. OVR = Delay over 300 seconds

As presented in Table 10.2, the project will have a significant impact on #3 – SR 99 Southbound Ramps/Elm Avenue at Lincoln Way under Cumulative Plus Project conditions with Road Diet during the AM and PM peak hours. At study intersection #3, average delay per vehicle will increase by 16.6 seconds during the AM peak hour, and by 20.3 seconds during the PM peak hour.

#### *Mitigation Measures*

This intersection meets the peak hour warrant for a traffic signal. It is recommended to install a traffic signal or a roundabout under the Road Diet Scenario. Intersection improvements at Lincoln Way/SR 99 Southbound Ramps/Elm Avenue are subject to the outcome of a Caltrans Intersection Control Evaluation (ICE) process.

### 10.4.1 Fair-Share of Improvement Cost Calculations

Fair-share calculations have been identified for all intersections, which are projected to operate at unacceptable LOS under no project conditions, and experience an increase in delay with the addition of project traffic. Below is a listing of each of the study intersections warranting improvements, the corresponding improvements that the proposed project would be required to pay a fair-share of improvement cost towards, and the proposed project's equitable share of these improvements. The proposed project's equitable share is calculated using the method for calculating equitable mitigation measures outlined in Equation C-1 (shown below) from Caltrans's *Guide for the Preparation of Traffic Impact Studies (2002)*.

**EQUITABLE SHARE RESPONSIBILITY**: **Equation C-1**

**NOTE:** $T_E < T_B$, see explanation for $T_B$ below.

$$P = \frac{T}{T_B - T_E}$$

Where:

P = The equitable share for the proposed project's traffic impact.

T = The vehicle trips generated by the project during the peak hour of adjacent State highway facility in vehicles per hour, vph.

$T_B$ = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g., 20 year model or the furthest future model date feasible), vph.

$T_E$ = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

Table 10.3 presents the fair-share calculation for mitigation measures for the intersection of Lincoln Way at SR 99 Southbound Ramps/Elm Avenue.

**Table 10.3 Fair Share Calculation**

| # | 3 | |
|---|---|---|
| Location | SR 99 SB Ramps / Elm Avenue / Lincoln Way | |
| SCENARIO | AM Peak Volume | PM Peak Volume |
| Existing Volume ($T_E$) | 1048 | 1086 |
| Cumulative Plus with Road Diet ($T_B$) | 1430 | 1436 |
| Total Growth ($T_B$-$T_E$) | 382 | 350 |
| Project-Generated Growth (T) | 25 | 51 |
| Fair Share (P) | 6.5% | **14.6%** |

Notes:
1. Volumes reflect the sum of all movements at the intersection, measured in veh/hr.

As shown in Table 10.3, the fair-share (equitable share) for installing improvements at Lincoln Avenue/SR 99 Southbound Ramps/Elm Avenue is 14.6%.

### *Ramp and Weaving Segment Impacts*

Under Cumulative Plus Project conditions with Road Diet, study locations #1, #4, and #5 operate at an unacceptable LOS in the AM and PM peak hours. All other locations operate at an acceptable LOS under these conditions.

Table 10.4 presents the project impacts on ramp and weaving segments by comparing LOS, density (in pc/mi/ln), and v/c ratio between Cumulative No Project conditions and Cumulative Plus Project conditions with Road Diet.

**Table 10.4 Project Impacts on Ramp Segments Under Cumulative Conditions with Road Diet**

| # | 1 | | 4 | | 5 | |
|---|---|---|---|---|---|---|
| Location | Crystal Way Off Ramp | | Simmerhorn On Ramp | | Elm Avenue Off Ramp | |
| SCENARIO | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS | Density (pc/mi/ln) | LOS |
| **AM PEAK HOUR** | | | | | | |
| Cumulative No Project | 35.1 | **E** | 32.4 | **D** | 32.9 | **D** |
| Cumulative (Road Diet) | 35.4 | **E** | 34.5 | **D** | 33.2 | **D** |
| Difference | 0.3 | | 2.1 | | 0.3 | |
| Percent Change | 0.9% | | 6.5% | | 0.9% | |
| Significant Impact? | No | | No | | No | |
| **PM PEAK HOUR** | | | | | | |
| Cumulative No Project | v/c = 1.14 | **F** | v/c = 1.05 | **F** | 40.3 | **E** |
| Cumulative (Road Diet) | v/c = 1.16 | **F** | v/c = 1.10 | **F** | 41.1 | **E** |
| Difference | 0.02 | | 0.05 | | 0.8 | |
| Percent Change | N/A | | N/A | | 2.0% | |
| Significant Impact? | No | | No | | No | |

Notes:
1. Target LOS at all locations = LOS D
2. **Bold** = Unacceptable Conditions

As presented in Table 10.4, the project impact is less than significant for the study locations under Cumulative Plus Project conditions with Road Diet. No mitigation measures are necessary under Cumulative Plus Project conditions with Road Diet.

Although the Project does not present a significant impact to the freeway ramps analyzed, the ramps are projected to operate poorly. Widening SR 99 to 6 lanes would alleviate these LOS E/F conditions. However, funding mechanisms to implement the widening on SR 99 are not identified in any regional or local program.

## 10.5 Conclusion

Based upon the analyses provided in this Traffic Impact Study, development of the Simmerhorn Ranch Project results in significant impact at the following locations, under the listed scenarios.

- Existing Plus Project Conditions
  - No Project impacts
- Cumulative Plus Project Conditions
  - No Project impacts
- Cumulative Plus Project with Carillion Road Diet Conditions
  - Intersection of SR 99 Southbound Ramps/Elm Avenue at Lincoln Way (LOS E with Project)
    - Install Traffic Signal

# Appendices

# about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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# Appendices

# Appendix A
# Traffic Counts

**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Carillion Blvd @ Walnut Ave

**LATITUDE** 38.278786°

**COUNTY** Sacramento

**LONGITUDE** -121.292820°

**COLLECTION DATE** Wednesday, October 25, 2017

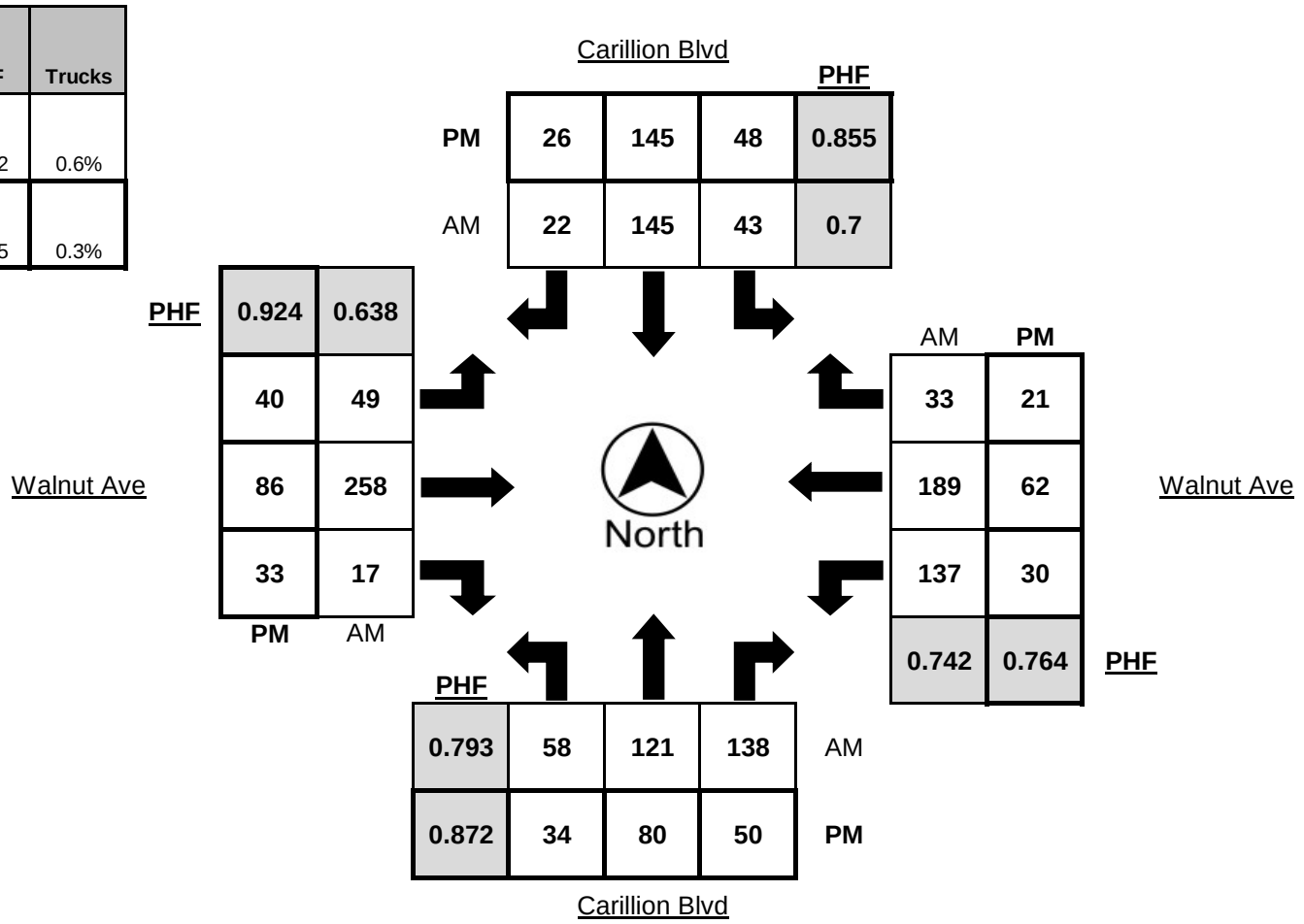
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 18 | 17 | 3 | 1 | 0 | 29 | 0 | 1 | 5 | 7 | 3 | 0 | 1 | 17 | 5 | 0 |
| **7:15 AM - 7:30 AM** | 24 | 21 | 25 | 0 | 6 | 11 | 5 | 1 | 2 | 18 | 7 | 0 | 10 | 13 | 2 | 1 |
| **7:30 AM - 7:45 AM** | 20 | 34 | 34 | 1 | 20 | 42 | 4 | 1 | 14 | 76 | 8 | 0 | 32 | 36 | 9 | 0 |
| **7:45 AM - 8:00 AM** | 16 | 46 | 38 | 0 | 17 | 49 | 9 | 1 | 25 | 97 | 5 | 1 | 40 | 49 | 11 | 0 |
| **8:00 AM - 8:15 AM** | 12 | 20 | 44 | 0 | 4 | 43 | 8 | 0 | 5 | 53 | 3 | 0 | 47 | 64 | 10 | 1 |
| **8:15 AM - 8:30 AM** | 10 | 21 | 22 | 2 | 2 | 11 | 1 | 0 | 5 | 32 | 1 | 0 | 18 | 40 | 3 | 0 |
| **8:30 AM - 8:45 AM** | 10 | 10 | 1 | 1 | 5 | 18 | 3 | 0 | 5 | 6 | 3 | 0 | 5 | 14 | 1 | 0 |
| **8:45 AM - 9:00 AM** | 10 | 14 | 6 | 1 | 5 | 12 | 3 | 1 | 4 | 5 | 3 | 1 | 7 | 9 | 3 | 0 |
| **TOTAL** | **120** | **183** | **173** | **6** | **59** | **215** | **33** | **5** | **65** | **294** | **33** | **2** | **160** | **242** | **44** | **2** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 14 | 22 | 3 | 0 | 8 | 42 | 8 | 0 | 7 | 19 | 9 | 0 | 5 | 14 | 1 | 0 |
| **4:15 PM - 4:30 PM** | 5 | 12 | 5 | 0 | 8 | 39 | 3 | 0 | 13 | 25 | 8 | 0 | 6 | 14 | 3 | 0 |
| **4:30 PM - 4:45 PM** | 9 | 17 | 8 | 0 | 10 | 36 | 5 | 2 | 9 | 17 | 15 | 0 | 6 | 12 | 4 | 0 |
| **4:45 PM - 5:00 PM** | 3 | 17 | 7 | 0 | 10 | 39 | 7 | 0 | 12 | 13 | 9 | 0 | 9 | 9 | 6 | 0 |
| **5:00 PM - 5:15 PM** | 14 | 11 | 11 | 0 | 9 | 28 | 2 | 0 | 12 | 22 | 9 | 0 | 14 | 15 | 8 | 0 |
| **5:15 PM - 5:30 PM** | 10 | 28 | 9 | 0 | 14 | 39 | 11 | 0 | 11 | 23 | 8 | 0 | 3 | 17 | 4 | 0 |
| **5:30 PM - 5:45 PM** | 8 | 18 | 10 | 0 | 10 | 36 | 7 | 0 | 11 | 19 | 7 | 1 | 8 | 15 | 4 | 0 |
| **5:45 PM - 6:00 PM** | 2 | 23 | 20 | 1 | 15 | 42 | 6 | 0 | 6 | 22 | 9 | 0 | 5 | 15 | 5 | 0 |
| **TOTAL** | **65** | **148** | **73** | **1** | **84** | **301** | **49** | **2** | **81** | **160** | **74** | **1** | **56** | **111** | **35** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 58 | 121 | 138 | 3 | 43 | 145 | 22 | 2 | 49 | 258 | 17 | 1 | 137 | 189 | 33 | 1 |
| **5:00 PM - 6:00 PM** | 34 | 80 | 50 | 1 | 48 | 145 | 26 | 0 | 40 | 86 | 33 | 1 | 30 | 62 | 21 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.752 | 0.6% |
| **PM** | 0.925 | 0.3% |



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800-975-6938 Phone/Fax
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# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Carillion Blvd @ Walnut Ave

**LATITUDE** 38.278786°

**COUNTY** Sacramento

**LONGITUDE** -121.292820°

**COLLECTION DATE** Wednesday, October 25, 2017

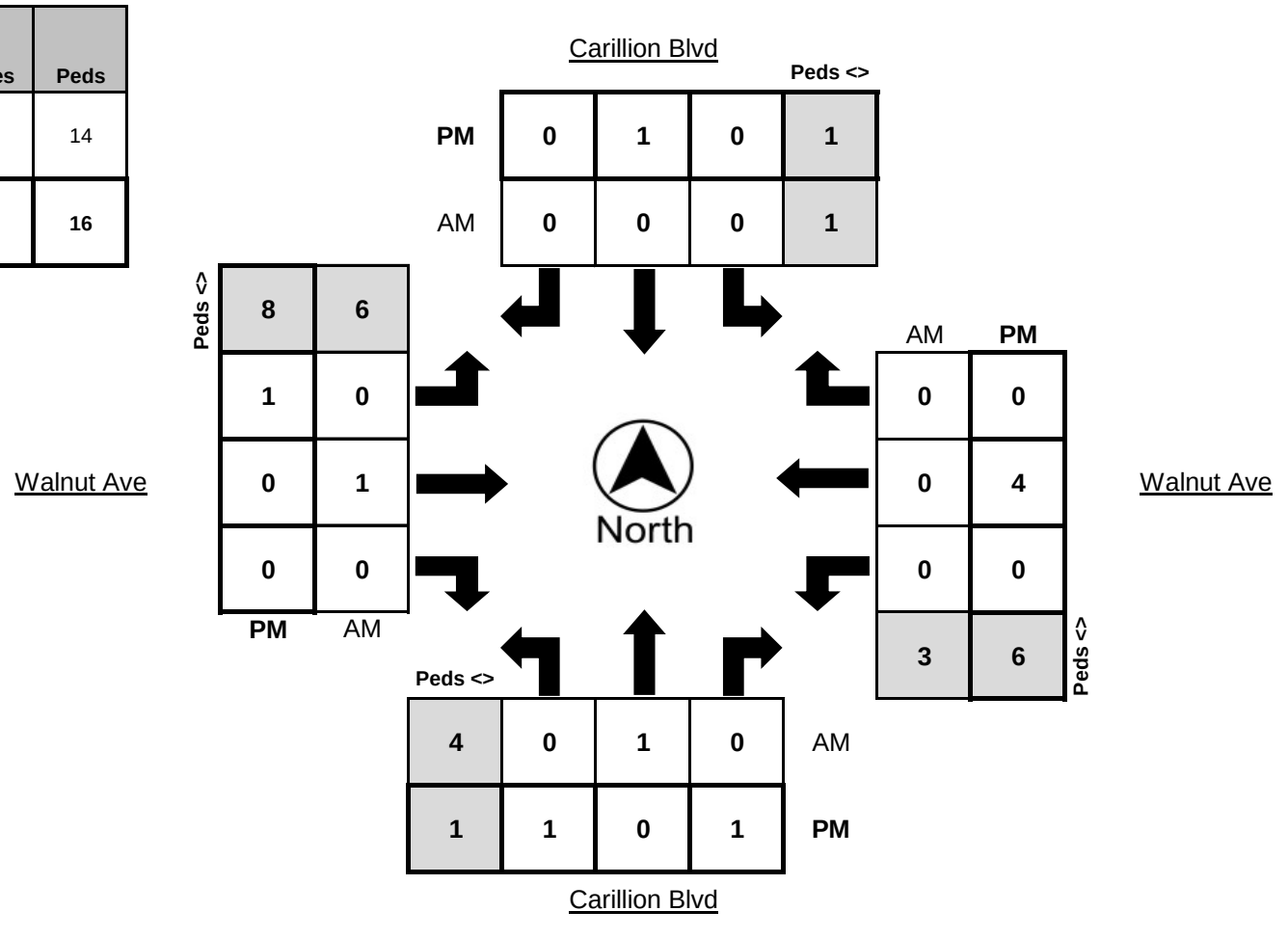
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| **TOTAL** | **0** | **1** | **0** | **2** | **0** | **0** | **0** | **4** | **0** | **1** | **0** | **9** | **0** | **0** | **0** | **8** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 3 | 0 | 1 |
| **5:15 PM - 5:30 PM** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 |
| **TOTAL** | **1** | **0** | **1** | **1** | **0** | **3** | **0** | **1** | **1** | **0** | **0** | **9** | **0** | **4** | **0** | **8** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 6 |
| **5:00 PM - 6:00 PM** | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 6 | 0 | 4 | 0 | 8 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 2 | 14 |
| **PM Peak Total** | **8** | **16** |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Simmerhorn at Lincoln

**LATITUDE** 38.2642

**COUNTY** Sacramento

**LONGITUDE** -121.3005

**COLLECTION DATE** Thursday, May 09, 2019

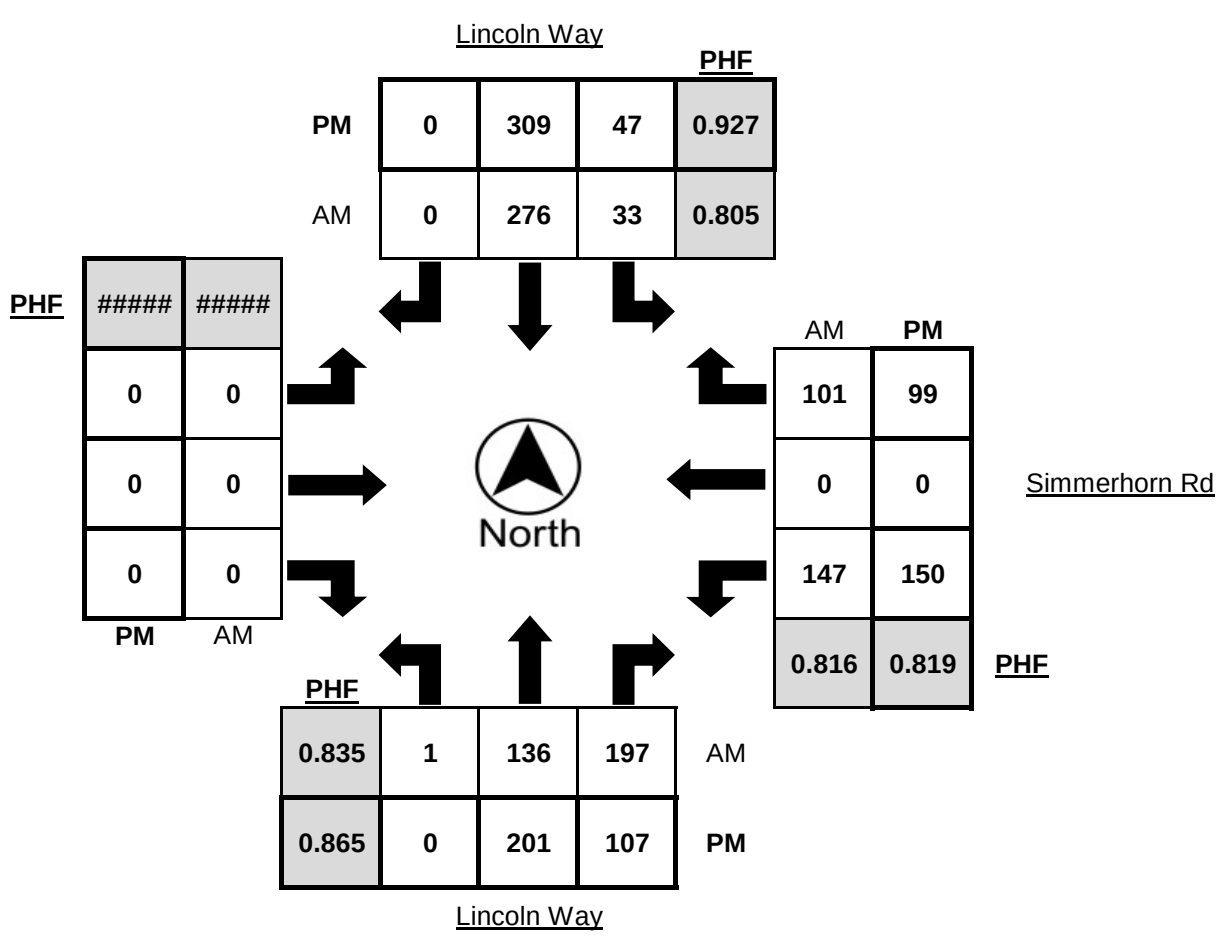
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 13 | 23 | 1 | 1 | 35 | 0 | 2 | 0 | 0 | 0 | 0 | 29 | 0 | 16 | 3 |
| **7:15 AM - 7:30 AM** | 0 | 22 | 32 | 3 | 3 | 50 | 0 | 2 | 0 | 0 | 0 | 0 | 35 | 0 | 24 | 1 |
| **7:30 AM - 7:45 AM** | 1 | 32 | 63 | 2 | 7 | 64 | 0 | 1 | 0 | 0 | 0 | 0 | 34 | 0 | 21 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 37 | 63 | 2 | 13 | 83 | 0 | 2 | 0 | 0 | 0 | 0 | 43 | 0 | 33 | 1 |
| **8:00 AM - 8:15 AM** | 0 | 41 | 43 | 2 | 6 | 79 | 0 | 3 | 0 | 0 | 0 | 0 | 35 | 0 | 19 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 26 | 28 | 1 | 7 | 50 | 0 | 2 | 0 | 0 | 0 | 0 | 35 | 0 | 28 | 1 |
| **8:30 AM - 8:45 AM** | 0 | 22 | 17 | 4 | 5 | 57 | 0 | 4 | 0 | 0 | 0 | 0 | 22 | 0 | 30 | 3 |
| **8:45 AM - 9:00 AM** | 0 | 24 | 18 | 1 | 9 | 42 | 0 | 2 | 0 | 0 | 0 | 0 | 21 | 0 | 21 | 1 |
| **TOTAL** | **1** | **217** | **287** | **16** | **51** | **460** | **0** | **18** | **0** | **0** | **0** | **0** | **254** | **0** | **192** | **10** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 64 | 25 | 1 | 11 | 75 | 0 | 2 | 0 | 0 | 0 | 0 | 32 | 0 | 21 | 1 |
| **4:15 PM - 4:30 PM** | 0 | 48 | 25 | 0 | 12 | 81 | 0 | 3 | 0 | 0 | 0 | 0 | 41 | 0 | 35 | 1 |
| **4:30 PM - 4:45 PM** | 0 | 41 | 31 | 0 | 12 | 84 | 0 | 2 | 0 | 0 | 0 | 0 | 43 | 0 | 22 | 1 |
| **4:45 PM - 5:00 PM** | 0 | 48 | 26 | 0 | 12 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 21 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 44 | 34 | 2 | 12 | 78 | 0 | 1 | 0 | 0 | 0 | 0 | 28 | 0 | 26 | 2 |
| **5:15 PM - 5:30 PM** | 0 | 48 | 31 | 0 | 15 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 34 | 1 |
| **5:30 PM - 5:45 PM** | 0 | 35 | 20 | 0 | 16 | 71 | 0 | 2 | 0 | 0 | 0 | 0 | 37 | 0 | 25 | 2 |
| **5:45 PM - 6:00 PM** | 0 | 39 | 32 | 0 | 5 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 24 | 0 |
| **TOTAL** | **0** | **367** | **224** | **3** | **95** | **598** | **0** | **10** | **0** | **0** | **0** | **0** | **289** | **0** | **208** | **8** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 1 | 136 | 197 | 7 | 33 | 276 | 0 | 8 | 0 | 0 | 0 | 0 | 147 | 0 | 101 | 2 |
| **4:00 PM - 5:00 PM** | 0 | 201 | 107 | 1 | 47 | 309 | 0 | 7 | 0 | 0 | 0 | 0 | 150 | 0 | 99 | 3 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.819 | 1.9% |
| **PM** | 0.943 | 1.2% |



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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Simmerhorn at Lincoln

**LATITUDE** 38.2642

**COUNTY** Sacramento

**LONGITUDE** -121.3005

**COLLECTION DATE** Thursday, May 09, 2019

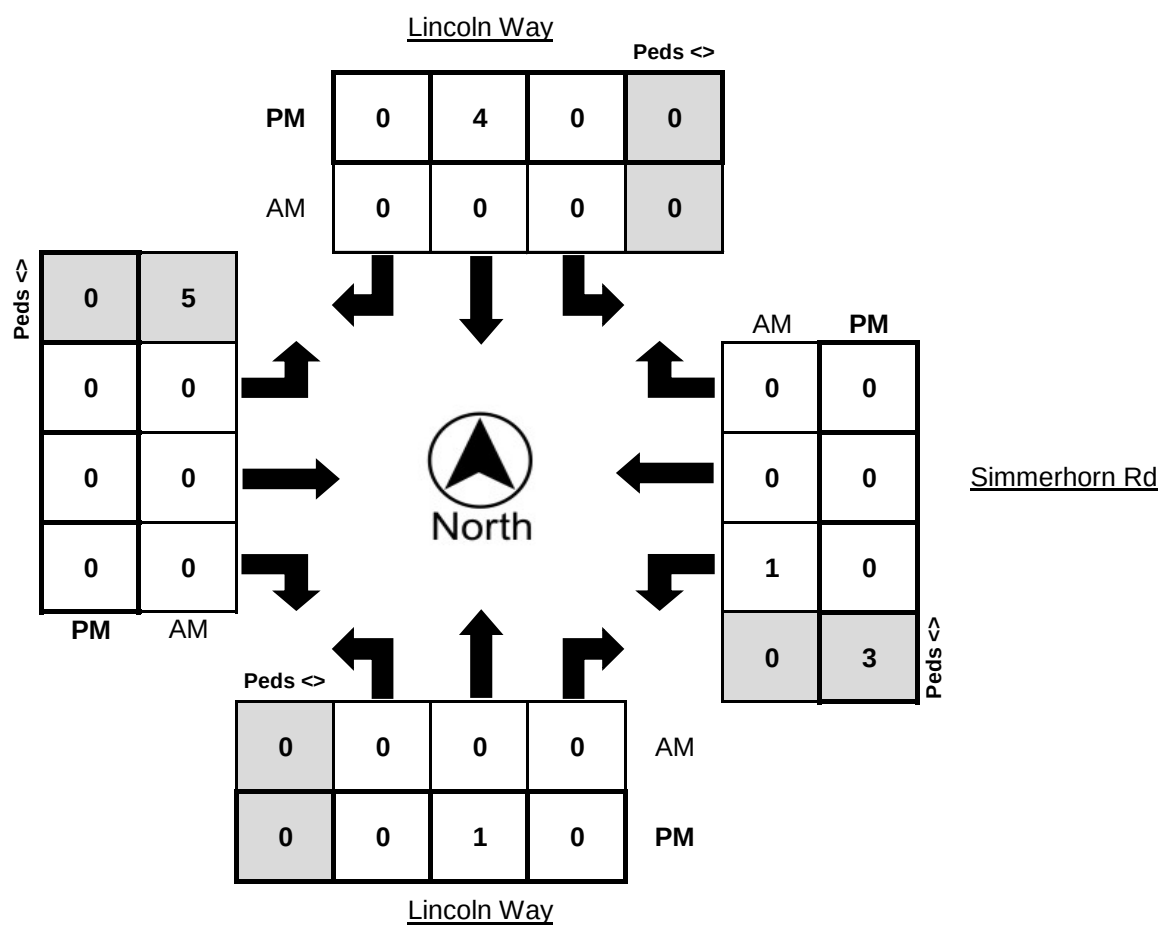
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **2** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **7** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **1** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 |
| **4:00 PM - 5:00 PM** | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 1 | 5 |
| **PM Peak Total** | **5** | **3** |



**Metro Traffic Data Inc.**
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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 at Lincoln/Elm

**LATITUDE** 38.2620

**COUNTY** Sacramento

**LONGITUDE** -121.3004

**COLLECTION DATE** Thursday, May 09, 2019

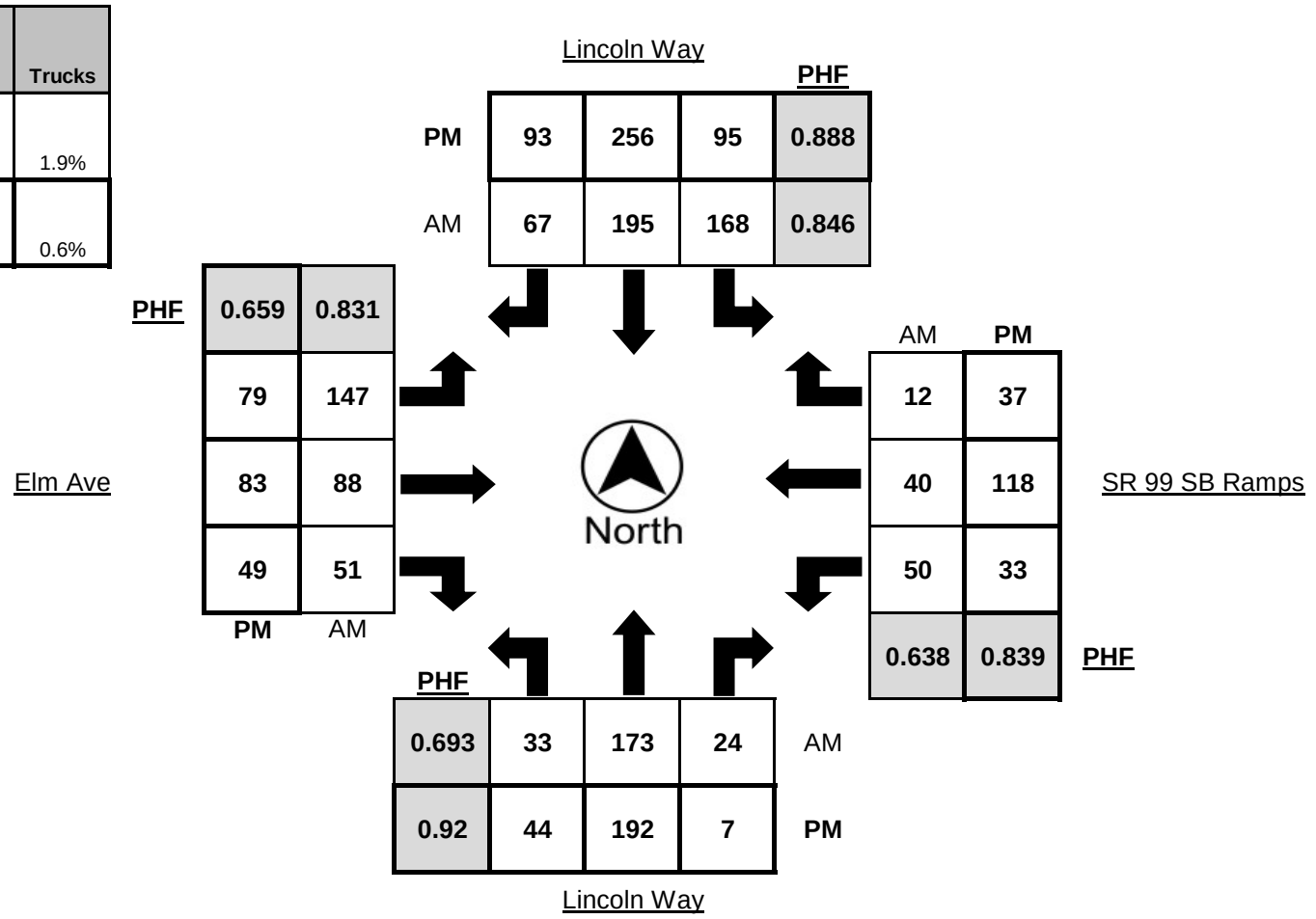
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 4 | 12 | 2 | 0 | 33 | 19 | 9 | 2 | 19 | 25 | 8 | 2 | 5 | 4 | 5 | 2 |
| **7:15 AM - 7:30 AM** | 1 | 22 | 5 | 3 | 42 | 36 | 10 | 4 | 28 | 21 | 8 | 0 | 10 | 8 | 3 | 0 |
| **7:30 AM - 7:45 AM** | 8 | 47 | 8 | 2 | 50 | 41 | 12 | 0 | 46 | 24 | 16 | 1 | 8 | 6 | 5 | 0 |
| **7:45 AM - 8:00 AM** | 16 | 57 | 10 | 2 | 39 | 61 | 27 | 3 | 43 | 20 | 22 | 0 | 27 | 12 | 1 | 1 |
| **8:00 AM - 8:15 AM** | 8 | 47 | 1 | 2 | 37 | 57 | 18 | 2 | 30 | 23 | 5 | 0 | 5 | 14 | 3 | 0 |
| **8:15 AM - 8:30 AM** | 7 | 27 | 1 | 1 | 29 | 40 | 16 | 3 | 20 | 5 | 4 | 1 | 4 | 9 | 3 | 1 |
| **8:30 AM - 8:45 AM** | 8 | 23 | 3 | 2 | 25 | 35 | 18 | 4 | 11 | 17 | 6 | 2 | 4 | 5 | 4 | 1 |
| **8:45 AM - 9:00 AM** | 4 | 27 | 2 | 2 | 15 | 39 | 9 | 3 | 14 | 18 | 5 | 2 | 7 | 9 | 3 | 1 |
| **TOTAL** | **56** | **262** | **32** | **14** | **270** | **328** | **119** | **21** | **211** | **153** | **74** | **8** | **70** | **67** | **27** | **6** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 9 | 71 | 1 | 1 | 25 | 56 | 28 | 1 | 18 | 8 | 9 | 0 | 9 | 27 | 7 | 0 |
| **4:15 PM - 4:30 PM** | 11 | 47 | 2 | 0 | 22 | 64 | 32 | 3 | 14 | 15 | 10 | 0 | 10 | 31 | 9 | 0 |
| **4:30 PM - 4:45 PM** | 12 | 48 | 1 | 0 | 30 | 67 | 28 | 1 | 14 | 18 | 10 | 0 | 8 | 34 | 14 | 0 |
| **4:45 PM - 5:00 PM** | 10 | 47 | 0 | 0 | 17 | 68 | 19 | 1 | 15 | 9 | 11 | 0 | 7 | 32 | 6 | 0 |
| **5:00 PM - 5:15 PM** | 10 | 48 | 1 | 2 | 27 | 60 | 19 | 1 | 32 | 35 | 13 | 0 | 11 | 24 | 8 | 1 |
| **5:15 PM - 5:30 PM** | 12 | 49 | 5 | 0 | 21 | 61 | 27 | 0 | 18 | 21 | 15 | 0 | 7 | 28 | 9 | 0 |
| **5:30 PM - 5:45 PM** | 13 | 34 | 0 | 0 | 22 | 65 | 18 | 2 | 16 | 17 | 14 | 0 | 10 | 29 | 6 | 0 |
| **5:45 PM - 6:00 PM** | 11 | 44 | 0 | 0 | 31 | 50 | 22 | 0 | 11 | 15 | 12 | 0 | 5 | 25 | 13 | 0 |
| **TOTAL** | **88** | **388** | **10** | **3** | **195** | **491** | **193** | **9** | **138** | **138** | **94** | **0** | **67** | **230** | **72** | **1** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 33 | 173 | 24 | 9 | 168 | 195 | 67 | 9 | 147 | 88 | 51 | 1 | 50 | 40 | 12 | 1 |
| **4:30 PM - 5:30 PM** | 44 | 192 | 7 | 2 | 95 | 256 | 93 | 3 | 79 | 83 | 49 | 0 | 33 | 118 | 37 | 1 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.782 | 1.9% |
| **PM** | 0.943 | 0.6% |



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www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 at Lincoln/Elm

**LATITUDE** 38.2620

**COUNTY** Sacramento

**LONGITUDE** -121.3004

**COLLECTION DATE** Thursday, May 09, 2019

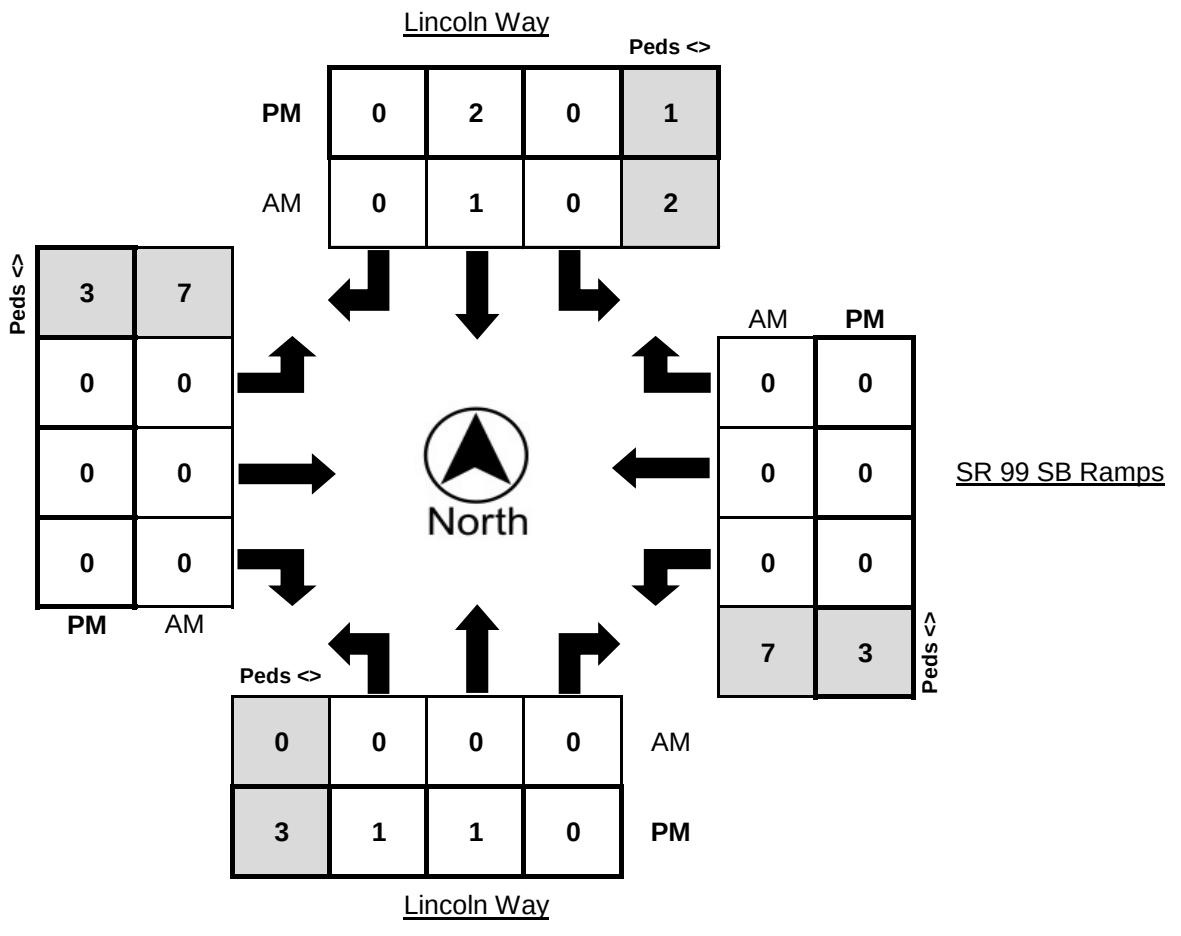
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **2** | **0** | **2** | **0** | **2** | **0** | **0** | **0** | **0** | **0** | **10** | **0** | **0** | **0** | **8** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **TOTAL** | **1** | **2** | **0** | **1** | **0** | **3** | **3** | **3** | **0** | **0** | **0** | **5** | **0** | **0** | **0** | **5** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 7 |
| **4:30 PM - 5:30 PM** | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 1 | 16 |
| **PM Peak Total** | **4** | **10** |



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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Ramps @ Simmerhorn Rd

**LATITUDE** 38.2624

**COUNTY** Sacramento

**LONGITUDE** -121.2974

**COLLECTION DATE** Thursday, February 15, 2018

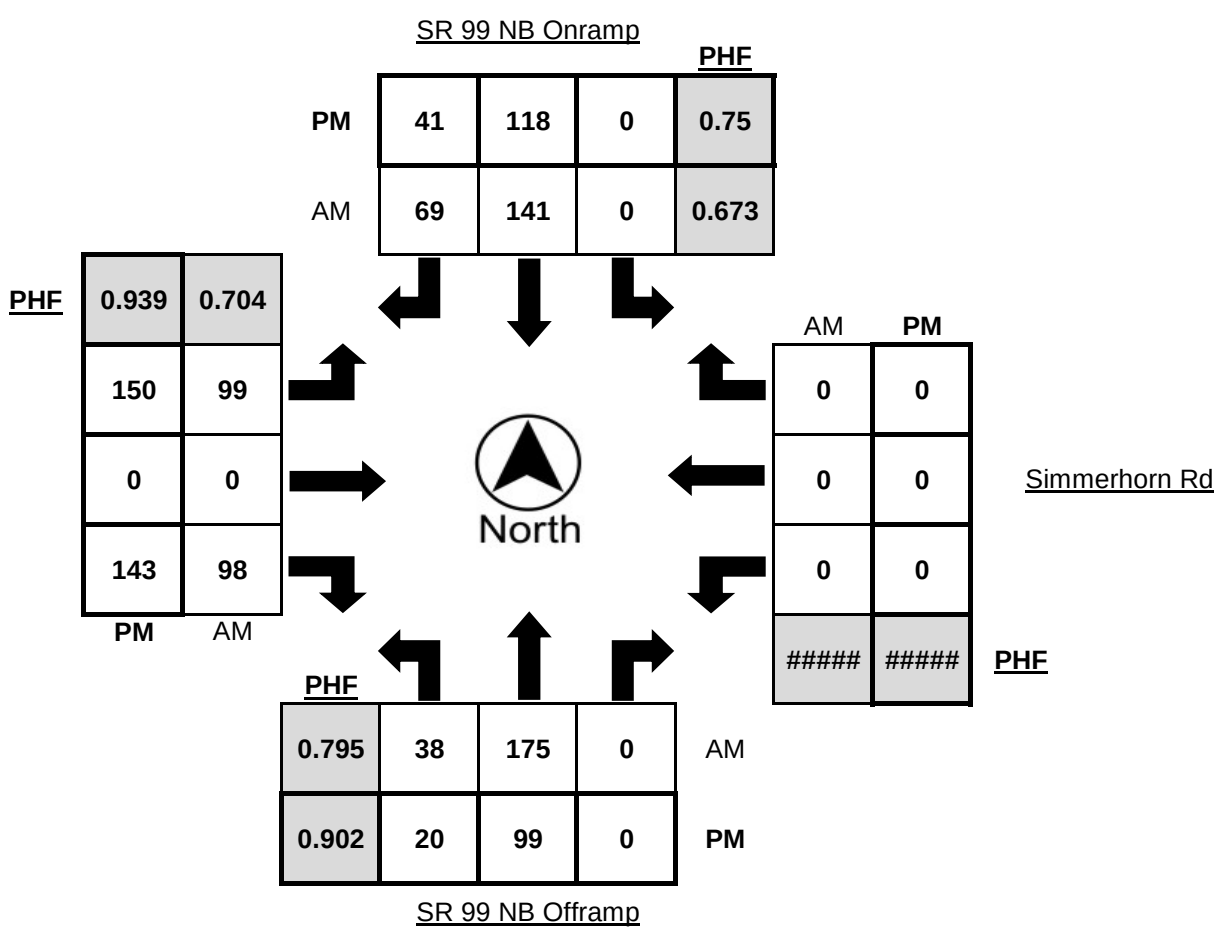
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 11 | 17 | 0 | 1 | 0 | 11 | 14 | 4 | 22 | 0 | 9 | 3 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 17 | 30 | 0 | 3 | 0 | 19 | 10 | 2 | 19 | 0 | 17 | 3 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 10 | 40 | 0 | 0 | 0 | 52 | 26 | 4 | 27 | 0 | 29 | 4 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 5 | 44 | 0 | 1 | 0 | 47 | 16 | 0 | 33 | 0 | 37 | 3 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 6 | 61 | 0 | 1 | 0 | 23 | 17 | 0 | 20 | 0 | 15 | 5 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 11 | 35 | 0 | 5 | 0 | 18 | 10 | 1 | 15 | 0 | 17 | 6 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 11 | 29 | 0 | 1 | 0 | 11 | 9 | 0 | 26 | 0 | 23 | 3 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 2 | 27 | 0 | 0 | 0 | 7 | 9 | 0 | 18 | 0 | 13 | 1 | 0 | 0 | 0 | 0 |
| **TOTAL** | **73** | **283** | **0** | **12** | **0** | **188** | **111** | **11** | **180** | **0** | **160** | **28** | **0** | **0** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 8 | 20 | 0 | 0 | 0 | 33 | 7 | 0 | 28 | 0 | 25 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 8 | 31 | 0 | 2 | 0 | 22 | 11 | 1 | 35 | 0 | 39 | 3 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 3 | 27 | 0 | 1 | 0 | 26 | 9 | 1 | 31 | 0 | 26 | 2 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 3 | 29 | 0 | 0 | 0 | 25 | 8 | 0 | 41 | 0 | 35 | 1 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 5 | 26 | 0 | 0 | 0 | 35 | 18 | 1 | 32 | 0 | 33 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 6 | 27 | 0 | 1 | 0 | 25 | 10 | 1 | 34 | 0 | 40 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 6 | 17 | 0 | 0 | 0 | 33 | 5 | 0 | 43 | 0 | 35 | 4 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 5 | 50 | 0 | 1 | 0 | 14 | 7 | 0 | 25 | 0 | 32 | 1 | 0 | 0 | 0 | 0 |
| **TOTAL** | **44** | **227** | **0** | **5** | **0** | **213** | **75** | **4** | **269** | **0** | **265** | **11** | **0** | **0** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 38 | 175 | 0 | 5 | 0 | 141 | 69 | 6 | 99 | 0 | 98 | 15 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:45 PM** | 20 | 99 | 0 | 1 | 0 | 118 | 41 | 2 | 150 | 0 | 143 | 5 | 0 | 0 | 0 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.842 | 4.2% |
| **PM** | 0.958 | 1.4% |



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www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Ramps @ Simmerhorn Rd

**LATITUDE** 38.2624

**COUNTY** Sacramento

**LONGITUDE** -121.2974

**COLLECTION DATE** Thursday, February 15, 2018

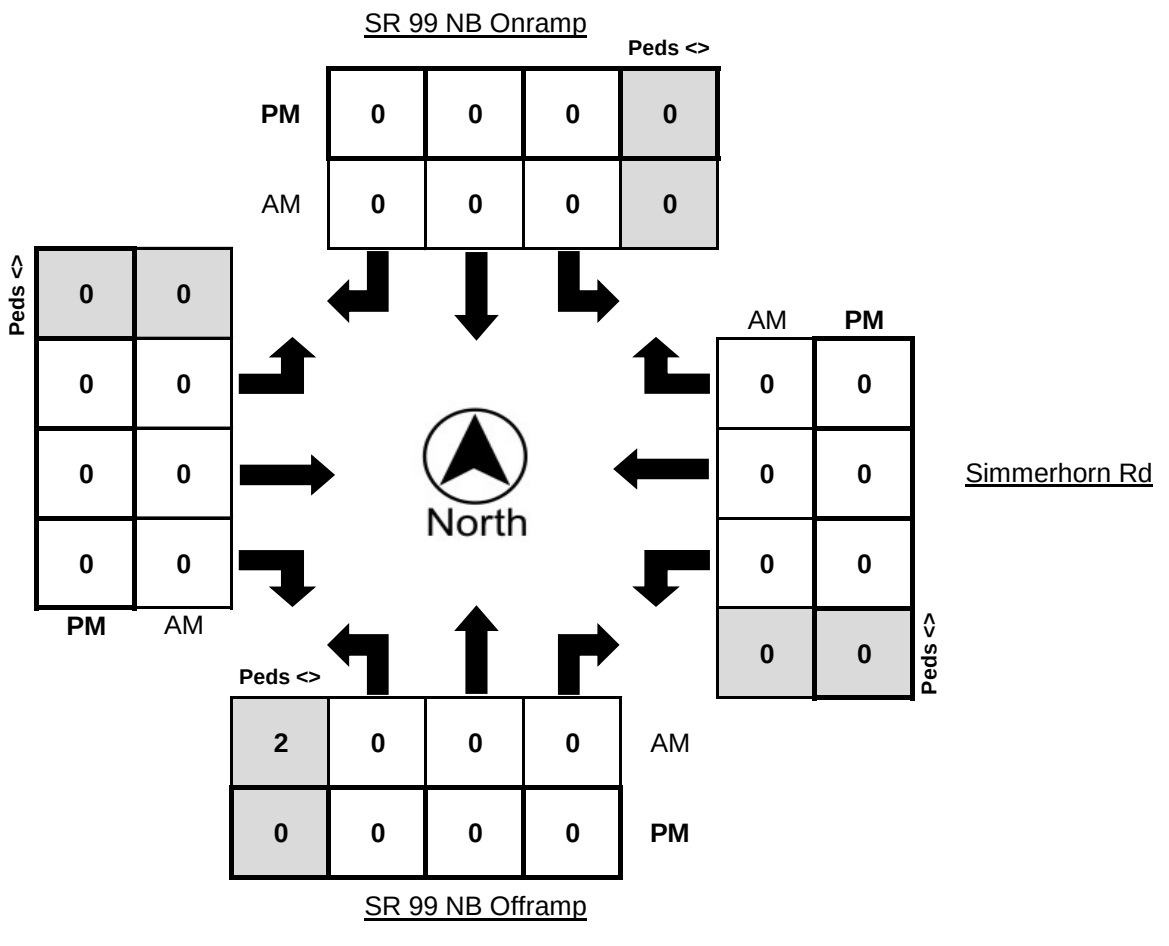
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 2 |
| **PM Peak Total** | **0** | **0** |



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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Carillion Blvd @ Simmerhorn Rd

**LATITUDE** 38.262203°

**COUNTY** Sacramento

**LONGITUDE** -121.286945°

**COLLECTION DATE** Wednesday, October 25, 2017

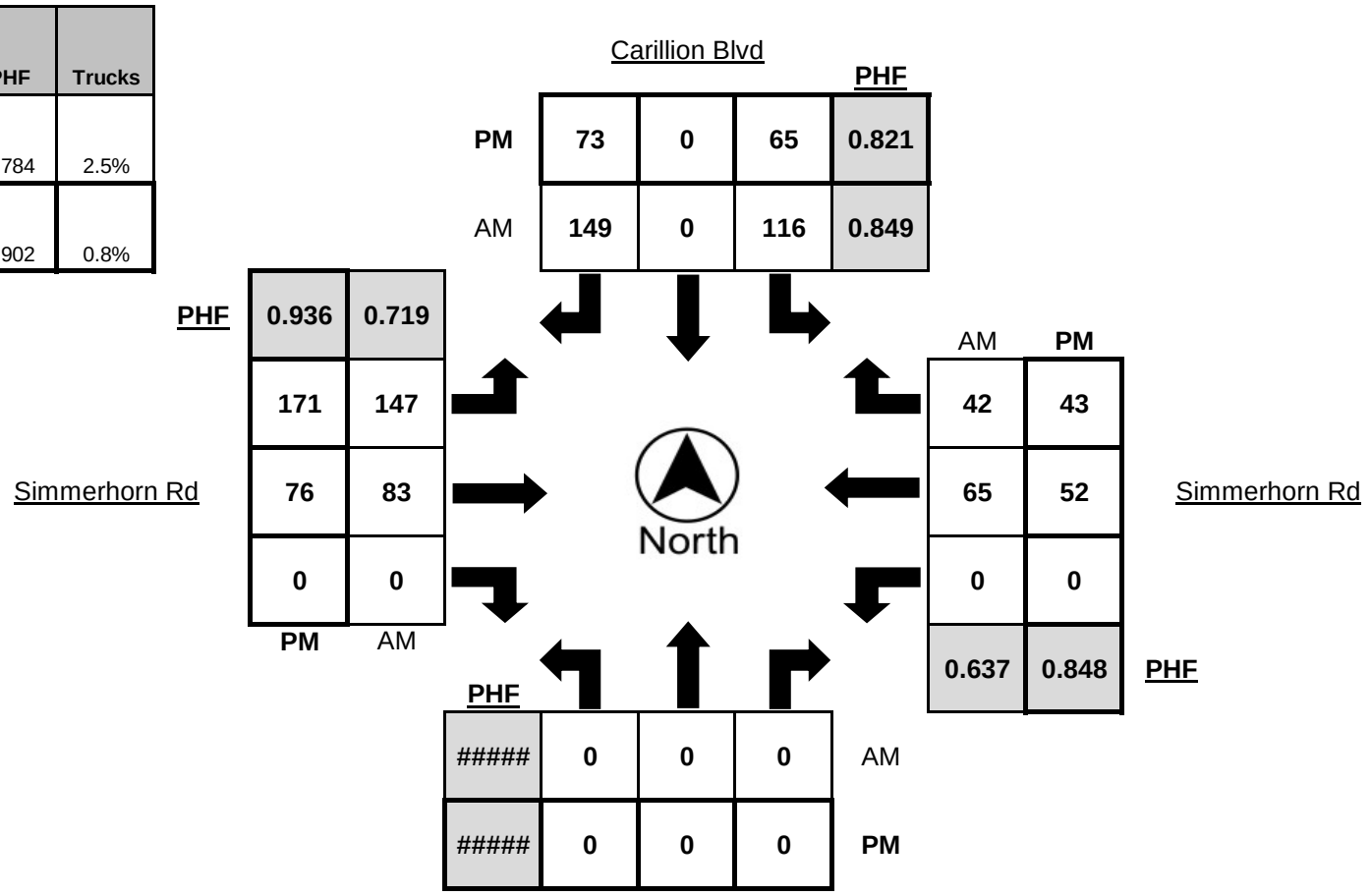
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 7 | 0 | 19 | 0 | 16 | 5 | 0 | 0 | 0 | 10 | 2 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 17 | 0 | 33 | 0 | 21 | 8 | 0 | 1 | 0 | 11 | 5 | 1 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 27 | 0 | 33 | 0 | 51 | 29 | 0 | 6 | 0 | 14 | 14 | 1 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 37 | 0 | 40 | 0 | 48 | 25 | 0 | 1 | 0 | 24 | 18 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 35 | 0 | 43 | 1 | 27 | 21 | 0 | 3 | 0 | 16 | 5 | 1 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 10 | 0 | 37 | 0 | 14 | 12 | 0 | 0 | 0 | 10 | 5 | 2 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 13 | 0 | 23 | 2 | 14 | 16 | 0 | 0 | 0 | 10 | 3 | 1 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 11 | 0 | 19 | 1 | 8 | 8 | 0 | 1 | 0 | 14 | 3 | 1 |
| **TOTAL** | **0** | **0** | **0** | **0** | **157** | **0** | **247** | **4** | **199** | **124** | **0** | **12** | **0** | **109** | **55** | **7** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 22 | 0 | 18 | 0 | 33 | 14 | 0 | 1 | 0 | 12 | 8 | 1 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 12 | 0 | 14 | 0 | 43 | 12 | 0 | 0 | 0 | 20 | 7 | 2 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 14 | 0 | 20 | 0 | 34 | 16 | 0 | 1 | 0 | 16 | 8 | 2 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 18 | 0 | 20 | 1 | 31 | 21 | 0 | 0 | 0 | 14 | 5 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 17 | 0 | 25 | 0 | 46 | 17 | 0 | 0 | 0 | 12 | 16 | 2 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 11 | 0 | 10 | 0 | 43 | 23 | 0 | 1 | 0 | 15 | 9 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 19 | 0 | 23 | 0 | 35 | 22 | 0 | 0 | 0 | 10 | 10 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 18 | 0 | 15 | 0 | 47 | 14 | 0 | 0 | 0 | 15 | 8 | 1 |
| **TOTAL** | **0** | **0** | **0** | **0** | **131** | **0** | **145** | **1** | **312** | **139** | **0** | **3** | **0** | **114** | **71** | **8** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 116 | 0 | 149 | 1 | 147 | 83 | 0 | 11 | 0 | 65 | 42 | 3 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 65 | 0 | 73 | 0 | 171 | 76 | 0 | 1 | 0 | 52 | 43 | 3 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.784 | 2.5% |
| **PM** | 0.902 | 0.8% |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Carillion Blvd @ Simmerhorn Rd

**LATITUDE** 38.262203°

**COUNTY** Sacramento

**LONGITUDE** -121.286945°

**COLLECTION DATE** Wednesday, October 25, 2017

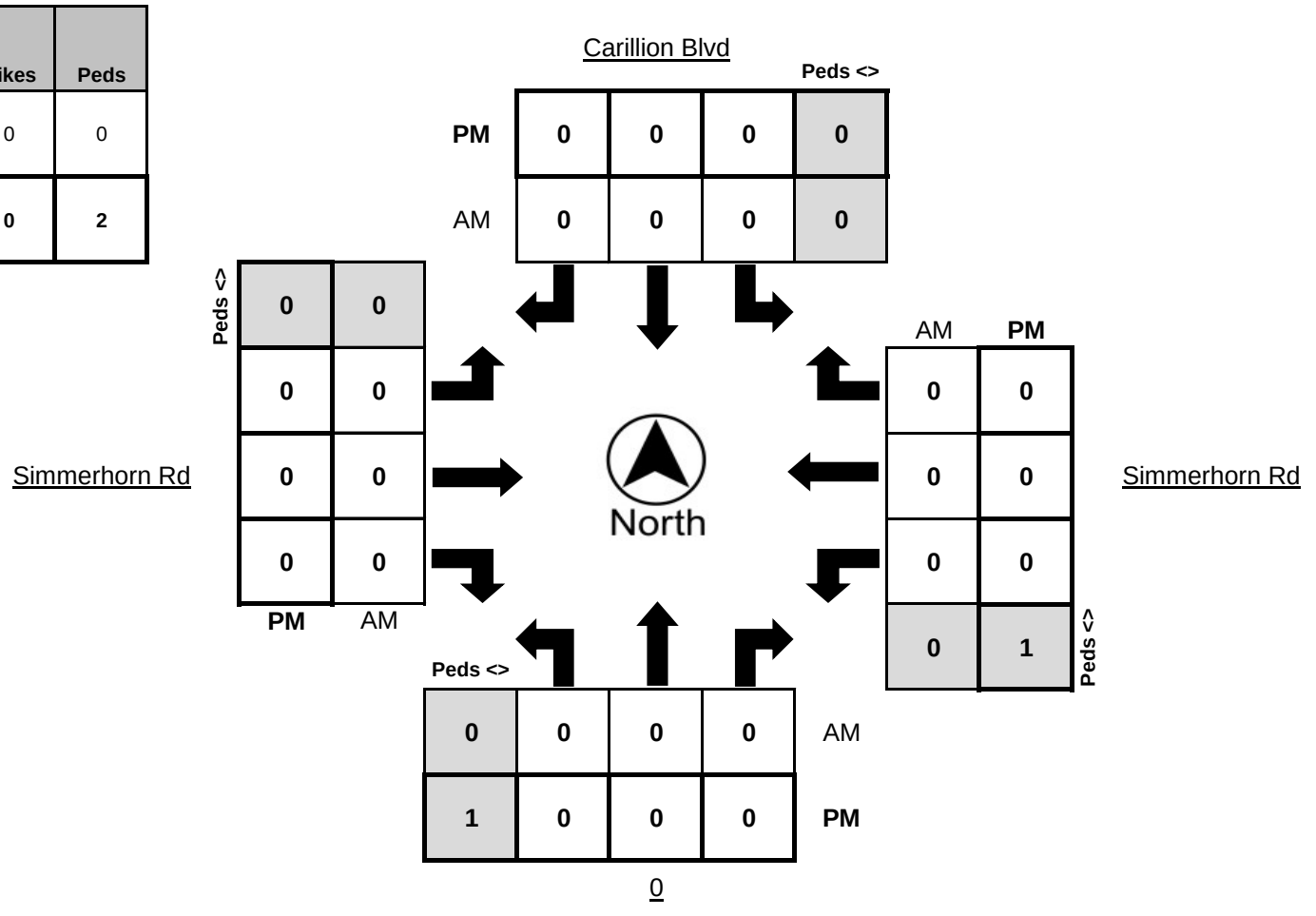
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **2** |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Simmerhorn Rd @ Marengo Rd

**LATITUDE** 38.2622

**COUNTY** Sacramento

**LONGITUDE** -121.2826

**COLLECTION DATE** Wednesday, February 14, 2018

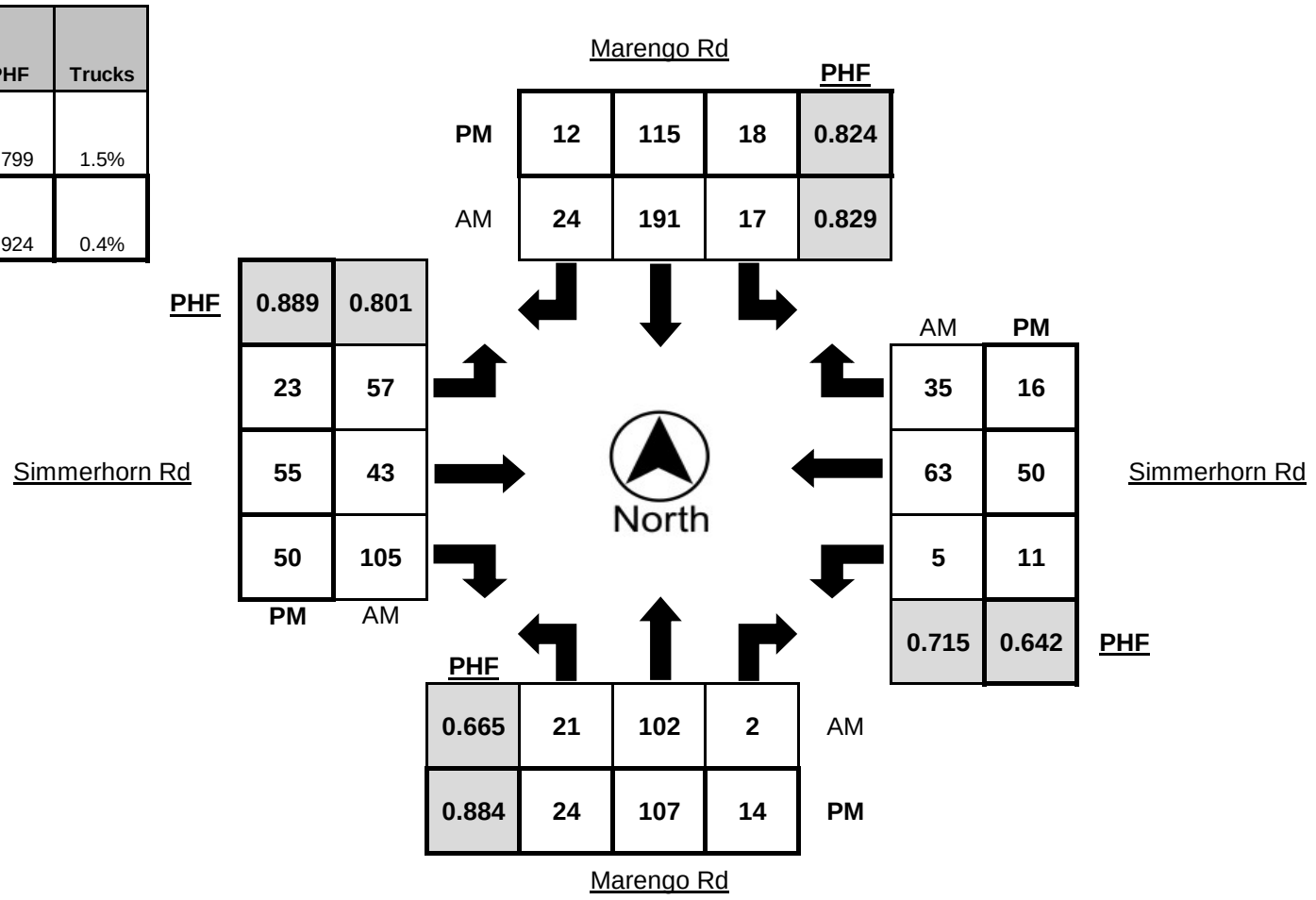
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 1 | 4 | 0 | 1 | 1 | 14 | 2 | 0 | 2 | 5 | 6 | 0 | 2 | 7 | 2 | 0 |
| **7:15 AM - 7:30 AM** | 2 | 14 | 0 | 0 | 2 | 31 | 5 | 1 | 7 | 4 | 16 | 0 | 2 | 18 | 4 | 1 |
| **7:30 AM - 7:45 AM** | 4 | 34 | 0 | 0 | 4 | 51 | 4 | 1 | 23 | 11 | 30 | 2 | 1 | 14 | 11 | 1 |
| **7:45 AM - 8:00 AM** | 14 | 33 | 0 | 0 | 6 | 48 | 11 | 4 | 22 | 16 | 22 | 0 | 2 | 18 | 16 | 0 |
| **8:00 AM - 8:15 AM** | 1 | 21 | 2 | 0 | 5 | 61 | 4 | 0 | 5 | 12 | 37 | 0 | 0 | 13 | 4 | 0 |
| **8:15 AM - 8:30 AM** | 2 | 19 | 0 | 0 | 4 | 20 | 8 | 2 | 2 | 9 | 13 | 0 | 2 | 9 | 3 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 6 | 0 | 0 | 2 | 26 | 4 | 2 | 1 | 7 | 11 | 2 | 1 | 8 | 4 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 11 | 2 | 0 | 1 | 27 | 4 | 1 | 2 | 7 | 10 | 0 | 0 | 6 | 5 | 0 |
| **TOTAL** | **24** | **142** | **4** | **1** | **25** | **278** | **42** | **11** | **64** | **71** | **145** | **4** | **10** | **93** | **49** | **2** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 10 | 28 | 1 | 0 | 3 | 23 | 7 | 0 | 9 | 14 | 13 | 0 | 2 | 11 | 4 | 1 |
| **4:15 PM - 4:30 PM** | 5 | 14 | 2 | 0 | 3 | 30 | 3 | 1 | 5 | 11 | 14 | 1 | 2 | 16 | 2 | 0 |
| **4:30 PM - 4:45 PM** | 1 | 31 | 2 | 0 | 3 | 28 | 5 | 2 | 4 | 17 | 11 | 0 | 3 | 11 | 2 | 0 |
| **4:45 PM - 5:00 PM** | 8 | 29 | 2 | 0 | 4 | 17 | 1 | 0 | 3 | 7 | 11 | 0 | 6 | 19 | 5 | 0 |
| **5:00 PM - 5:15 PM** | 3 | 26 | 3 | 0 | 4 | 30 | 3 | 0 | 7 | 16 | 12 | 0 | 2 | 8 | 1 | 1 |
| **5:15 PM - 5:30 PM** | 8 | 22 | 3 | 0 | 4 | 35 | 3 | 1 | 7 | 16 | 13 | 0 | 2 | 15 | 6 | 0 |
| **5:30 PM - 5:45 PM** | 5 | 30 | 6 | 0 | 6 | 33 | 5 | 0 | 6 | 16 | 14 | 0 | 1 | 8 | 4 | 0 |
| **5:45 PM - 6:00 PM** | 4 | 15 | 1 | 0 | 3 | 32 | 3 | 0 | 2 | 10 | 19 | 0 | 2 | 8 | 1 | 0 |
| **TOTAL** | **44** | **195** | **20** | **0** | **30** | **228** | **30** | **4** | **43** | **107** | **107** | **1** | **20** | **96** | **25** | **2** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 21 | 102 | 2 | 0 | 17 | 191 | 24 | 6 | 57 | 43 | 105 | 2 | 5 | 63 | 35 | 2 |
| **4:45 PM - 5:45 PM** | 24 | 107 | 14 | 0 | 18 | 115 | 12 | 1 | 23 | 55 | 50 | 0 | 11 | 50 | 16 | 1 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.799 | 1.5% |
| **PM** | 0.924 | 0.4% |



**Metro Traffic Data Inc.**
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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Simmerhorn Rd @ Marengo Rd

**LATITUDE** 38.2622

**COUNTY** Sacramento

**LONGITUDE** -121.2826

**COLLECTION DATE** Wednesday, February 14, 2018

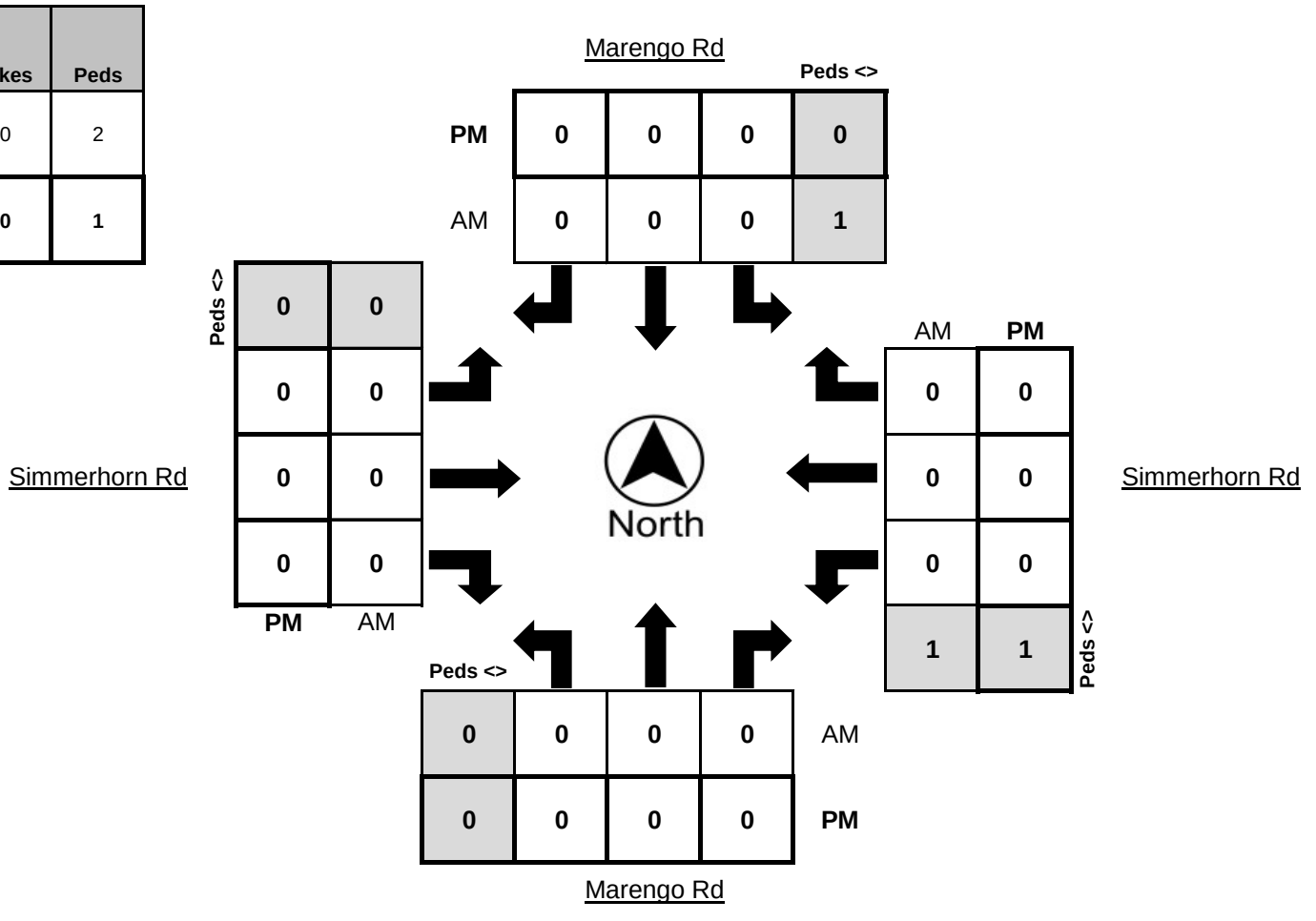
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 2 |
| **PM Peak Total** | **0** | **1** |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 SB Offramp @ Crystal Way / A St

**LATITUDE** 38.2552

**COUNTY** Sacramento

**LONGITUDE** -121.2949

**COLLECTION DATE** Wednesday, February 14, 2018

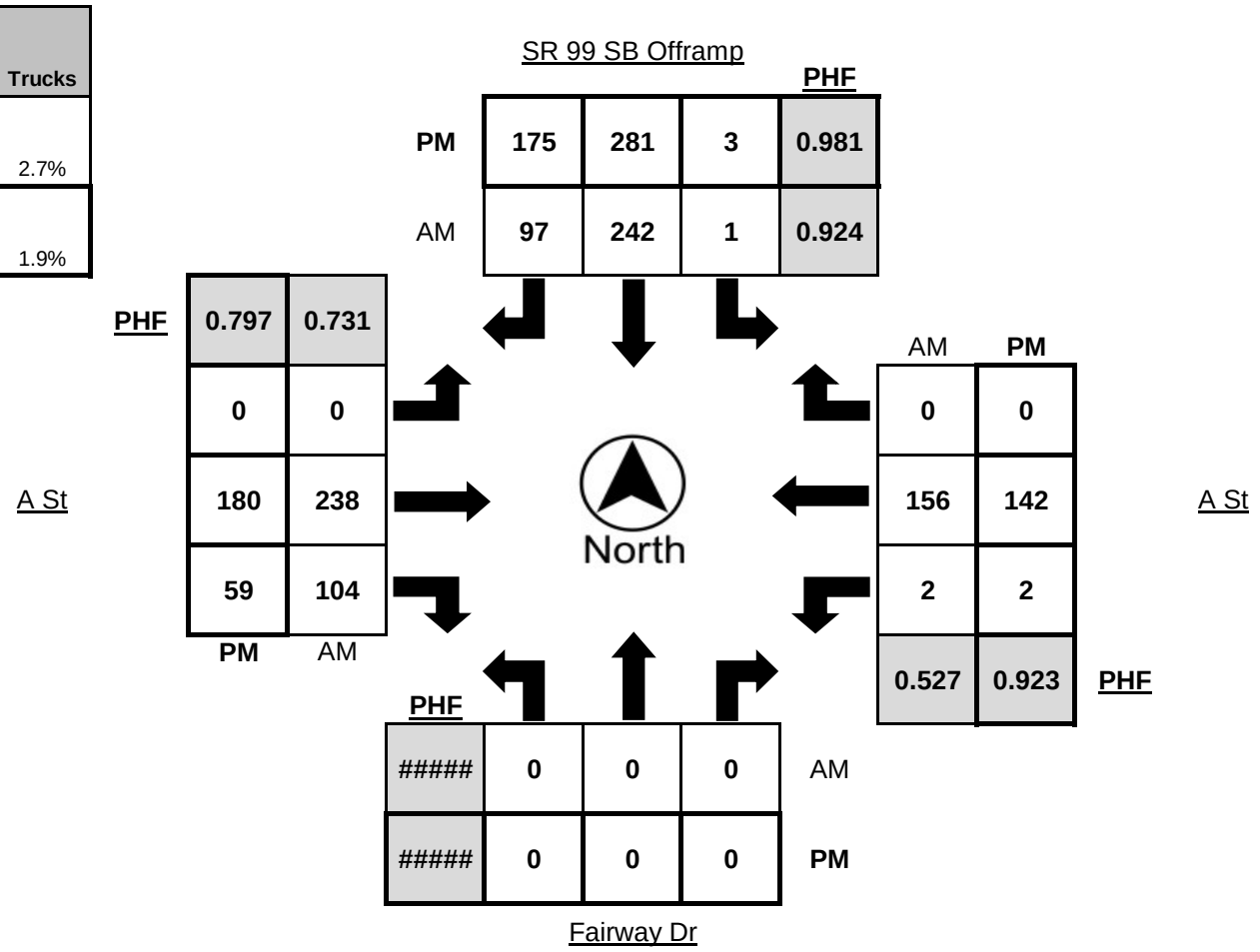
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 23 | 15 | 1 | 0 | 44 | 18 | 1 | 0 | 13 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 1 | 33 | 19 | 1 | 0 | 54 | 19 | 1 | 0 | 27 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 42 | 36 | 2 | 0 | 53 | 34 | 0 | 1 | 47 | 0 | 2 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 61 | 29 | 2 | 0 | 80 | 37 | 4 | 1 | 74 | 0 | 1 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 67 | 13 | 1 | 0 | 59 | 14 | 3 | 0 | 21 | 0 | 1 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 1 | 72 | 19 | 2 | 0 | 46 | 19 | 4 | 0 | 14 | 0 | 1 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 2 | 76 | 17 | 1 | 0 | 21 | 13 | 2 | 0 | 8 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 1 | 93 | 19 | 4 | 0 | 24 | 19 | 1 | 1 | 13 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **5** | **467** | **167** | **14** | **0** | **381** | **173** | **16** | **3** | **217** | **0** | **5** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 1 | 55 | 30 | 4 | 0 | 39 | 20 | 0 | 0 | 29 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 1 | 76 | 39 | 1 | 0 | 43 | 10 | 1 | 0 | 39 | 0 | 1 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 1 | 72 | 42 | 3 | 0 | 37 | 15 | 1 | 0 | 33 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 66 | 51 | 1 | 0 | 41 | 18 | 3 | 2 | 33 | 0 | 1 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 1 | 67 | 43 | 3 | 0 | 59 | 16 | 1 | 0 | 37 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 54 | 45 | 1 | 0 | 47 | 15 | 1 | 0 | 36 | 0 | 1 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 1 | 57 | 41 | 0 | 0 | 36 | 11 | 0 | 1 | 29 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 1 | 71 | 46 | 0 | 0 | 38 | 17 | 0 | 1 | 36 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **6** | **518** | **337** | **13** | **0** | **340** | **122** | **7** | **4** | **272** | **0** | **3** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 1 | 242 | 97 | 7 | 0 | 238 | 104 | 11 | 2 | 156 | 0 | 5 |
| **4:15 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 3 | 281 | 175 | 8 | 0 | 180 | 59 | 6 | 2 | 142 | 0 | 2 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.745 | 2.7% |
| **PM** | 0.944 | 1.9% |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 SB Offramp @ Crystal Way / A St

**LATITUDE** 38.2552

**COUNTY** Sacramento

**LONGITUDE** -121.2949

**COLLECTION DATE** Wednesday, February 14, 2018

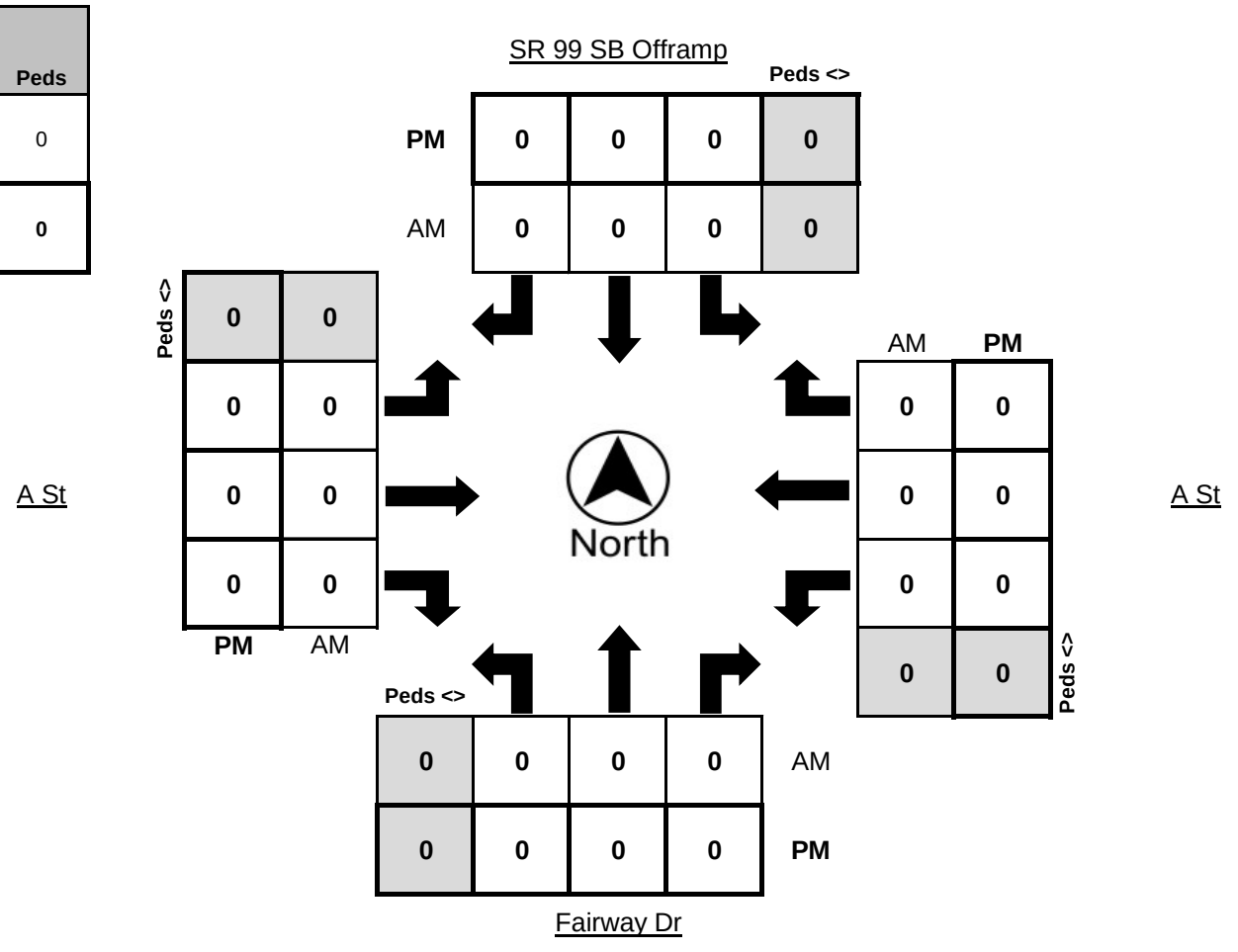
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **0** |



**Metro Traffic Data Inc.**
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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Onramp @ Crystal Way

**LATITUDE** 38.2560

**COUNTY** Sacramento

**LONGITUDE** -121.2932

**COLLECTION DATE** Wednesday, February 14, 2018

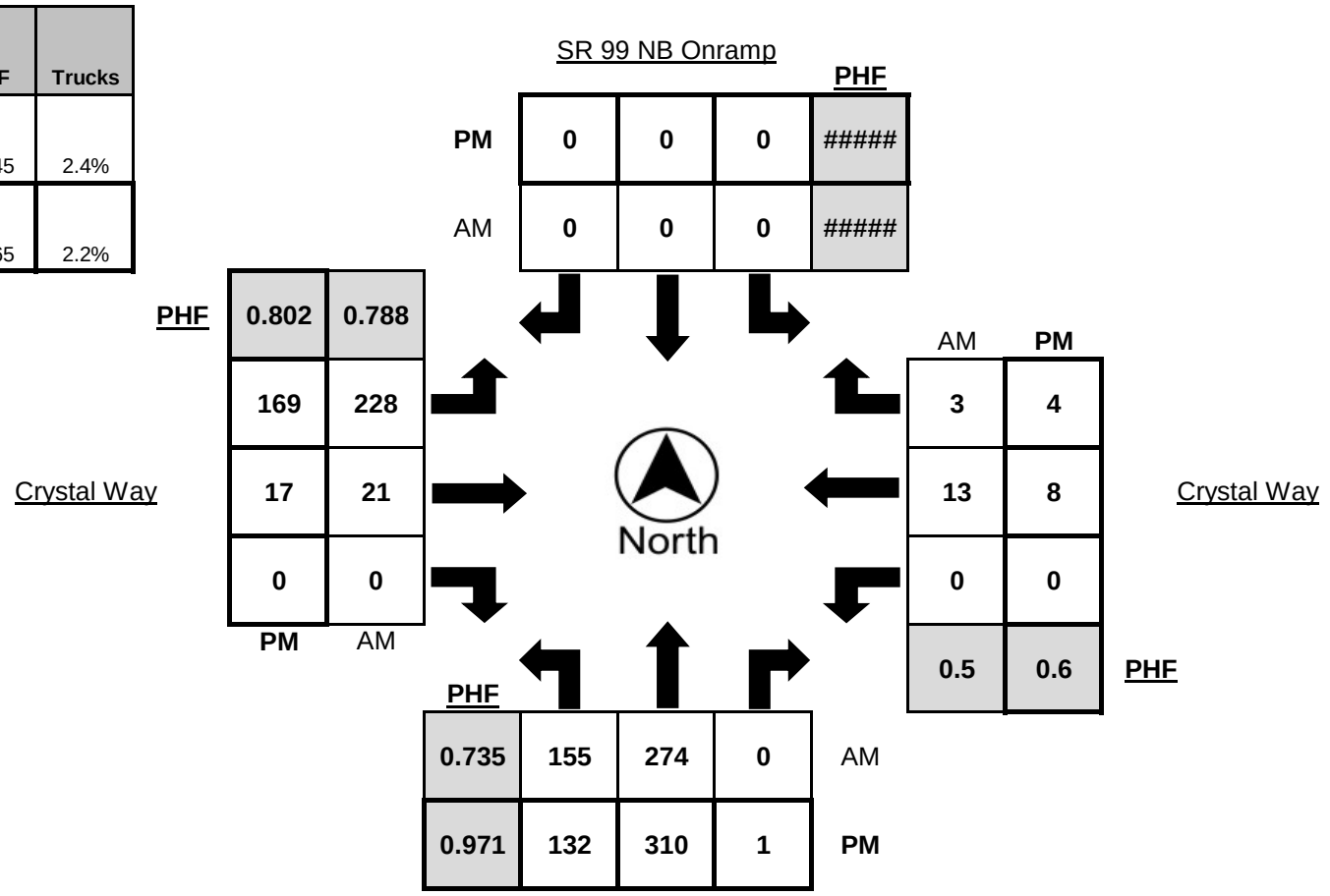
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 10 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 2 | 0 | 0 | 0 | 3 | 1 | 0 |
| **7:15 AM - 7:30 AM** | 25 | 50 | 0 | 1 | 0 | 0 | 0 | 0 | 52 | 4 | 0 | 1 | 0 | 2 | 1 | 0 |
| **7:30 AM - 7:45 AM** | 43 | 72 | 0 | 2 | 0 | 0 | 0 | 0 | 46 | 4 | 0 | 0 | 0 | 5 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 65 | 81 | 0 | 2 | 0 | 0 | 0 | 0 | 70 | 9 | 0 | 3 | 0 | 6 | 2 | 0 |
| **8:00 AM - 8:15 AM** | 22 | 71 | 0 | 5 | 0 | 0 | 0 | 0 | 60 | 4 | 0 | 3 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 13 | 73 | 0 | 1 | 0 | 0 | 0 | 0 | 40 | 5 | 0 | 2 | 0 | 1 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 7 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 13 | 59 | 0 | 2 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| **TOTAL** | **198** | **499** | **0** | **13** | **0** | **0** | **0** | **0** | **361** | **31** | **0** | **9** | **0** | **19** | **6** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 21 | 91 | 0 | 2 | 0 | 0 | 0 | 0 | 36 | 5 | 0 | 0 | 0 | 5 | 1 | 0 |
| **4:15 PM - 4:30 PM** | 37 | 79 | 0 | 3 | 0 | 0 | 0 | 0 | 37 | 6 | 0 | 1 | 0 | 2 | 1 | 0 |
| **4:30 PM - 4:45 PM** | 33 | 69 | 0 | 4 | 0 | 0 | 0 | 0 | 37 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 33 | 80 | 1 | 3 | 0 | 0 | 0 | 0 | 38 | 4 | 0 | 1 | 0 | 2 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 36 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 5 | 0 | 1 | 0 | 1 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 32 | 80 | 0 | 6 | 0 | 0 | 0 | 0 | 47 | 3 | 0 | 1 | 0 | 3 | 1 | 0 |
| **5:30 PM - 5:45 PM** | 31 | 80 | 0 | 2 | 0 | 0 | 0 | 0 | 31 | 5 | 0 | 0 | 0 | 2 | 3 | 0 |
| **5:45 PM - 6:00 PM** | 36 | 74 | 0 | 1 | 0 | 0 | 0 | 0 | 41 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| **TOTAL** | **259** | **623** | **1** | **21** | **0** | **0** | **0** | **0** | **320** | **30** | **0** | **6** | **0** | **17** | **6** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 155 | 274 | 0 | 10 | 0 | 0 | 0 | 0 | 228 | 21 | 0 | 7 | 0 | 13 | 3 | 0 |
| **4:45 PM - 5:45 PM** | 132 | 310 | 1 | 11 | 0 | 0 | 0 | 0 | 169 | 17 | 0 | 3 | 0 | 8 | 4 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.745 | 2.4% |
| **PM** | 0.965 | 2.2% |



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# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Onramp @ Crystal Way

**LATITUDE** 38.2560

**COUNTY** Sacramento

**LONGITUDE** -121.2932

**COLLECTION DATE** Wednesday, February 14, 2018

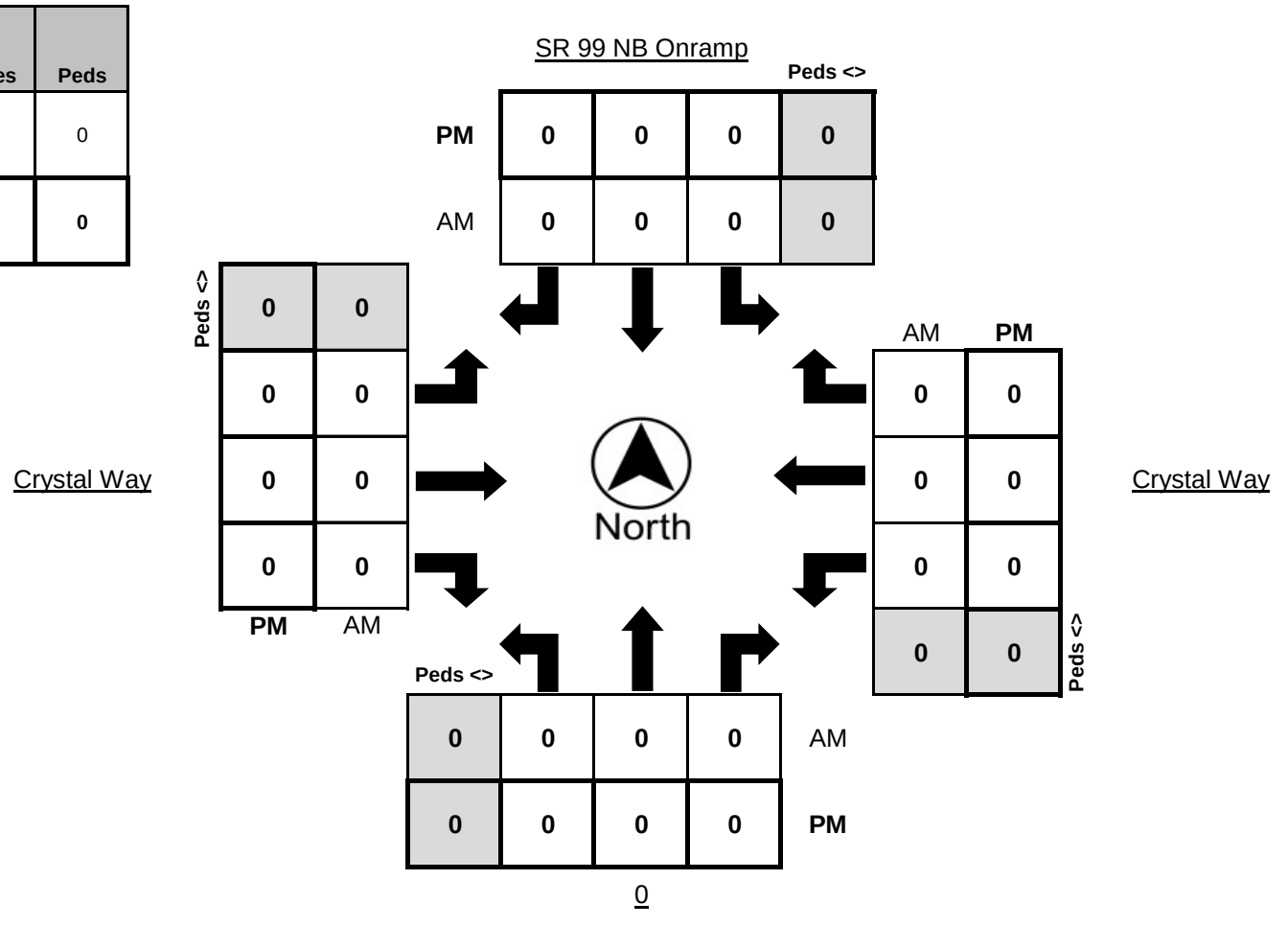
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:15 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **0** |



**Metro Traffic Data Inc.**
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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Fairway Dr at C Street

**LATITUDE** 38.2540

**COUNTY** Sacramento

**LONGITUDE** -121.2942

**COLLECTION DATE** Thursday, May 09, 2019

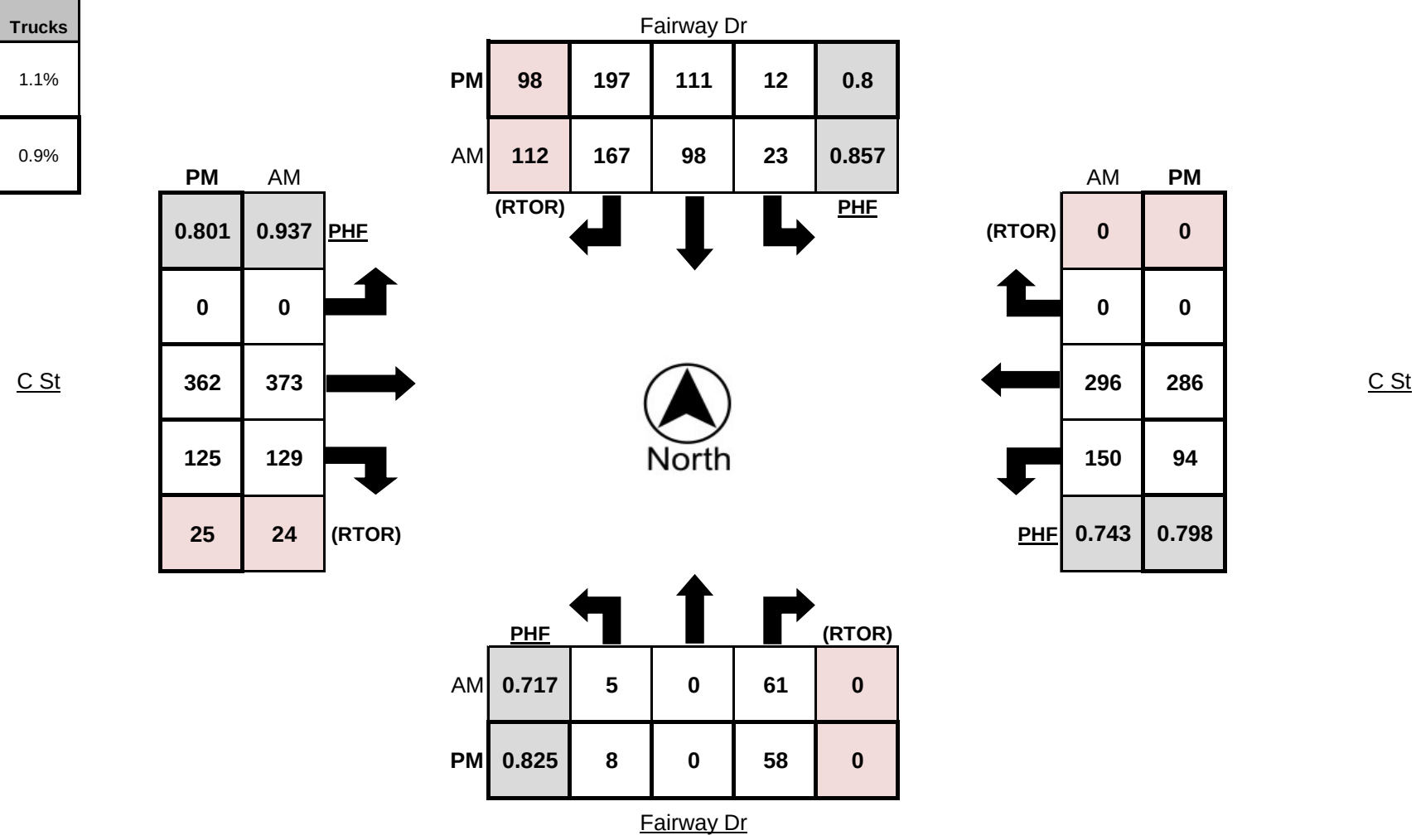
**WEATHER** Clear

| | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 4 | 1 | 0 | 3 | 19 | 18 | 14 | 1 | 0 | 48 | 22 | 3 | 2 | 25 | 29 | 0 | 0 | 3 |
| **7:15 AM - 7:30 AM** | 2 | 0 | 12 | 0 | 0 | 4 | 18 | 35 | 21 | 3 | 0 | 67 | 37 | 8 | 3 | 29 | 38 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 23 | 0 | 1 | 6 | 39 | 39 | 27 | 1 | 0 | 95 | 39 | 5 | 3 | 40 | 47 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 1 | 0 | 19 | 0 | 0 | 6 | 28 | 42 | 27 | 1 | 0 | 91 | 29 | 8 | 3 | 38 | 93 | 0 | 0 | 2 |
| **8:00 AM - 8:15 AM** | 2 | 0 | 15 | 0 | 0 | 6 | 17 | 52 | 34 | 0 | 0 | 98 | 33 | 6 | 0 | 47 | 103 | 0 | 0 | 1 |
| **8:15 AM - 8:30 AM** | 2 | 0 | 4 | 0 | 0 | 5 | 14 | 34 | 24 | 0 | 0 | 89 | 28 | 5 | 1 | 25 | 53 | 0 | 0 | 1 |
| **8:30 AM - 8:45 AM** | 2 | 0 | 8 | 0 | 0 | 1 | 20 | 30 | 19 | 2 | 0 | 66 | 23 | 3 | 0 | 20 | 46 | 0 | 0 | 3 |
| **8:45 AM - 9:00 AM** | 1 | 0 | 13 | 0 | 1 | 2 | 19 | 34 | 19 | 3 | 0 | 51 | 17 | 2 | 0 | 11 | 38 | 0 | 0 | 2 |
| **TOTAL** | **10** | **0** | **98** | **1** | **2** | **33** | **174** | **284** | **185** | **11** | **0** | **605** | **228** | **40** | **12** | **235** | **447** | **0** | **0** | **12** |

| | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** |
| **4:00 PM - 4:15 PM** | 2 | 0 | 9 | 0 | 0 | 2 | 14 | 49 | 27 | 0 | 0 | 80 | 31 | 5 | 2 | 30 | 80 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 3 | 0 | 10 | 0 | 0 | 1 | 22 | 52 | 29 | 2 | 0 | 84 | 26 | 2 | 0 | 20 | 55 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 2 | 0 | 10 | 0 | 0 | 1 | 21 | 48 | 25 | 1 | 0 | 89 | 39 | 4 | 3 | 15 | 60 | 0 | 0 | 1 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 14 | 0 | 0 | 2 | 15 | 63 | 40 | 0 | 0 | 82 | 38 | 5 | 0 | 28 | 69 | 0 | 0 | 2 |
| **5:00 PM - 5:15 PM** | 1 | 0 | 19 | 0 | 0 | 5 | 23 | 34 | 23 | 3 | 0 | 85 | 34 | 10 | 0 | 20 | 53 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 2 | 0 | 10 | 0 | 0 | 3 | 28 | 49 | 21 | 0 | 0 | 118 | 34 | 3 | 1 | 35 | 84 | 0 | 0 | 1 |
| **5:30 PM - 5:45 PM** | 1 | 0 | 17 | 0 | 0 | 4 | 28 | 46 | 19 | 0 | 0 | 89 | 30 | 6 | 2 | 20 | 65 | 0 | 0 | 1 |
| **5:45 PM - 6:00 PM** | 4 | 0 | 12 | 0 | 0 | 0 | 32 | 68 | 35 | 0 | 0 | 70 | 27 | 6 | 1 | 19 | 84 | 0 | 0 | 2 |
| **TOTAL** | **15** | **0** | **101** | **0** | **0** | **18** | **183** | **409** | **219** | **6** | **0** | **697** | **259** | **41** | **9** | **187** | **550** | **0** | **0** | **7** |

| | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** | **Left** | **Thru** | **Right** | **(RTOR)** | **Trucks** |
| **7:30 AM - 8:30 AM** | 5 | 0 | 61 | 0 | 1 | 23 | 98 | 167 | 112 | 2 | 0 | 373 | 129 | 24 | 7 | 150 | 296 | 0 | 0 | 4 |
| **5:00 PM - 6:00 PM** | 8 | 0 | 58 | 0 | 0 | 12 | 111 | 197 | 98 | 3 | 0 | 362 | 125 | 25 | 4 | 94 | 286 | 0 | 0 | 4 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.873 | 1.1% |
| **PM** | 0.863 | 0.9% |



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# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Fairway Dr at C Street

**LATITUDE** 38.2540

**COUNTY** Sacramento

**LONGITUDE** -121.2942

**COLLECTION DATE** Thursday, May 09, 2019

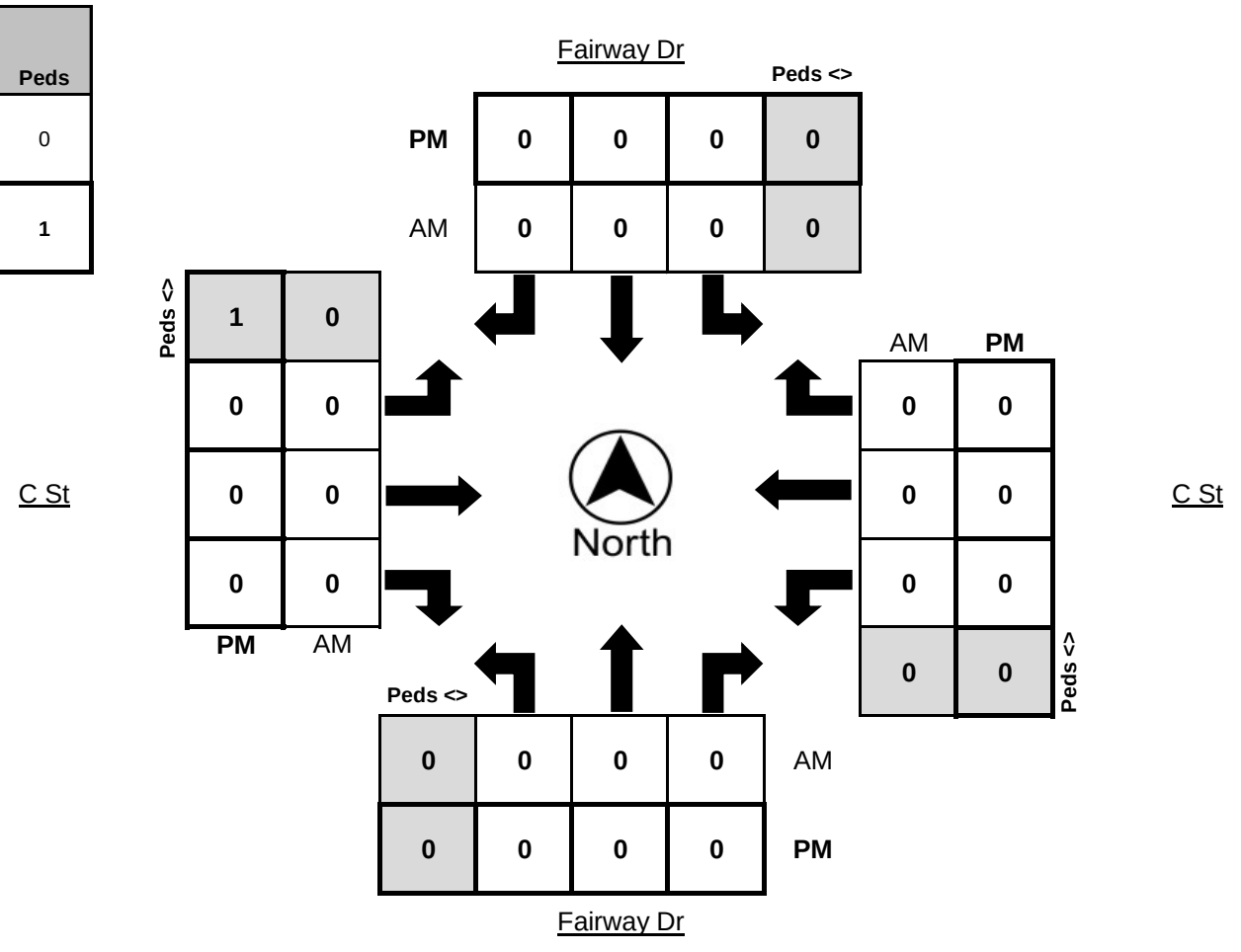
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **1** |



**Metro Traffic Data Inc.**
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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Offramp @ C St / Boessow Rd

**LATITUDE** 38.2549

**COUNTY** Sacramento

**LONGITUDE** -121.2926

**COLLECTION DATE** Wednesday, February 14, 2018

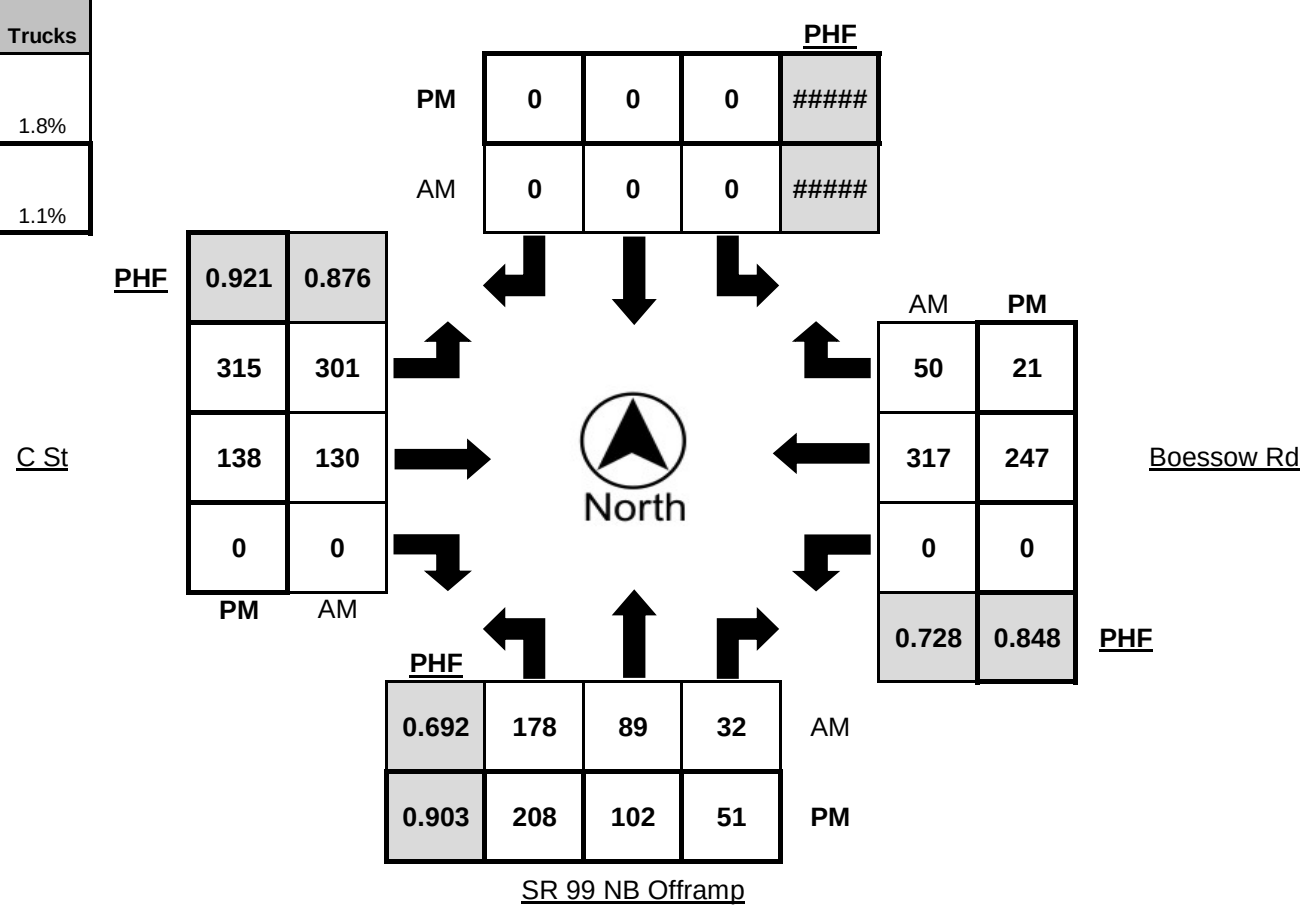
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 28 | 7 | 9 | 1 | 0 | 0 | 0 | 0 | 44 | 12 | 0 | 0 | 0 | 24 | 1 | 1 |
| **7:15 AM - 7:30 AM** | 32 | 14 | 7 | 0 | 0 | 0 | 0 | 0 | 49 | 18 | 0 | 1 | 0 | 51 | 7 | 1 |
| **7:30 AM - 7:45 AM** | 44 | 27 | 10 | 2 | 0 | 0 | 0 | 0 | 73 | 36 | 0 | 0 | 0 | 70 | 14 | 3 |
| **7:45 AM - 8:00 AM** | 52 | 43 | 13 | 0 | 0 | 0 | 0 | 0 | 81 | 42 | 0 | 2 | 0 | 88 | 21 | 3 |
| **8:00 AM - 8:15 AM** | 37 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 74 | 28 | 0 | 4 | 0 | 116 | 10 | 1 |
| **8:15 AM - 8:30 AM** | 45 | 7 | 6 | 2 | 0 | 0 | 0 | 0 | 73 | 24 | 0 | 1 | 0 | 43 | 5 | 2 |
| **8:30 AM - 8:45 AM** | 63 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 56 | 12 | 0 | 0 | 0 | 45 | 0 | 1 |
| **8:45 AM - 9:00 AM** | 70 | 9 | 3 | 1 | 0 | 0 | 0 | 0 | 60 | 24 | 0 | 1 | 0 | 54 | 3 | 0 |
| **TOTAL** | **371** | **123** | **54** | **7** | **0** | **0** | **0** | **0** | **510** | **196** | **0** | **9** | **0** | **491** | **61** | **12** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 56 | 22 | 10 | 1 | 0 | 0 | 0 | 0 | 87 | 41 | 0 | 1 | 0 | 38 | 3 | 0 |
| **4:15 PM - 4:30 PM** | 43 | 27 | 12 | 1 | 0 | 0 | 0 | 0 | 78 | 28 | 0 | 2 | 0 | 68 | 8 | 1 |
| **4:30 PM - 4:45 PM** | 53 | 30 | 16 | 2 | 0 | 0 | 0 | 0 | 71 | 33 | 0 | 4 | 0 | 58 | 2 | 1 |
| **4:45 PM - 5:00 PM** | 39 | 28 | 14 | 0 | 0 | 0 | 0 | 0 | 83 | 33 | 0 | 3 | 0 | 45 | 4 | 0 |
| **5:00 PM - 5:15 PM** | 61 | 28 | 11 | 1 | 0 | 0 | 0 | 0 | 71 | 40 | 0 | 1 | 0 | 50 | 7 | 0 |
| **5:15 PM - 5:30 PM** | 47 | 27 | 12 | 1 | 0 | 0 | 0 | 0 | 82 | 38 | 0 | 5 | 0 | 60 | 4 | 1 |
| **5:30 PM - 5:45 PM** | 46 | 22 | 17 | 0 | 0 | 0 | 0 | 0 | 84 | 39 | 0 | 2 | 0 | 64 | 4 | 0 |
| **5:45 PM - 6:00 PM** | 54 | 25 | 11 | 0 | 0 | 0 | 0 | 0 | 78 | 21 | 0 | 1 | 0 | 73 | 6 | 0 |
| **TOTAL** | **399** | **209** | **103** | **6** | **0** | **0** | **0** | **0** | **634** | **273** | **0** | **19** | **0** | **456** | **38** | **3** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 178 | 89 | 32 | 4 | 0 | 0 | 0 | 0 | 301 | 130 | 0 | 7 | 0 | 317 | 50 | 9 |
| **5:00 PM - 6:00 PM** | 208 | 102 | 51 | 2 | 0 | 0 | 0 | 0 | 315 | 138 | 0 | 9 | 0 | 247 | 21 | 1 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.807 | 1.8% |
| **PM** | 0.980 | 1.1% |



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# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 NB Offramp @ C St / Boessow Rd

**LATITUDE** 38.2549

**COUNTY** Sacramento

**LONGITUDE** -121.2926

**COLLECTION DATE** Wednesday, February 14, 2018

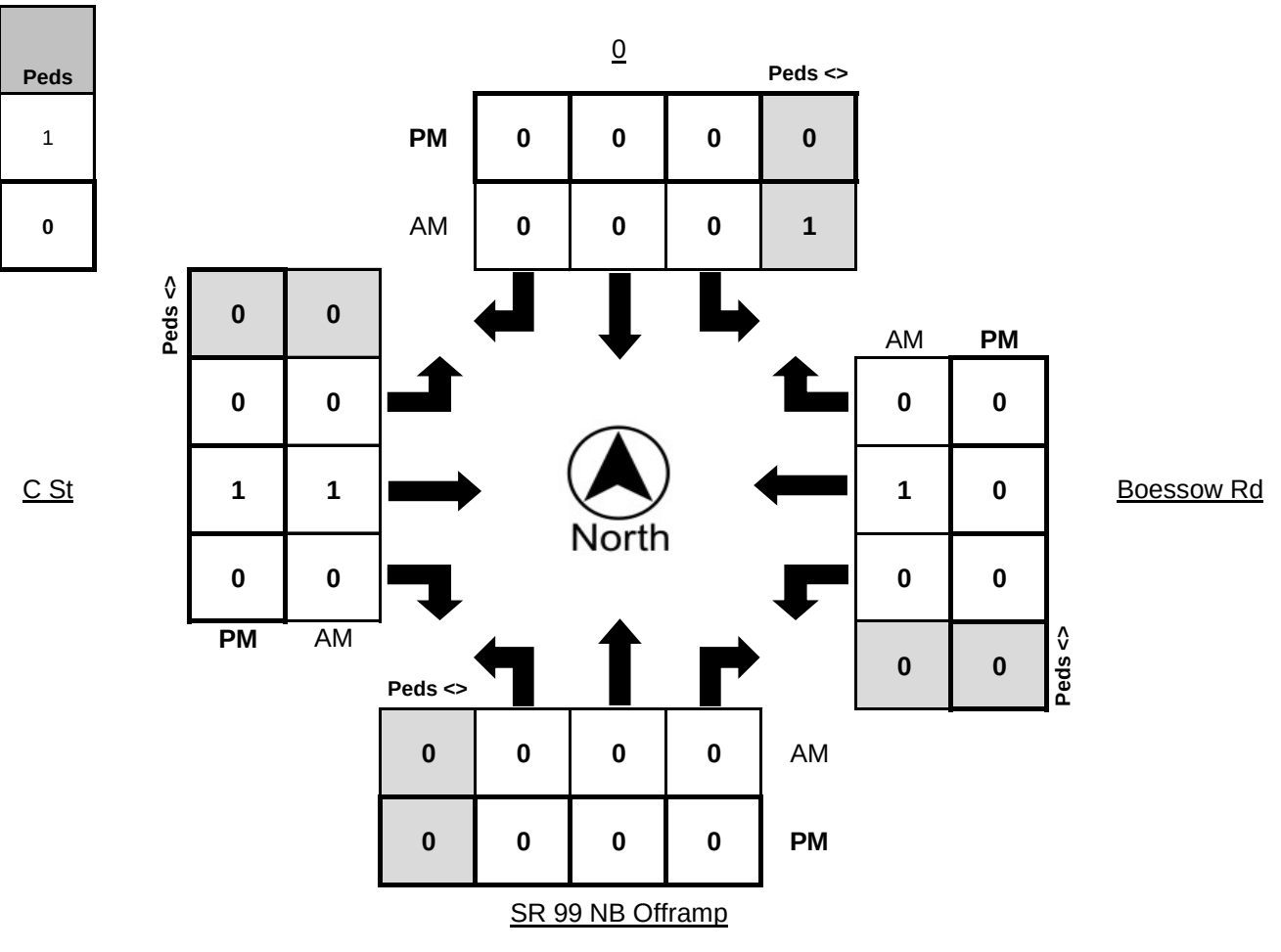
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **1** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 2 | 1 |
| **PM Peak Total** | **1** | **0** |



**Metro Traffic Data Inc.**
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Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Crystal Way at Boessow Rd

**LATITUDE** 38.2551

**COUNTY** Sacramento

**LONGITUDE** -121.2909

**COLLECTION DATE** Thursday, May 09, 2019

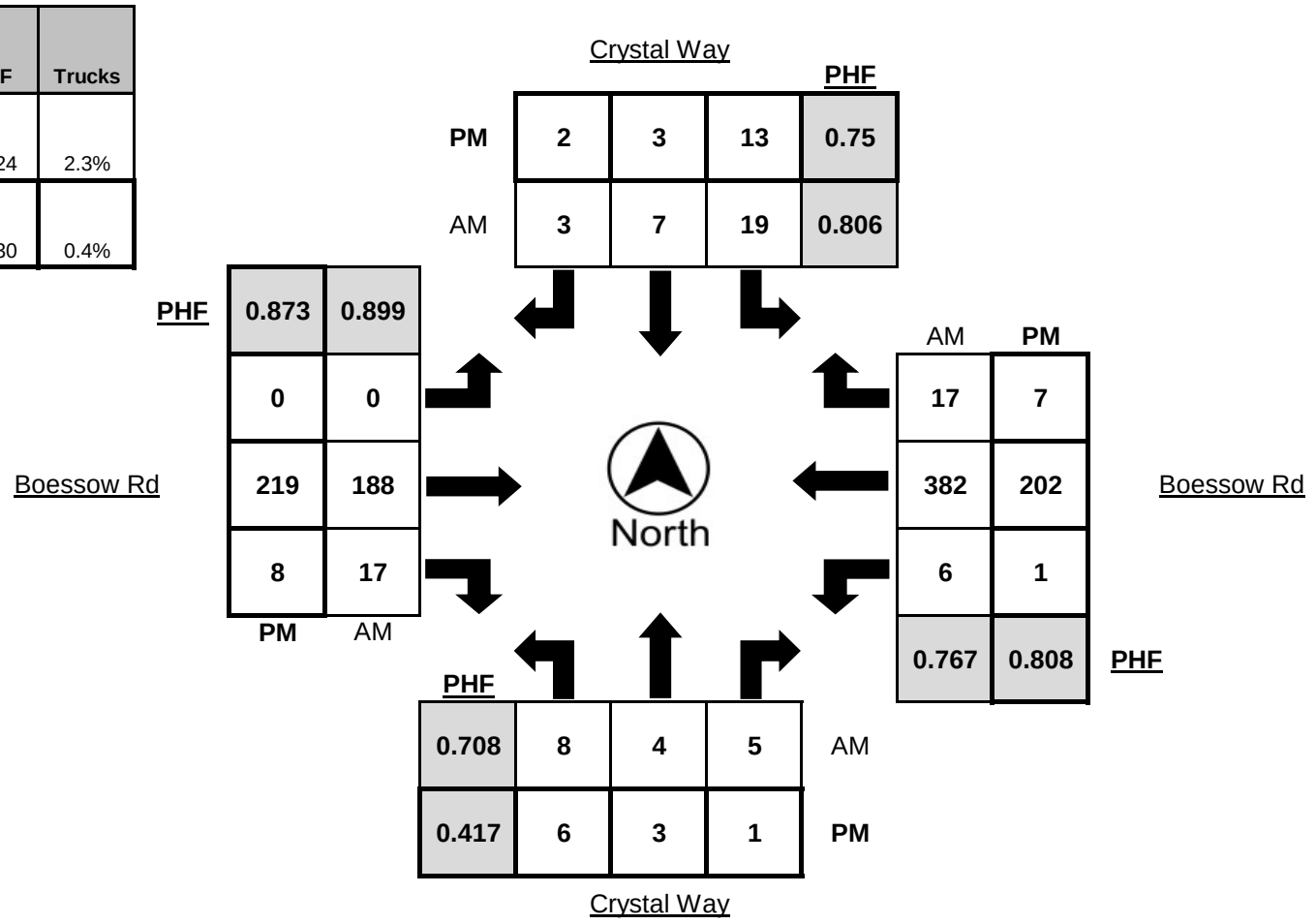
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 16 | 2 | 1 | 3 | 41 | 1 | 1 |
| **7:15 AM - 7:30 AM** | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 23 | 3 | 1 | 1 | 51 | 1 | 1 |
| **7:30 AM - 7:45 AM** | 2 | 0 | 2 | 0 | 4 | 1 | 0 | 0 | 0 | 55 | 2 | 1 | 2 | 80 | 9 | 2 |
| **7:45 AM - 8:00 AM** | 1 | 2 | 0 | 0 | 8 | 0 | 1 | 0 | 0 | 48 | 7 | 1 | 1 | 126 | 5 | 4 |
| **8:00 AM - 8:15 AM** | 1 | 1 | 2 | 0 | 4 | 3 | 2 | 0 | 0 | 46 | 5 | 1 | 1 | 116 | 1 | 0 |
| **8:15 AM - 8:30 AM** | 4 | 1 | 1 | 3 | 3 | 3 | 0 | 0 | 0 | 39 | 3 | 1 | 2 | 60 | 2 | 2 |
| **8:30 AM - 8:45 AM** | 3 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 18 | 3 | 2 | 0 | 37 | 2 | 1 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 15 | 3 | 1 | 0 | 30 | 0 | 0 |
| **TOTAL** | **15** | **6** | **5** | **4** | **24** | **9** | **5** | **0** | **0** | **260** | **28** | **9** | **10** | **541** | **21** | **11** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 40 | 3 | 0 | 0 | 56 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 46 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 2 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 45 | 2 | 1 | 0 | 45 | 0 | 1 |
| **4:45 PM - 5:00 PM** | 1 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 47 | 1 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 1 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 62 | 3 | 1 | 1 | 52 | 1 | 1 |
| **5:15 PM - 5:30 PM** | 1 | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 50 | 1 | 0 | 0 | 62 | 3 | 0 |
| **5:30 PM - 5:45 PM** | 4 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 60 | 4 | 0 | 0 | 41 | 2 | 0 |
| **5:45 PM - 6:00 PM** | 1 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 40 | 0 | 0 | 0 | 53 | 0 | 0 |
| **TOTAL** | **11** | **9** | **1** | **0** | **23** | **4** | **2** | **0** | **1** | **378** | **13** | **2** | **1** | **402** | **7** | **2** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 8 | 4 | 5 | 3 | 19 | 7 | 3 | 0 | 0 | 188 | 17 | 4 | 6 | 382 | 17 | 8 |
| **4:45 PM - 5:45 PM** | 6 | 3 | 1 | 0 | 13 | 3 | 2 | 0 | 0 | 219 | 8 | 1 | 1 | 202 | 7 | 1 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.824 | 2.3% |
| **PM** | 0.930 | 0.4% |



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# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Crystal Way at Boessow Rd

**LATITUDE** 38.2551

**COUNTY** Sacramento

**LONGITUDE** -121.2909

**COLLECTION DATE** Thursday, May 09, 2019

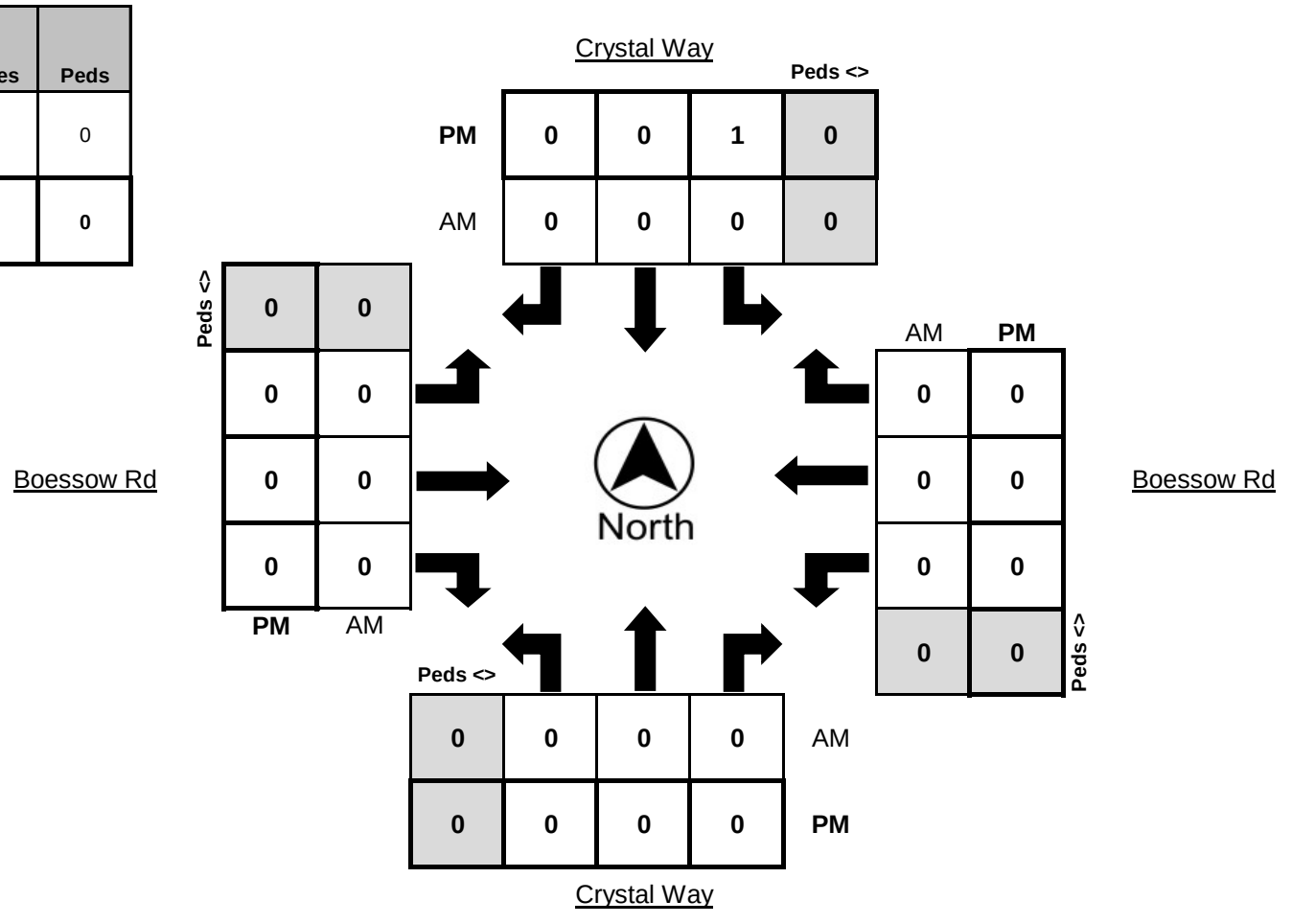
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **1** | **0** |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 SB Onramp @ Fairway Dr / C St

**LATITUDE** 38.2531

**COUNTY** Sacramento

**LONGITUDE** -121.2936

**COLLECTION DATE** Wednesday, February 14, 2018

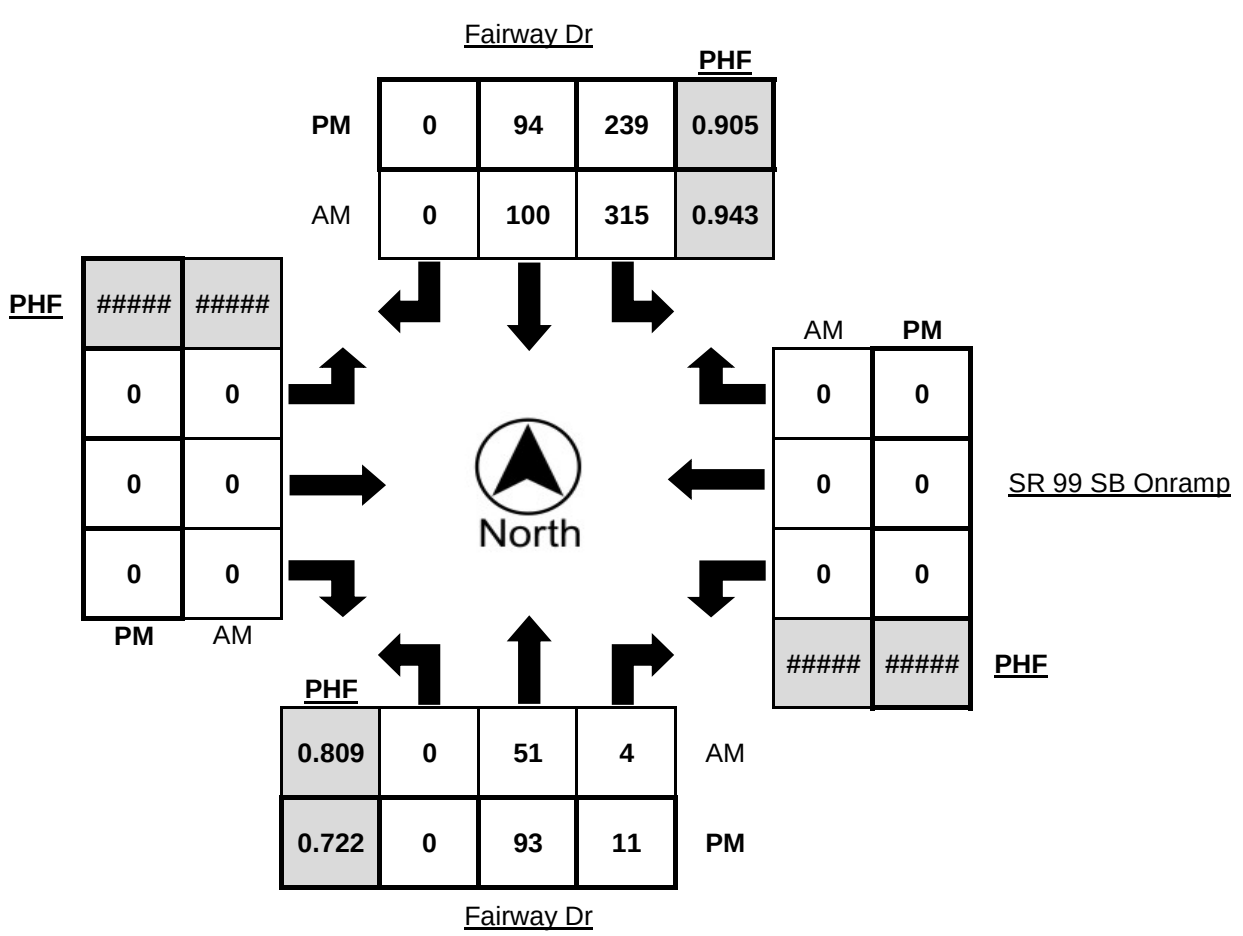
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 8 | 0 | 0 | 56 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 10 | 2 | 0 | 70 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 15 | 0 | 0 | 88 | 19 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 16 | 1 | 0 | 76 | 32 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 10 | 1 | 0 | 81 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 5 | 0 | 0 | 54 | 28 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 7 | 0 | 0 | 59 | 33 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 12 | 0 | 1 | 46 | 41 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **83** | **4** | **1** | **530** | **218** | **0** | **17** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 32 | 4 | 1 | 61 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 17 | 4 | 1 | 66 | 23 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 20 | 2 | 3 | 62 | 30 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 24 | 1 | 2 | 50 | 23 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 17 | 1 | 0 | 73 | 19 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 11 | 2 | 0 | 53 | 28 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 18 | 1 | 1 | 60 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 15 | 1 | 1 | 48 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **154** | **16** | **9** | **473** | **187** | **0** | **10** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:15 AM - 8:15 AM** | 0 | 51 | 4 | 0 | 315 | 100 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:00 PM - 5:00 PM** | 0 | 93 | 11 | 7 | 239 | 94 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.940 | 1.1% |
| **PM** | 0.950 | 3.0% |



**Metro Traffic Data Inc.**
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# Turning Movement Report

Prepared For:

**OMNI-Means**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** SR 99 SB Onramp @ Fairway Dr / C St

**LATITUDE** 38.2531

**COUNTY** Sacramento

**LONGITUDE** -121.2936

**COLLECTION DATE** Wednesday, February 14, 2018

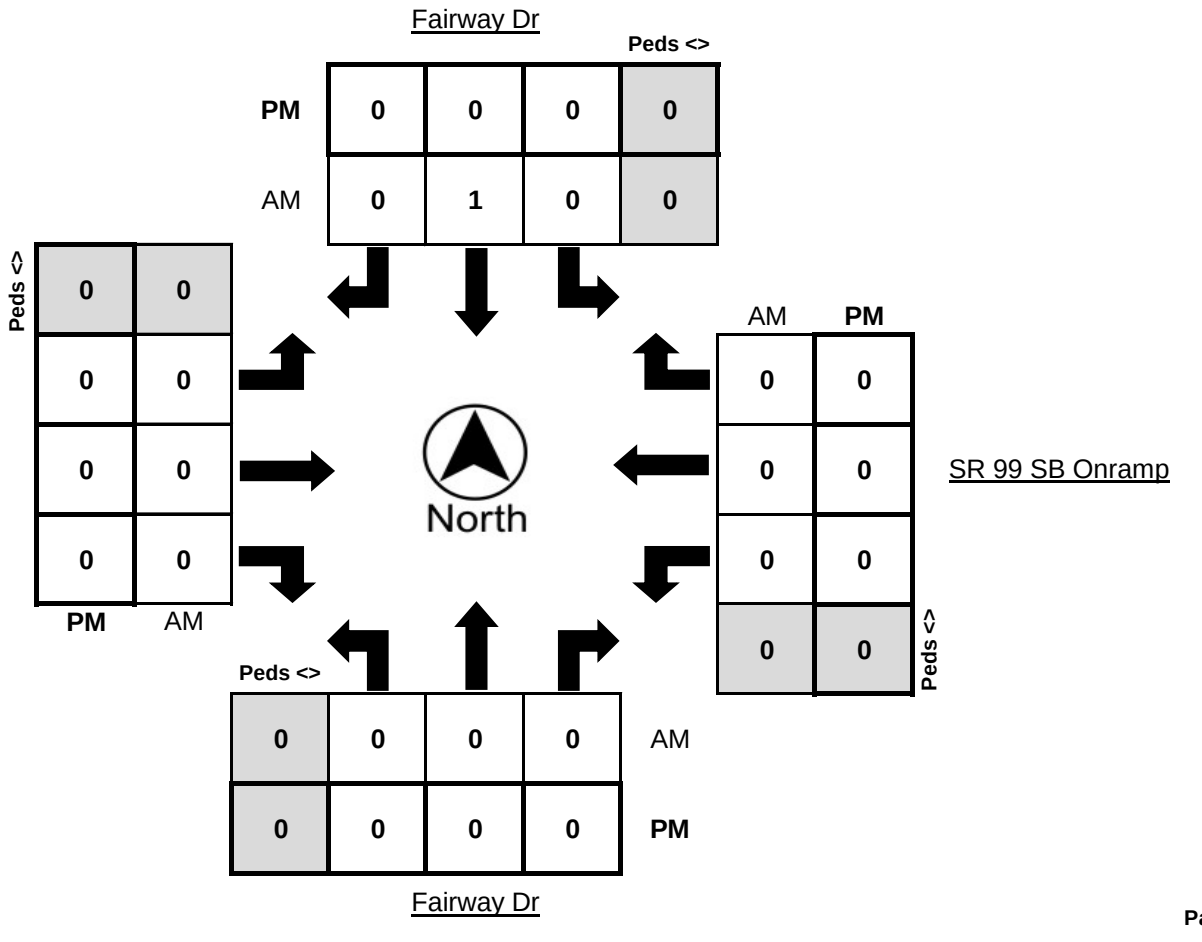
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds |
| 7:00 AM - 7:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM - 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 AM - 7:45 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM - 8:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM - 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 AM - 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM - 8:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM - 9:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds |
| 4:00 PM - 4:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM - 4:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM - 4:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM - 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM - 5:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM - 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM - 6:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HOUR | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds |
| 7:15 AM - 8:15 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM - 5:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| AM Peak Total | 1 | 0 |
| PM Peak Total | 0 | 0 |



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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Marengo Rd at Boessow Rd

**LATITUDE** 38.2550

**COUNTY** Sacramento

**LONGITUDE** -121.2824

**COLLECTION DATE** Thursday, May 09, 2019

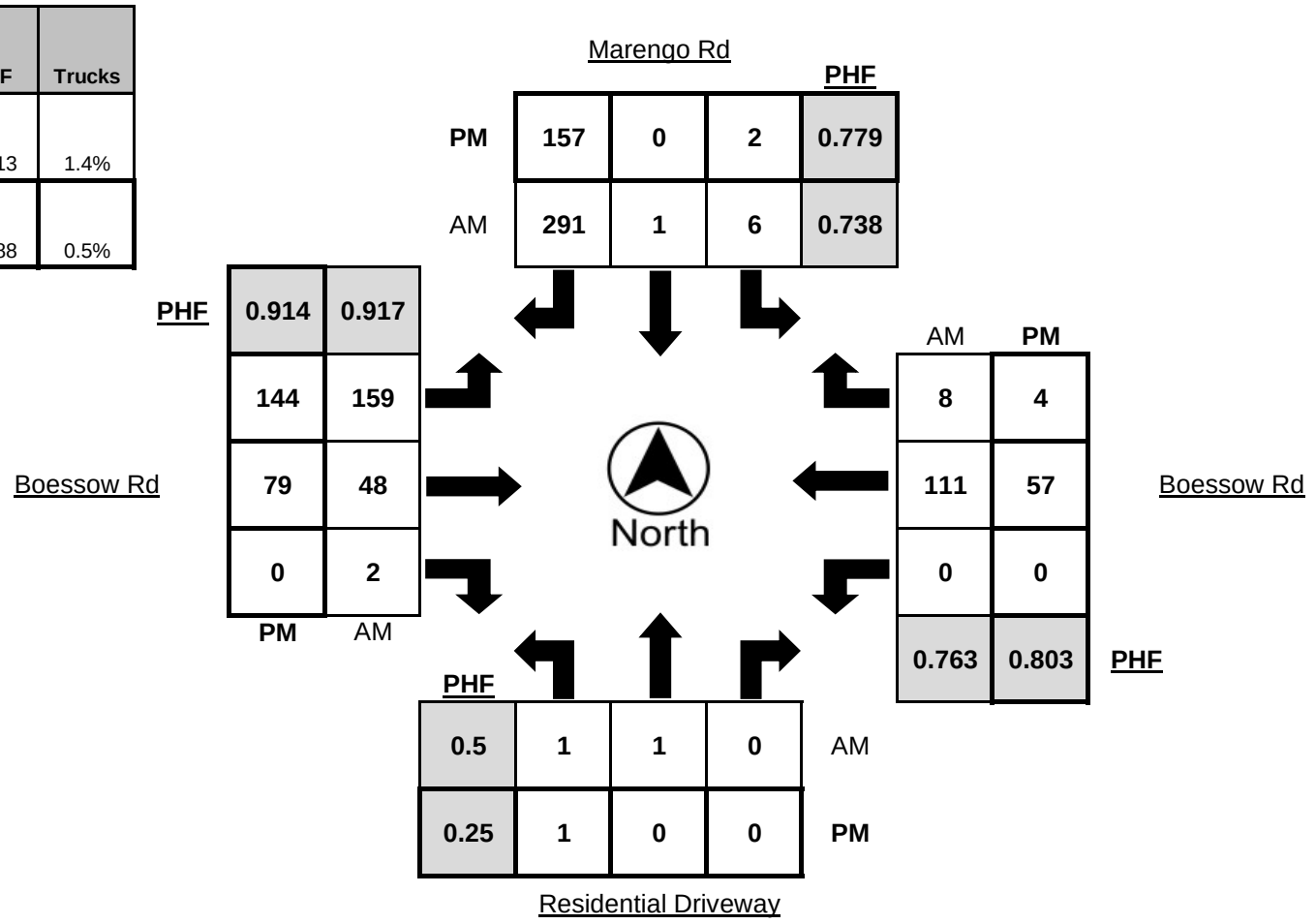
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 0 | 8 | 6 | 0 | 1 | 0 | 10 | 0 | 1 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 1 | 0 | 31 | 1 | 19 | 7 | 0 | 0 | 0 | 21 | 1 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 2 | 1 | 51 | 0 | 40 | 12 | 1 | 1 | 0 | 34 | 3 | 1 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 3 | 47 | 10 | 0 | 1 | 0 | 37 | 2 | 1 |
| **8:00 AM - 8:15 AM** | 1 | 0 | 0 | 0 | 3 | 0 | 98 | 0 | 37 | 17 | 1 | 1 | 0 | 22 | 3 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 1 | 0 | 0 | 1 | 0 | 45 | 1 | 35 | 9 | 0 | 0 | 0 | 18 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 1 | 10 | 11 | 0 | 1 | 0 | 15 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 2 | 0 | 14 | 0 | 7 | 7 | 0 | 0 | 0 | 17 | 1 | 0 |
| **TOTAL** | **1** | **1** | **0** | **0** | **9** | **1** | **394** | **6** | **203** | **79** | **2** | **5** | **0** | **174** | **10** | **3** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 3 | 0 | 35 | 0 | 29 | 20 | 0 | 0 | 0 | 18 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 2 | 0 | 27 | 0 | 18 | 15 | 0 | 0 | 0 | 18 | 1 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 1 | 0 | 25 | 1 | 33 | 15 | 0 | 0 | 0 | 20 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 3 | 0 | 33 | 2 | 35 | 15 | 1 | 1 | 0 | 15 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 1 | 0 | 0 | 0 | 0 | 0 | 35 | 1 | 35 | 22 | 0 | 0 | 0 | 18 | 1 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 1 | 0 | 50 | 1 | 36 | 21 | 0 | 0 | 0 | 14 | 3 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 1 | 0 | 26 | 0 | 37 | 24 | 0 | 0 | 0 | 15 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 36 | 12 | 0 | 0 | 0 | 10 | 0 | 0 |
| **TOTAL** | **1** | **0** | **0** | **0** | **11** | **0** | **277** | **5** | **259** | **144** | **1** | **1** | **0** | **128** | **5** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:30 AM - 8:30 AM** | 1 | 1 | 0 | 0 | 6 | 1 | 291 | 4 | 159 | 48 | 2 | 3 | 0 | 111 | 8 | 2 |
| **5:00 PM - 6:00 PM** | 1 | 0 | 0 | 0 | 2 | 0 | 157 | 2 | 144 | 79 | 0 | 0 | 0 | 57 | 4 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.813 | 1.4% |
| **PM** | 0.888 | 0.5% |



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# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Marengo Rd at Boessow Rd

**LATITUDE** 38.2550

**COUNTY** Sacramento

**LONGITUDE** -121.2824

**COLLECTION DATE** Thursday, May 09, 2019

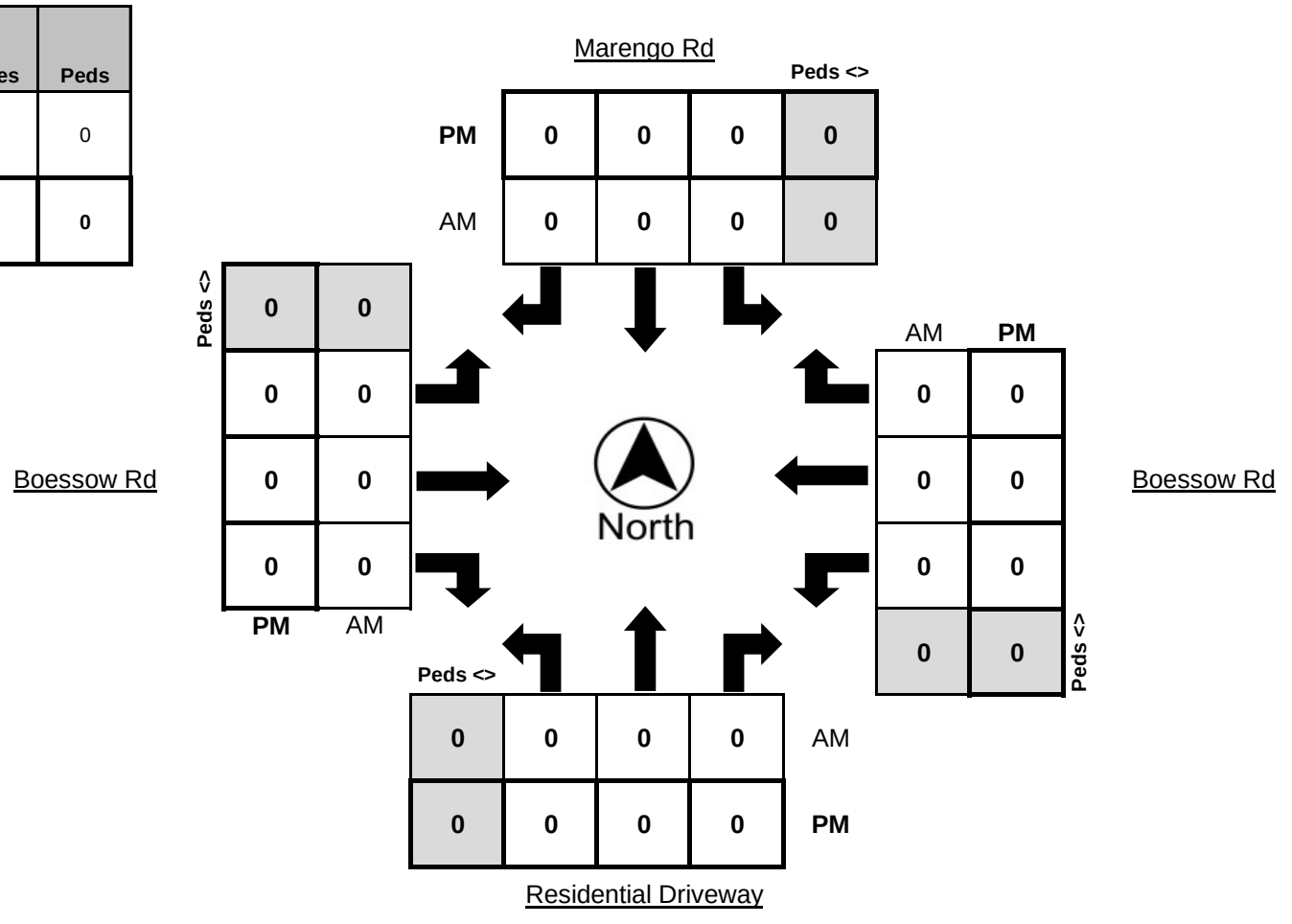
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:30 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **0** |



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800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Crystal Way at SR 99 NB

**LATITUDE** 38.2487

**COUNTY** Sacramento

**LONGITUDE** -121.2884

**COLLECTION DATE** Thursday, May 09, 2019

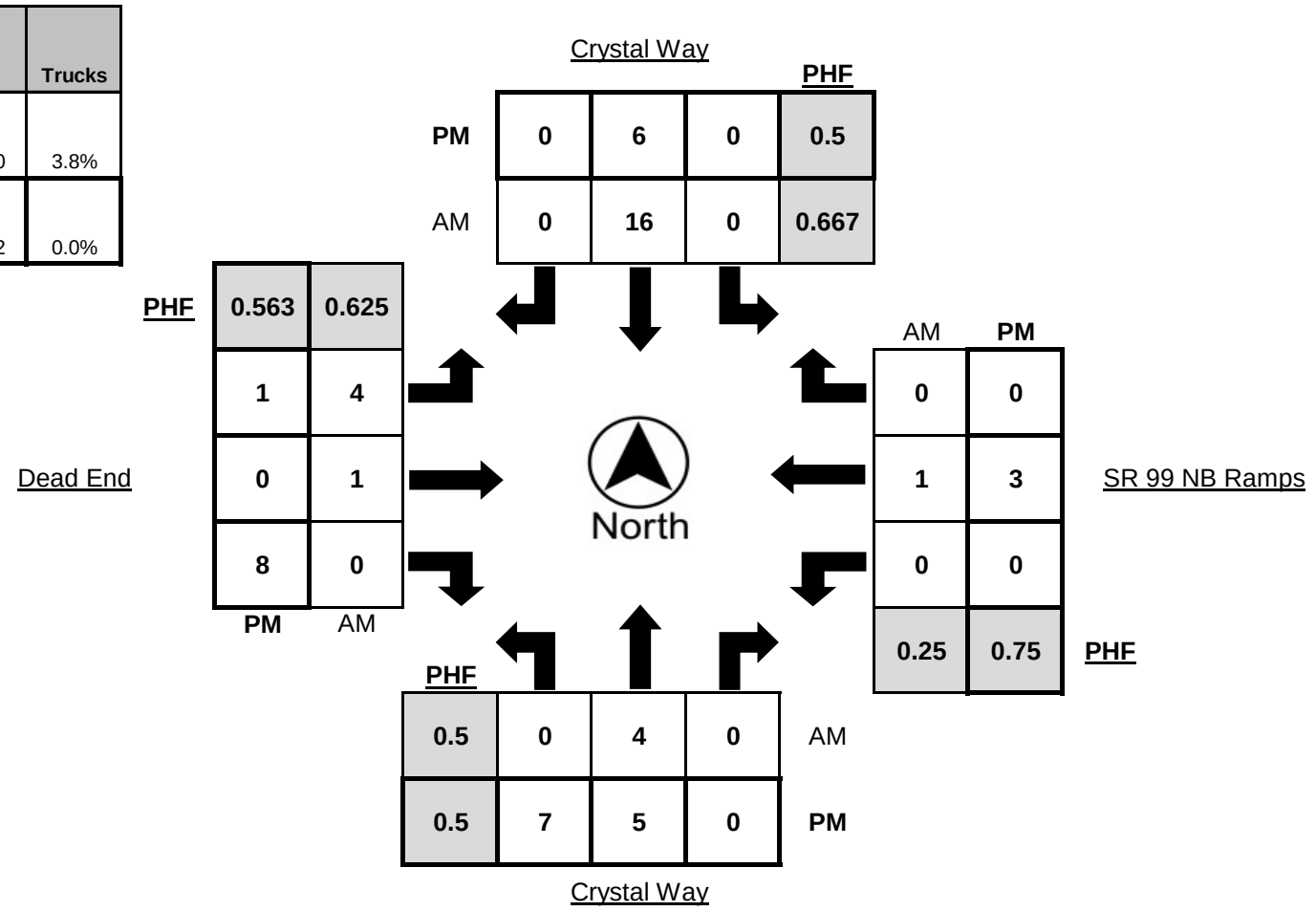
**WEATHER** Clear

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 7:15 AM** | 0 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 1 | 0 | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **6** | **0** | **0** | **2** | **29** | **0** | **0** | **6** | **1** | **0** | **2** | **0** | **1** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 3 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| **TOTAL** | **9** | **5** | **0** | **0** | **0** | **7** | **0** | **0** | **5** | **1** | **9** | **0** | **0** | **4** | **0** | **0** |

| | Northbound | | | | Southbound | | | | Eastbound | | | | Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** | **Left** | **Thru** | **Right** | **Trucks** |
| **7:00 AM - 8:00 AM** | 0 | 4 | 0 | 0 | 0 | 16 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 7 | 5 | 0 | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 8 | 0 | 0 | 3 | 0 | 0 |

| | PHF | Trucks |
|---|---|---|
| **AM** | 0.650 | 3.8% |
| **PM** | 0.682 | 0.0% |



**Metro Traffic Data Inc.**
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

# Turning Movement Report

Prepared For:

**GHD**
943 Reserve Drive
Roseville, CA 95678

**LOCATION** Crystal Way at SR 99 NB

**LATITUDE** 38.2487

**COUNTY** Sacramento

**LONGITUDE** -121.2884

**COLLECTION DATE** Thursday, May 09, 2019

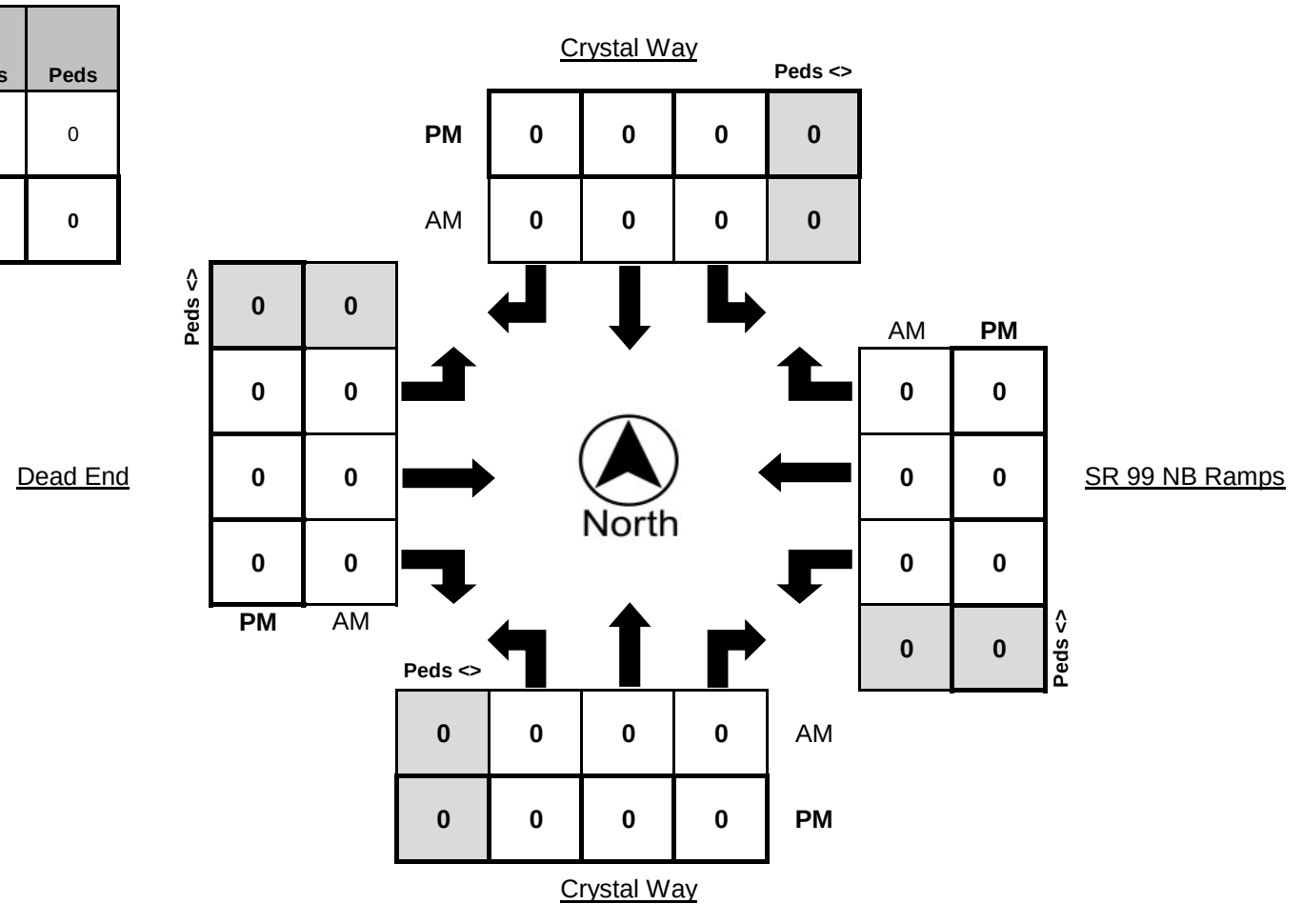
**WEATHER** Clear

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 7:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:15 AM - 7:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:30 AM - 7:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **7:45 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:00 AM - 8:15 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:15 AM - 8:30 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:30 AM - 8:45 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **8:45 AM - 9:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **4:00 PM - 4:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:15 PM - 4:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:30 PM - 4:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **4:45 PM - 5:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 5:15 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:15 PM - 5:30 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:30 PM - 5:45 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:45 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

| | Northbound Bikes | | | N.Leg | Southbound Bikes | | | S.Leg | Eastbound Bikes | | | E.Leg | Westbound Bikes | | | W.Leg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HOUR** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** | **Left** | **Thru** | **Right** | **Peds** |
| **7:00 AM - 8:00 AM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **5:00 PM - 6:00 PM** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Bikes | Peds |
|---|---|---|
| **AM Peak Total** | 0 | 0 |
| **PM Peak Total** | **0** | **0** |



# Appendix B
# Synchro / Sim-Traffic LOS Reports

## 1: Carillion Blvd & Walnut Ave Performance by approach

| Approach | EB | WB | NB | SB | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s) | 12.8 | 10.7 | 7.8 | 10.7 | 10.5 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 147 | 101 | 136 | 197 | 33 | 276 |
| Future Vol, veh/h | 147 | 101 | 136 | 197 | 33 | 276 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 60 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 82 | 82 | 82 | 82 | 82 | 82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 179 | 123 | 166 | 240 | 40 | 337 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 703 | 286 | 0 | 0 | 406 | 0 |
| Stage 1 | 286 | - | - | - | - | - |
| Stage 2 | 417 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 404 | 753 | - | - | 1153 | - |
| Stage 1 | 763 | - | - | - | - | - |
| Stage 2 | 665 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 390 | 753 | - | - | 1153 | - |
| Mov Cap-2 Maneuver | 493 | - | - | - | - | - |
| Stage 1 | 763 | - | - | - | - | - |
| Stage 2 | 642 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 18 | 0 | 0.9 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 574 | 1153 | - |
| HCM Lane V/C Ratio | - | - | 0.527 | 0.035 | - |
| HCM Control Delay (s) | - | - | 18 | 8.2 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 3.1 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 147 | 88 | 51 | 50 | 40 | 12 | 33 | 173 | 24 | 168 | 195 | 67 |
| Future Vol, veh/h | 147 | 88 | 51 | 50 | 40 | 12 | 33 | 173 | 24 | 168 | 195 | 67 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 188 | 113 | 65 | 64 | 51 | 15 | 42 | 222 | 31 | 215 | 250 | 86 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 23.1 | 13.4 | 16.6 | 18.9 |
| HCM LOS | C | B | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 51% | 49% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 31% | 39% | 0% | 74% |
| Vol Right, % | 0% | 12% | 18% | 12% | 0% | 26% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 33 | 197 | 286 | 102 | 168 | 262 |
| LT Vol | 33 | 0 | 147 | 50 | 168 | 0 |
| Through Vol | 0 | 173 | 88 | 40 | 0 | 195 |
| RT Vol | 0 | 24 | 51 | 12 | 0 | 67 |
| Lane Flow Rate | 42 | 253 | 367 | 131 | 215 | 336 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.093 | 0.511 | 0.683 | 0.272 | 0.448 | 0.633 |
| Departure Headway (Hd) | 7.882 | 7.279 | 6.706 | 7.488 | 7.483 | 6.787 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 454 | 495 | 539 | 479 | 480 | 531 |
| Service Time | 5.646 | 5.043 | 4.758 | 5.563 | 5.243 | 4.546 |
| HCM Lane V/C Ratio | 0.093 | 0.511 | 0.681 | 0.273 | 0.448 | 0.633 |
| HCM Control Delay | 11.5 | 17.5 | 23.1 | 13.4 | 16.2 | 20.6 |
| HCM Lane LOS | B | C | C | B | C | C |
| HCM 95th-tile Q | 0.3 | 2.9 | 5.2 | 1.1 | 2.3 | 4.4 |

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

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 98 | 38 | 175 | 141 | 69 |
| Future Vol, veh/h | 99 | 98 | 38 | 175 | 141 | 69 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | Free |
| Storage Length | 25 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 118 | 117 | 45 | 208 | 168 | 82 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 466 | 168 | 168 | 0 | - | 0 |
| Stage 1 | 168 | - | - | - | - | - |
| Stage 2 | 298 | - | - | - | - | - |
| Critical Hdwy | 6.44 | 6.24 | 4.14 | - | - | - |
| Critical Hdwy Stg 1 | 5.44 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.44 | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 3.336 | 2.236 | - | - | - |
| Pot Cap-1 Maneuver | 551 | 871 | 1398 | - | - | 0 |
| Stage 1 | 857 | - | - | - | - | 0 |
| Stage 2 | 749 | - | - | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 531 | 871 | 1398 | - | - | - |
| Mov Cap-2 Maneuver | 531 | - | - | - | - | - |
| Stage 1 | 826 | - | - | - | - | - |
| Stage 2 | 749 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.8 | 1.4 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1398 | - | 531 | 871 | - |
| HCM Lane V/C Ratio | 0.032 | - | 0.222 | 0.134 | - |
| HCM Control Delay (s) | 7.7 | 0 | 13.7 | 9.8 | - |
| HCM Lane LOS | A | A | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.8 | 0.5 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.2 |
| Intersection LOS | B |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 147 | 83 | 65 | 42 | 116 | 149 |
| Future Vol, veh/h | 147 | 83 | 65 | 42 | 116 | 149 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 188 | 106 | 83 | 54 | 149 | 191 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 |

| Approach | EB | WB | SB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | SB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | | SB | EB |
| Conflicting Lanes Right | 0 | 1 | 1 |
| HCM Control Delay | 11.7 | 9.1 | 11.6 |
| HCM LOS | B | A | B |

| Lane | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 64% | 0% | 44% |
| Vol Thru, % | 36% | 61% | 0% |
| Vol Right, % | 0% | 39% | 56% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 107 | 265 |
| LT Vol | 147 | 0 | 116 |
| Through Vol | 83 | 65 | 0 |
| RT Vol | 0 | 42 | 149 |
| Lane Flow Rate | 295 | 137 | 340 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.414 | 0.187 | 0.447 |
| Departure Headway (Hd) | 5.059 | 4.911 | 4.738 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 705 | 722 | 754 |
| Service Time | 3.137 | 3.001 | 2.803 |
| HCM Lane V/C Ratio | 0.418 | 0.19 | 0.451 |
| HCM Control Delay | 11.7 | 9.1 | 11.6 |
| HCM Lane LOS | B | A | B |
| HCM 95th-tile Q | 2 | 0.7 | 2.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.9 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 57 | 43 | 105 | 5 | 63 | 35 | 21 | 102 | 2 | 17 | 191 | 24 |
| Future Vol, veh/h | 57 | 43 | 105 | 5 | 63 | 35 | 21 | 102 | 2 | 17 | 191 | 24 |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 71 | 54 | 131 | 6 | 79 | 44 | 26 | 128 | 3 | 21 | 239 | 30 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Righ | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11 | 9.7 | 10.2 | 11.8 |
| HCM LOS | B | A | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 17% | 28% | 5% | 7% |
| Vol Thru, % | 82% | 21% | 61% | 82% |
| Vol Right, % | 2% | 51% | 34% | 10% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 125 | 205 | 103 | 232 |
| LT Vol | 21 | 57 | 5 | 17 |
| Through Vol | 102 | 43 | 63 | 191 |
| RT Vol | 2 | 105 | 35 | 24 |
| Lane Flow Rate | 156 | 256 | 129 | 290 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.236 | 0.362 | 0.191 | 0.416 |
| Departure Headway (Hd) | 5.432 | 5.087 | 5.346 | 5.16 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 661 | 707 | 671 | 699 |
| Service Time | 3.469 | 3.121 | 3.386 | 3.192 |
| HCM Lane V/C Ratio | 0.236 | 0.362 | 0.192 | 0.415 |
| HCM Control Delay | 10.2 | 11 | 9.7 | 11.8 |
| HCM Lane LOS | B | B | A | B |
| HCM 95th-tile Q | 0.9 | 1.7 | 0.7 | 2.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 256 | 104 | 2 | 167 | 0 | 0 | 0 | 0 | 1 | 242 | 97 |
| Future Volume (veh/h) | 0 | 256 | 104 | 2 | 167 | 0 | 0 | 0 | 0 | 1 | 242 | 97 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1856 | 1856 | 1856 | 1856 | 0 | | | | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 0 | 341 | 3 | 3 | 223 | 0 | | | | 1 | 323 | 51 |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | | | 0.75 | 0.75 | 0.92 |
| Percent Heavy Veh, % | 0 | 3 | 3 | 3 | 3 | 0 | | | | 3 | 3 | 3 |
| Cap, veh/h | 0 | 897 | 400 | 25 | 1443 | 0 | | | | 490 | 847 | 132 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.01 | 0.41 | 0.00 | | | | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 0 | 3618 | 1572 | 3428 | 3618 | 0 | | | | 1767 | 3055 | 477 |
| Grp Volume(v), veh/h | 0 | 341 | 3 | 3 | 223 | 0 | | | | 1 | 185 | 189 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1763 | 1572 | 1714 | 1763 | 0 | | | | 1767 | 1763 | 1770 |
| Q Serve(g_s), s | 0.0 | 2.2 | 0.0 | 0.0 | 1.1 | 0.0 | | | | 0.0 | 2.3 | 2.3 |
| Cycle Q Clear(g_c), s | 0.0 | 2.2 | 0.0 | 0.0 | 1.1 | 0.0 | | | | 0.0 | 2.3 | 2.3 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | 0 | 897 | 400 | 25 | 1443 | 0 | | | | 490 | 489 | 491 |
| V/C Ratio(X) | 0.00 | 0.38 | 0.01 | 0.12 | 0.15 | 0.00 | | | | 0.00 | 0.38 | 0.39 |
| Avail Cap(c_a), veh/h | 0 | 2989 | 1333 | 1137 | 4678 | 0 | | | | 2540 | 2534 | 2544 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 8.3 | 7.6 | 13.4 | 5.1 | 0.0 | | | | 7.1 | 7.9 | 7.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.0 | 0.8 | 0.0 | 0.0 | | | | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | | | | 0.0 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 8.4 | 7.6 | 14.1 | 5.1 | 0.0 | | | | 7.1 | 8.1 | 8.1 |
| LnGrp LOS | A | A | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 344 | | | 226 | | | | | | 375 | |
| Approach Delay, s/veh | | 8.4 | | | 5.2 | | | | | | 8.1 | |
| Approach LOS | | A | | | A | | | | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.2 | 10.9 | | 12.0 | | 15.1 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 39.0 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 4.3 | | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 1.2 | | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.5 |
| HCM 6th LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 228 | 29 | 0 | 0 | 13 | 8 | 156 | 289 | 0 | 0 | 0 | 0 |
| Future Volume (veh/h) | 228 | 29 | 0 | 0 | 13 | 8 | 156 | 289 | 0 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 304 | 39 | 0 | 0 | 17 | 11 | 198 | 399 | 0 | | | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 678 | 1527 | 0 | 0 | 344 | 154 | 475 | 998 | 0 | | | |
| Arrive On Green | 0.20 | 0.43 | 0.00 | 0.00 | 0.10 | 0.10 | 0.27 | 0.27 | 0.00 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3741 | 0 | | | |
| Grp Volume(v), veh/h | 304 | 39 | 0 | 0 | 17 | 11 | 198 | 399 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 0 | | | |
| Q Serve(g_s), s | 2.6 | 0.2 | 0.0 | 0.0 | 0.1 | 0.2 | 3.1 | 2.9 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 2.6 | 0.2 | 0.0 | 0.0 | 0.1 | 0.2 | 3.1 | 2.9 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.00 | | | |
| Lane Grp Cap(c), veh/h | 678 | 1527 | 0 | 0 | 344 | 154 | 475 | 998 | 0 | | | |
| V/C Ratio(X) | 0.45 | 0.03 | 0.00 | 0.00 | 0.05 | 0.07 | 0.42 | 0.40 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 925 | 3489 | 0 | 0 | 2220 | 990 | 1908 | 4007 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 11.9 | 5.5 | 0.0 | 0.0 | 13.8 | 13.8 | 10.2 | 10.1 | 0.0 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.9 | 0.9 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.1 | 5.5 | 0.0 | 0.0 | 13.8 | 13.9 | 10.4 | 10.2 | 0.0 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | A | | | |
| Approach Vol, veh/h | | 343 | | | 28 | | | 597 | | | | |
| Approach Delay, s/veh | | 11.3 | | | 13.8 | | | 10.3 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 19.5 | | | 11.2 | 8.4 | | 14.1 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | | 4.6 | 2.2 | | 5.1 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | | 0.3 | 0.0 | | 2.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.7 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 373 | 129 | 173 | 343 | 0 | 5 | 0 | 61 | 32 | 118 | 198 |
| Future Volume (veh/h) | 0 | 373 | 129 | 173 | 343 | 0 | 5 | 0 | 61 | 32 | 118 | 198 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 429 | 120 | 199 | 394 | 0 | 6 | 0 | 70 | 37 | 136 | 99 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 866 | 572 | 578 | 1743 | 0 | 15 | 0 | 172 | 276 | 314 | 213 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.17 | 0.49 | 0.00 | 0.12 | 0.00 | 0.12 | 0.15 | 0.15 | 0.15 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 126 | 0 | 1473 | 1781 | 2024 | 1375 |
| Grp Volume(v), veh/h | 0 | 429 | 120 | 199 | 394 | 0 | 76 | 0 | 0 | 37 | 118 | 117 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1599 | 0 | 0 | 1781 | 1777 | 1623 |
| Q Serve(g_s), s | 0.0 | 5.2 | 2.6 | 2.6 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 0.9 | 3.0 | 3.3 |
| Cycle Q Clear(g_c), s | 0.0 | 5.2 | 2.6 | 2.6 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 0.9 | 3.0 | 3.3 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.08 | | 0.92 | 1.00 | | 0.85 |
| Lane Grp Cap(c), veh/h | 0 | 866 | 572 | 578 | 1743 | 0 | 187 | 0 | 0 | 276 | 275 | 252 |
| V/C Ratio(X) | 0.00 | 0.50 | 0.21 | 0.34 | 0.23 | 0.00 | 0.41 | 0.00 | 0.00 | 0.13 | 0.43 | 0.46 |
| Avail Cap(c_a), veh/h | 0 | 1619 | 908 | 616 | 2535 | 0 | 348 | 0 | 0 | 1165 | 1162 | 1061 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 16.4 | 11.2 | 18.6 | 7.4 | 0.0 | 20.7 | 0.0 | 0.0 | 18.4 | 19.3 | 19.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.9 | 0.4 | 0.1 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.0 | 1.1 | 0.9 | 1.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.3 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.4 | 11.5 | 18.7 | 7.4 | 0.0 | 21.2 | 0.0 | 0.0 | 18.5 | 19.7 | 19.9 |
| LnGrp LOS | A | B | B | B | A | A | C | A | A | B | B | B |
| Approach Vol, veh/h | | 549 | | | 593 | | | 76 | | | 272 | |
| Approach Delay, s/veh | | 16.1 | | | 11.2 | | | 21.2 | | | 19.6 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.4 | 16.3 | | 11.8 | | 28.8 | | 9.9 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 7.2 | | 5.3 | | 5.2 | | 4.2 |
| Green Ext Time (p_c), s | 0.1 | 5.1 | | 0.9 | | 2.8 | | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.1 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 301 | 165 | 0 | 0 | 338 | 55 | 178 | 89 | 40 | 0 | 0 | 0 |
| Future Volume (veh/h) | 301 | 165 | 0 | 0 | 338 | 55 | 178 | 89 | 40 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 372 | 204 | 0 | 0 | 417 | 4 | 222 | 107 | 3 | | | |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 899 | 1934 | 0 | 0 | 617 | 275 | 753 | 382 | 11 | | | |
| Arrive On Green | 0.26 | 0.54 | 0.00 | 0.00 | 0.17 | 0.17 | 0.21 | 0.21 | 0.21 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1582 | 3563 | 1810 | 51 | | | |
| Grp Volume(v), veh/h | 372 | 204 | 0 | 0 | 417 | 4 | 222 | 0 | 110 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1582 | 1781 | 0 | 1861 | | | |
| Q Serve(g_s), s | 3.7 | 1.2 | 0.0 | 0.0 | 4.6 | 0.1 | 2.2 | 0.0 | 2.1 | | | |
| Cycle Q Clear(g_c), s | 3.7 | 1.2 | 0.0 | 0.0 | 4.6 | 0.1 | 2.2 | 0.0 | 2.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.03 | | | |
| Lane Grp Cap(c), veh/h | 899 | 1934 | 0 | 0 | 617 | 275 | 753 | 0 | 393 | | | |
| V/C Ratio(X) | 0.41 | 0.11 | 0.00 | 0.00 | 0.68 | 0.01 | 0.30 | 0.00 | 0.28 | | | |
| Avail Cap(c_a), veh/h | 1492 | 1934 | 0 | 0 | 852 | 379 | 854 | 0 | 446 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 12.8 | 4.6 | 0.0 | 0.0 | 16.1 | 14.3 | 13.8 | 0.0 | 13.8 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.1 | 0.0 | 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 | | | |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.3 | 0.0 | 0.0 | 1.6 | 0.0 | 0.7 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.9 | 4.6 | 0.0 | 0.0 | 16.6 | 14.3 | 13.9 | 0.0 | 13.9 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | A | B | | | |
| Approach Vol, veh/h | | 576 | | | 421 | | | 332 | | | | |
| Approach Delay, s/veh | | 10.0 | | | 16.6 | | | 13.9 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 27.8 | | | 15.5 | 12.3 | | 13.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.2 | | | 5.7 | 6.6 | | 4.2 | | | | |
| Green Ext Time (p_c), s | | 0.4 | | | 0.6 | 0.6 | | 0.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.1 |
| HCM 6th LOS | B |

**Notes**

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

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 188 | 17 | 6 | 382 | 17 | 8 | 4 | 5 | 19 | 7 | 3 |
| Future Vol, veh/h | 0 | 188 | 17 | 6 | 382 | 17 | 8 | 4 | 5 | 19 | 7 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 182 | - | - | 165 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 229 | 21 | 7 | 466 | 21 | 10 | 5 | 6 | 23 | 9 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 487 | 0 | 0 | 250 | 0 | 0 | 737 | 741 | 125 | 608 | 741 | 477 |
| Stage 1 | - | - | - | - | - | - | 240 | 240 | - | 491 | 491 | - |
| Stage 2 | - | - | - | - | - | - | 497 | 501 | - | 117 | 250 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1074 | - | - | 1314 | - | - | 320 | 343 | 903 | 393 | 343 | 587 |
| Stage 1 | - | - | - | - | - | - | 743 | 706 | - | 558 | 547 | - |
| Stage 2 | - | - | - | - | - | - | 554 | 542 | - | 876 | 699 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1074 | - | - | 1314 | - | - | 311 | 341 | 903 | 384 | 341 | 587 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 311 | 341 | - | 384 | 341 | - |
| Stage 1 | - | - | - | - | - | - | 743 | 706 | - | 558 | 544 | - |
| Stage 2 | - | - | - | - | - | - | 539 | 539 | - | 864 | 699 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 14.6 | 15.3 |
| HCM LOS | | | B | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 395 | 1074 | - | - | 1314 | - | - | 386 |
| HCM Lane V/C Ratio | 0.052 | - | - | - | 0.006 | - | - | 0.092 |
| HCM Control Delay (s) | 14.6 | 0 | - | - | 7.8 | - | - | 15.3 |
| HCM Lane LOS | B | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 66 | 4 | 319 | 101 |
| Future Volume (veh/h) | 0 | 0 | 66 | 4 | 319 | 101 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 70 | 1 | 339 | 107 |
| Peak Hour Factor | | | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 392 | 6 | 458 | 1342 |
| Arrive On Green | | | 0.21 | 0.21 | 0.26 | 0.72 |
| Sat Flow, veh/h | | | 1839 | 26 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 71 | 339 | 107 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1866 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 0.4 | 2.5 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 0.4 | 2.5 | 0.2 |
| Prop In Lane | | | | 0.01 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 398 | 458 | 1342 |
| V/C Ratio(X) | | | 0.00 | 0.18 | 0.74 | 0.08 |
| Avail Cap(c_a), veh/h | | | 0 | 5926 | 4024 | 5941 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 4.6 | 4.8 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.1 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 4.6 | 5.7 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 71 | | | 446 |
| Approach Delay, s/veh | | | 4.6 | | | 4.5 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 7.0 | | | | 14.2 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.4 | | | | 2.2 |
| Green Ext Time (p_c), s | 0.5 | 0.2 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.5 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.7 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 159 | 48 | 111 | 8 | 6 | 291 |
| Future Vol, veh/h | 159 | 48 | 111 | 8 | 6 | 291 |
| 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 | 81 | 81 | 81 | 81 | 81 | 81 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 196 | 59 | 137 | 10 | 7 | 359 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 147 | 0 | - | 0 | 593 | 142 |
| Stage 1 | - | - | - | - | 142 | - |
| Stage 2 | - | - | - | - | 451 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1435 | - | - | - | 468 | 906 |
| Stage 1 | - | - | - | - | 885 | - |
| Stage 2 | - | - | - | - | 642 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1435 | - | - | - | 402 | 906 |
| Mov Cap-2 Maneuver | - | - | - | - | 402 | - |
| Stage 1 | - | - | - | - | 760 | - |
| Stage 2 | - | - | - | - | 642 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 6.1 | 0 | 11.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1435 | - | - | - | 884 |
| HCM Lane V/C Ratio | 0.137 | - | - | - | 0.415 |
| HCM Control Delay (s) | 7.9 | 0 | - | - | 11.9 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.5 | - | - | - | 2.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 16 | 0 |
| Future Vol, veh/h | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 16 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 25 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 32 | 31 | 25 | 32 | 31 | 6 | 25 | 0 | 0 | - | - | 0 |
| Stage 1 | 25 | 25 | - | 6 | 6 | - | - | - | - | - | - | - |
| Stage 2 | 7 | 6 | - | 26 | 25 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 | 4.14 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.14 | 5.54 | - | 6.14 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.14 | 5.54 | - | 6.14 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 | 2.236 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 971 | 858 | 1045 | 971 | 858 | 1071 | 1577 | - | - | 0 | - | - |
| Stage 1 | 988 | 870 | - | 1011 | 887 | - | - | - | - | 0 | - | - |
| Stage 2 | 1009 | 887 | - | 986 | 870 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 970 | 858 | 1045 | 970 | 858 | 1071 | 1577 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 970 | 858 | - | 970 | 858 | - | - | - | - | - | - | - |
| Stage 1 | 988 | 870 | - | 1011 | 887 | - | - | - | - | - | - | - |
| Stage 2 | 1007 | 887 | - | 984 | 870 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.8 | 9.2 | 0 | 0 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1577 | - | - | 970 | 858 | 858 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.006 | 0.002 | 0.002 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.7 | 9.2 | 9.2 | - | - |
| HCM Lane LOS | A | - | - | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

## 1: Carillion Blvd & Walnut Ave Performance by approach

| Approach | EB | WB | NB | SB | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s) | 6.3 | 6.1 | 5.9 | 7.0 | 6.4 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 150 | 99 | 201 | 107 | 47 | 309 |
| Future Vol, veh/h | 150 | 99 | 201 | 107 | 47 | 309 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 105 | 214 | 114 | 50 | 329 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 703 | 274 | 0 | 0 | 331 | 0 |
| Stage 1 | 274 | - | - | - | - | - |
| Stage 2 | 429 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 404 | 765 | - | - | 1228 | - |
| Stage 1 | 772 | - | - | - | - | - |
| Stage 2 | 657 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 386 | 763 | - | - | 1224 | - |
| Mov Cap-2 Maneuver | 489 | - | - | - | - | - |
| Stage 1 | 770 | - | - | - | - | - |
| Stage 2 | 630 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.7 | 0 | 1.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 570 | 1224 | - |
| HCM Lane V/C Ratio | - | - | 0.465 | 0.041 | - |
| HCM Control Delay (s) | - | - | 16.7 | 8.1 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.4 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 15.4 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 79 | 83 | 49 | 33 | 118 | 37 | 44 | 192 | 7 | 95 | 256 | 93 |
| Future Vol, veh/h | 79 | 83 | 49 | 33 | 118 | 37 | 44 | 192 | 7 | 95 | 256 | 93 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 88 | 52 | 35 | 126 | 39 | 47 | 204 | 7 | 101 | 272 | 99 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 13.9 | 13.3 | 13.3 | 18.1 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 37% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 96% | 39% | 63% | 0% | 73% |
| Vol Right, % | 0% | 4% | 23% | 20% | 0% | 27% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 44 | 199 | 211 | 188 | 95 | 349 |
| LT Vol | 44 | 0 | 79 | 33 | 95 | 0 |
| Through Vol | 0 | 192 | 83 | 118 | 0 | 256 |
| RT Vol | 0 | 7 | 49 | 37 | 0 | 93 |
| Lane Flow Rate | 47 | 212 | 224 | 200 | 101 | 371 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.095 | 0.398 | 0.404 | 0.362 | 0.196 | 0.649 |
| Departure Headway (Hd) | 7.3 | 6.763 | 6.474 | 6.523 | 6.997 | 6.296 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 491 | 531 | 554 | 550 | 516 | 579 |
| Service Time | 5.044 | 4.507 | 4.521 | 4.573 | 4.697 | 3.996 |
| HCM Lane V/C Ratio | 0.096 | 0.399 | 0.404 | 0.364 | 0.196 | 0.641 |
| HCM Control Delay | 10.8 | 13.9 | 13.9 | 13.3 | 11.4 | 19.9 |
| HCM Lane LOS | B | B | B | B | B | C |
| HCM 95th-tile Q | 0.3 | 1.9 | 1.9 | 1.6 | 0.7 | 4.7 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 150 | 143 | 20 | 99 | 118 | 41 |
| Future Vol, veh/h | 150 | 143 | 20 | 99 | 118 | 41 |
| Conflicting Peds, #/hr | 0 | 2 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | Free |
| Storage Length | 25 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 158 | 151 | 21 | 104 | 124 | 43 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 270 | 126 | 124 | 0 | - | 0 |
| Stage 1 | 124 | - | - | - | - | - |
| Stage 2 | 146 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 719 | 924 | 1463 | - | - | 0 |
| Stage 1 | 902 | - | - | - | - | 0 |
| Stage 2 | 881 | - | - | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 708 | 922 | 1463 | - | - | - |
| Mov Cap-2 Maneuver | 708 | - | - | - | - | - |
| Stage 1 | 888 | - | - | - | - | - |
| Stage 2 | 881 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.6 | 1.3 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1463 | - | 708 | 922 | - |
| HCM Lane V/C Ratio | 0.014 | - | 0.223 | 0.163 | - |
| HCM Control Delay (s) | 7.5 | 0 | 11.5 | 9.7 | - |
| HCM Lane LOS | A | A | B | A | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.9 | 0.6 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 171 | 76 | 52 | 43 | 65 | 73 |
| Future Vol, veh/h | 171 | 76 | 52 | 43 | 65 | 73 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 190 | 84 | 58 | 48 | 72 | 81 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 |

| Approach | EB | WB | SB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | SB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | | SB | EB |
| Conflicting Lanes Right | 0 | 1 | 1 |
| HCM Control Delay | 10 | 8 | 8.7 |
| HCM LOS | A | A | A |

| Lane | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 69% | 0% | 47% |
| Vol Thru, % | 31% | 55% | 0% |
| Vol Right, % | 0% | 45% | 53% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 247 | 95 | 138 |
| LT Vol | 171 | 0 | 65 |
| Through Vol | 76 | 52 | 0 |
| RT Vol | 0 | 43 | 73 |
| Lane Flow Rate | 274 | 106 | 153 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.347 | 0.127 | 0.195 |
| Departure Headway (Hd) | 4.549 | 4.333 | 4.578 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 790 | 826 | 784 |
| Service Time | 2.574 | 2.363 | 2.605 |
| HCM Lane V/C Ratio | 0.347 | 0.128 | 0.195 |
| HCM Control Delay | 10 | 8 | 8.7 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 1.6 | 0.4 | 0.7 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.7 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 23 | 55 | 50 | 11 | 50 | 16 | 24 | 107 | 14 | 18 | 115 | 12 |
| Future Vol, veh/h | 23 | 55 | 50 | 11 | 50 | 16 | 24 | 107 | 14 | 18 | 115 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 25 | 60 | 54 | 12 | 54 | 17 | 26 | 116 | 15 | 20 | 125 | 13 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Righ | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 8.6 | 8.4 | 8.8 | 8.8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 17% | 18% | 14% | 12% |
| Vol Thru, % | 74% | 43% | 65% | 79% |
| Vol Right, % | 10% | 39% | 21% | 8% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 145 | 128 | 77 | 145 |
| LT Vol | 24 | 23 | 11 | 18 |
| Through Vol | 107 | 55 | 50 | 115 |
| RT Vol | 14 | 50 | 16 | 12 |
| Lane Flow Rate | 158 | 139 | 84 | 158 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.202 | 0.177 | 0.11 | 0.202 |
| Departure Headway (Hd) | 4.618 | 4.577 | 4.746 | 4.618 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 775 | 782 | 753 | 775 |
| Service Time | 2.656 | 2.613 | 2.787 | 2.656 |
| HCM Lane V/C Ratio | 0.204 | 0.178 | 0.112 | 0.204 |
| HCM Control Delay | 8.8 | 8.6 | 8.4 | 8.8 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.8 | 0.6 | 0.4 | 0.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 183 | 59 | 2 | 142 | 0 | 0 | 0 | 0 | 3 | 281 | 175 |
| Future Volume (veh/h) | 0 | 183 | 59 | 2 | 142 | 0 | 0 | 0 | 0 | 3 | 281 | 175 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 195 | 9 | 2 | 151 | 0 | | | | 3 | 299 | 53 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 869 | 388 | 17 | 1422 | 0 | | | | 498 | 845 | 148 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.00 | 0.40 | 0.00 | | | | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3023 | 529 |
| Grp Volume(v), veh/h | 0 | 195 | 9 | 2 | 151 | 0 | | | | 3 | 174 | 178 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1775 |
| Q Serve(g_s), s | 0.0 | 1.2 | 0.1 | 0.0 | 0.7 | 0.0 | | | | 0.0 | 2.1 | 2.1 |
| Cycle Q Clear(g_c), s | 0.0 | 1.2 | 0.1 | 0.0 | 0.7 | 0.0 | | | | 0.0 | 2.1 | 2.1 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.30 |
| Lane Grp Cap(c), veh/h | 0 | 869 | 388 | 17 | 1422 | 0 | | | | 498 | 497 | 496 |
| V/C Ratio(X) | 0.00 | 0.22 | 0.02 | 0.12 | 0.11 | 0.00 | | | | 0.01 | 0.35 | 0.36 |
| Avail Cap(c_a), veh/h | 0 | 3080 | 1374 | 1172 | 4821 | 0 | | | | 2618 | 2611 | 2609 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 8.0 | 7.6 | 13.1 | 5.0 | 0.0 | | | | 6.9 | 7.6 | 7.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | | | | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | | | | 0.0 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 8.1 | 7.6 | 14.3 | 5.0 | 0.0 | | | | 6.9 | 7.8 | 7.8 |
| LnGrp LOS | A | A | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 204 | | | 153 | | | | | | 355 | |
| Approach Delay, s/veh | | 8.0 | | | 5.1 | | | | | | 7.8 | |
| Approach LOS | | A | | | A | | | | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.1 | 10.5 | | 11.9 | | 14.6 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 39.0 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 3.2 | | 4.1 | | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 0.7 | | 1.2 | | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.3 |
| HCM 6th LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 169 | 17 | 0 | 0 | 12 | 4 | 132 | 310 | 1 | 0 | 0 | 0 |
| Future Volume (veh/h) | 169 | 17 | 0 | 0 | 12 | 4 | 132 | 310 | 1 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 176 | 18 | 0 | 0 | 12 | 4 | 138 | 323 | 1 | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 611 | 1362 | 0 | 0 | 204 | 91 | 510 | 1067 | 3 | | | |
| Arrive On Green | 0.18 | 0.38 | 0.00 | 0.00 | 0.06 | 0.06 | 0.29 | 0.29 | 0.29 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3727 | 12 | | | |
| Grp Volume(v), veh/h | 176 | 18 | 0 | 0 | 12 | 4 | 138 | 162 | 162 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1868 | | | |
| Q Serve(g_s), s | 1.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 1.8 | 2.1 | 2.1 | | | |
| Cycle Q Clear(g_c), s | 1.4 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 1.8 | 2.1 | 2.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.01 | | | |
| Lane Grp Cap(c), veh/h | 611 | 1362 | 0 | 0 | 204 | 91 | 510 | 535 | 535 | | | |
| V/C Ratio(X) | 0.29 | 0.01 | 0.00 | 0.00 | 0.06 | 0.04 | 0.27 | 0.30 | 0.30 | | | |
| Avail Cap(c_a), veh/h | 1008 | 3802 | 0 | 0 | 2419 | 1079 | 2079 | 2183 | 2180 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 11.0 | 5.9 | 0.0 | 0.0 | 13.8 | 13.7 | 8.5 | 8.6 | 8.6 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 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 | | | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.6 | 0.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.1 | 5.9 | 0.0 | 0.0 | 13.8 | 13.8 | 8.6 | 8.7 | 8.7 | | | |
| LnGrp LOS | B | A | A | A | B | B | A | A | A | | | |
| Approach Vol, veh/h | | 194 | | | 16 | | | 462 | | | | |
| Approach Delay, s/veh | | 10.6 | | | 13.8 | | | 8.7 | | | | |
| Approach LOS | | B | | | B | | | A | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 16.9 | | | 10.1 | 6.9 | | 13.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.1 | | | 3.4 | 2.1 | | 4.1 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | | 0.1 | 0.0 | | 1.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.4 |
| HCM 6th LOS | A |

Notes

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 379 | 125 | 113 | 342 | 0 | 11 | 0 | 82 | 20 | 118 | 204 |
| Future Volume (veh/h) | 0 | 379 | 125 | 113 | 342 | 0 | 11 | 0 | 82 | 20 | 118 | 204 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 441 | 116 | 131 | 398 | 0 | 13 | 0 | 95 | 23 | 137 | 123 |
| 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, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 873 | 608 | 512 | 1676 | 0 | 27 | 0 | 195 | 279 | 289 | 239 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.15 | 0.47 | 0.00 | 0.14 | 0.00 | 0.14 | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 193 | 0 | 1413 | 1781 | 1842 | 1527 |
| Grp Volume(v), veh/h | 0 | 441 | 116 | 131 | 398 | 0 | 108 | 0 | 0 | 23 | 132 | 128 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1606 | 0 | 0 | 1781 | 1777 | 1592 |
| Q Serve(g_s), s | 0.0 | 5.5 | 2.5 | 1.7 | 3.4 | 0.0 | 3.2 | 0.0 | 0.0 | 0.6 | 3.5 | 3.8 |
| Cycle Q Clear(g_c), s | 0.0 | 5.5 | 2.5 | 1.7 | 3.4 | 0.0 | 3.2 | 0.0 | 0.0 | 0.6 | 3.5 | 3.8 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.12 | | 0.88 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 0 | 873 | 608 | 512 | 1676 | 0 | 221 | 0 | 0 | 279 | 278 | 249 |
| V/C Ratio(X) | 0.00 | 0.51 | 0.19 | 0.26 | 0.24 | 0.00 | 0.49 | 0.00 | 0.00 | 0.08 | 0.47 | 0.51 |
| Avail Cap(c_a), veh/h | 0 | 1593 | 929 | 606 | 2493 | 0 | 344 | 0 | 0 | 1145 | 1143 | 1024 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 16.7 | 10.5 | 19.3 | 8.1 | 0.0 | 20.5 | 0.0 | 0.0 | 18.5 | 19.7 | 19.8 |
| Incr Delay (d2), s/veh | 0.0 | 1.0 | 0.3 | 0.1 | 0.1 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 1.0 | 0.6 | 1.0 | 0.0 | 1.1 | 0.0 | 0.0 | 0.2 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.6 | 10.9 | 19.4 | 8.1 | 0.0 | 21.1 | 0.0 | 0.0 | 18.5 | 20.2 | 20.5 |
| LnGrp LOS | A | B | B | B | A | A | C | A | A | B | C | C |
| Approach Vol, veh/h | | 557 | | | 529 | | | 108 | | | 283 | |
| Approach Delay, s/veh | | 16.2 | | | 10.9 | | | 21.1 | | | 20.2 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.6 | 16.6 | | 12.0 | | 28.2 | | 11.1 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 7.5 | | 5.8 | | 5.4 | | 5.2 |
| Green Ext Time (p_c), s | 0.1 | 5.1 | | 1.0 | | 2.7 | | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.4 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 315 | 166 | 0 | 0 | 247 | 21 | 208 | 107 | 61 | 0 | 0 | 0 |
| Future Volume (veh/h) | 315 | 166 | 0 | 0 | 247 | 21 | 208 | 107 | 61 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 321 | 169 | 0 | 0 | 252 | 4 | 222 | 95 | 12 | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 897 | 1920 | 0 | 0 | 602 | 269 | 758 | 346 | 44 | | | |
| Arrive On Green | 0.26 | 0.54 | 0.00 | 0.00 | 0.17 | 0.17 | 0.21 | 0.21 | 0.21 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 3563 | 1628 | 206 | | | |
| Grp Volume(v), veh/h | 321 | 169 | 0 | 0 | 252 | 4 | 222 | 0 | 107 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 0 | 1833 | | | |
| Q Serve(g_s), s | 3.1 | 0.9 | 0.0 | 0.0 | 2.6 | 0.1 | 2.2 | 0.0 | 2.0 | | | |
| Cycle Q Clear(g_c), s | 3.1 | 0.9 | 0.0 | 0.0 | 2.6 | 0.1 | 2.2 | 0.0 | 2.0 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.11 | | | |
| Lane Grp Cap(c), veh/h | 897 | 1920 | 0 | 0 | 602 | 269 | 758 | 0 | 390 | | | |
| V/C Ratio(X) | 0.36 | 0.09 | 0.00 | 0.00 | 0.42 | 0.01 | 0.29 | 0.00 | 0.27 | | | |
| Avail Cap(c_a), veh/h | 1505 | 1920 | 0 | 0 | 860 | 384 | 862 | 0 | 444 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 12.5 | 4.6 | 0.0 | 0.0 | 15.3 | 14.3 | 13.7 | 0.0 | 13.6 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 0.0 | 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 | | | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.7 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.6 | 4.6 | 0.0 | 0.0 | 15.5 | 14.3 | 13.7 | 0.0 | 13.7 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | A | B | | | |
| Approach Vol, veh/h | | 490 | | | 256 | | | 329 | | | | |
| Approach Delay, s/veh | | 9.8 | | | 15.5 | | | 13.7 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 27.4 | | | 15.3 | 12.1 | | 13.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.9 | | | 5.1 | 4.6 | | 4.2 | | | | |
| Green Ext Time (p_c), s | | 0.3 | | | 0.5 | 0.5 | | 0.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.4 |
| HCM 6th LOS | B |

**Notes**

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

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 219 | 8 | 1 | 258 | 11 | 8 | 5 | 1 | 13 | 3 | 2 |
| Future Vol, veh/h | 0 | 219 | 8 | 1 | 258 | 11 | 8 | 5 | 1 | 13 | 3 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 182 | - | - | 165 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 235 | 9 | 1 | 277 | 12 | 9 | 5 | 1 | 14 | 3 | 2 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 289 | 0 | 0 | 244 | 0 | 0 | 528 | 531 | 122 | 405 | 529 | 283 |
| Stage 1 | - | - | - | - | - | - | 240 | 240 | - | 285 | 285 | - |
| Stage 2 | - | - | - | - | - | - | 288 | 291 | - | 120 | 244 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1271 | - | - | 1321 | - | - | 447 | 453 | 907 | 543 | 454 | 755 |
| Stage 1 | - | - | - | - | - | - | 743 | 706 | - | 721 | 675 | - |
| Stage 2 | - | - | - | - | - | - | 719 | 671 | - | 872 | 703 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1271 | - | - | 1321 | - | - | 443 | 453 | 907 | 537 | 454 | 755 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 443 | 453 | - | 537 | 454 | - |
| Stage 1 | - | - | - | - | - | - | 743 | 706 | - | 721 | 674 | - |
| Stage 2 | - | - | - | - | - | - | 713 | 670 | - | 864 | 703 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0 | 13 | 11.9 |
| HCM LOS | | | B | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 464 | 1271 | - | - | 1321 | - | - | 538 |
| HCM Lane V/C Ratio | 0.032 | - | - | - | 0.001 | - | - | 0.036 |
| HCM Control Delay (s) | 13 | 0 | - | - | 7.7 | - | - | 11.9 |
| HCM Lane LOS | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - | - | 0.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 93 | 11 | 256 | 100 |
| Future Volume (veh/h) | 0 | 0 | 93 | 11 | 256 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | | | 98 | 3 | 269 | 105 |
| Peak Hour Factor | | | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | 3 | 3 | 3 | 3 |
| Cap, veh/h | | | 429 | 13 | 358 | 1303 |
| Arrive On Green | | | 0.24 | 0.24 | 0.20 | 0.70 |
| Sat Flow, veh/h | | | 1791 | 55 | 1767 | 1856 |
| Grp Volume(v), veh/h | | | 0 | 101 | 269 | 105 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1846 | 1767 | 1856 |
| Q Serve(g_s), s | | | 0.0 | 0.6 | 1.9 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 0.6 | 1.9 | 0.2 |
| Prop In Lane | | | | 0.03 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 442 | 358 | 1303 |
| V/C Ratio(X) | | | 0.00 | 0.23 | 0.75 | 0.08 |
| Avail Cap(c_a), veh/h | | | 0 | 6180 | 4208 | 6213 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 4.1 | 5.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.1 | 1.2 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 4.2 | 6.3 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 101 | | | 374 |
| Approach Delay, s/veh | | | 4.2 | | | 4.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.2 | 7.2 | | | | 13.4 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 2.6 | | | | 2.2 |
| Green Ext Time (p_c), s | 0.4 | 0.3 | | | | 0.4 |

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.9 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 144 | 79 | 57 | 4 | 2 | 157 |
| Future Vol, veh/h | 144 | 79 | 57 | 4 | 2 | 157 |
| 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 | 89 | 89 | 89 | 89 | 89 | 89 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 162 | 89 | 64 | 4 | 2 | 176 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 68 | 0 | - | 0 | 479 | 66 |
| Stage 1 | - | - | - | - | 66 | - |
| Stage 2 | - | - | - | - | 413 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1533 | - | - | - | 545 | 998 |
| Stage 1 | - | - | - | - | 957 | - |
| Stage 2 | - | - | - | - | 668 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1533 | - | - | - | 485 | 998 |
| Mov Cap-2 Maneuver | - | - | - | - | 485 | - |
| Stage 1 | - | - | - | - | 851 | - |
| Stage 2 | - | - | - | - | 668 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.9 | 0 | 9.5 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1533 | - | - | - | 985 |
| HCM Lane V/C Ratio | 0.106 | - | - | - | 0.181 |
| HCM Control Delay (s) | 7.6 | 0 | - | - | 9.5 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.4 | - | - | - | 0.7 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 0 | 8 | 0 | 3 | 0 | 7 | 5 | 0 | 0 | 6 | 0 |
| Future Vol, veh/h | 1 | 0 | 8 | 0 | 3 | 0 | 7 | 5 | 0 | 0 | 6 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 0 | 12 | 0 | 4 | 0 | 10 | 7 | 0 | 0 | 9 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 38 | 36 | 9 | 42 | 36 | 7 | 9 | 0 | 0 | - | - | 0 |
| Stage 1 | 9 | 9 | - | 27 | 27 | - | - | - | - | - | - | - |
| Stage 2 | 29 | 27 | - | 15 | 9 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 967 | 856 | 1073 | 961 | 856 | 1075 | 1611 | - | - | 0 | - | - |
| Stage 1 | 1012 | 888 | - | 990 | 873 | - | - | - | - | 0 | - | - |
| Stage 2 | 988 | 873 | - | 1005 | 888 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 958 | 851 | 1073 | 947 | 851 | 1075 | 1611 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 958 | 851 | - | 947 | 851 | - | - | - | - | - | - | - |
| Stage 1 | 1006 | 888 | - | 984 | 868 | - | - | - | - | - | - | - |
| Stage 2 | 977 | 868 | - | 994 | 888 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.4 | 9.3 | 4.2 | 0 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1611 | - | - | 958 | 1073 | 851 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.002 | 0.011 | 0.005 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.8 | 8.4 | 9.3 | - | - |
| HCM Lane LOS | A | A | - | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

## 1: Carillion Blvd & Walnut Ave Performance by approach

| Approach | EB | WB | NB | SB | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s) | 12.8 | 10.7 | 7.8 | 10.7 | 10.5 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 116 | 108 | 136 | 204 | 34 | 276 |
| Future Vol, veh/h | 116 | 108 | 136 | 204 | 34 | 276 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 60 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 82 | 82 | 82 | 82 | 82 | 82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 141 | 132 | 166 | 249 | 41 | 337 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 710 | 291 | 0 | 0 | 415 | 0 |
| Stage 1 | 291 | - | - | - | - | - |
| Stage 2 | 419 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 400 | 748 | - | - | 1144 | - |
| Stage 1 | 759 | - | - | - | - | - |
| Stage 2 | 664 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 386 | 748 | - | - | 1144 | - |
| Mov Cap-2 Maneuver | 490 | - | - | - | - | - |
| Stage 1 | 759 | - | - | - | - | - |
| Stage 2 | 640 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.3 | 0 | 0.9 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 588 | 1144 | - |
| HCM Lane V/C Ratio | - | - | 0.465 | 0.036 | - |
| HCM Control Delay (s) | - | - | 16.3 | 8.3 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.5 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 18.3 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 147 | 88 | 51 | 50 | 40 | 19 | 33 | 173 | 24 | 154 | 178 | 67 |
| Future Vol, veh/h | 147 | 88 | 51 | 50 | 40 | 19 | 33 | 173 | 24 | 154 | 178 | 67 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 188 | 113 | 65 | 64 | 51 | 24 | 42 | 222 | 31 | 197 | 228 | 86 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 22.7 | 13.3 | 16.5 | 17.6 |
| HCM LOS | C | B | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 51% | 46% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 31% | 37% | 0% | 73% |
| Vol Right, % | 0% | 12% | 18% | 17% | 0% | 27% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 33 | 197 | 286 | 109 | 154 | 245 |
| LT Vol | 33 | 0 | 147 | 50 | 154 | 0 |
| Through Vol | 0 | 173 | 88 | 40 | 0 | 178 |
| RT Vol | 0 | 24 | 51 | 19 | 0 | 67 |
| Lane Flow Rate | 42 | 253 | 367 | 140 | 197 | 314 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.092 | 0.507 | 0.678 | 0.285 | 0.411 | 0.592 |
| Departure Headway (Hd) | 7.833 | 7.231 | 6.652 | 7.343 | 7.493 | 6.783 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 456 | 498 | 543 | 488 | 480 | 531 |
| Service Time | 5.597 | 4.994 | 4.705 | 5.418 | 5.252 | 4.542 |
| HCM Lane V/C Ratio | 0.092 | 0.508 | 0.676 | 0.287 | 0.41 | 0.591 |
| HCM Control Delay | 11.4 | 17.3 | 22.7 | 13.3 | 15.4 | 19 |
| HCM Lane LOS | B | C | C | B | C | C |
| HCM 95th-tile Q | 0.3 | 2.8 | 5.1 | 1.2 | 2 | 3.8 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 72 | 82 | 151 | 149 | 69 |
| Future Vol, veh/h | 99 | 72 | 82 | 151 | 149 | 69 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | Free |
| Storage Length | 25 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 84 | 84 | 84 | 84 | 84 | 84 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 118 | 86 | 98 | 180 | 177 | 82 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 553 | 177 | 177 | 0 | - | 0 |
| Stage 1 | 177 | - | - | - | - | - |
| Stage 2 | 376 | - | - | - | - | - |
| Critical Hdwy | 6.44 | 6.24 | 4.14 | - | - | - |
| Critical Hdwy Stg 1 | 5.44 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.44 | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 3.336 | 2.236 | - | - | - |
| Pot Cap-1 Maneuver | 491 | 861 | 1387 | - | - | 0 |
| Stage 1 | 849 | - | - | - | - | 0 |
| Stage 2 | 690 | - | - | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 453 | 861 | 1387 | - | - | - |
| Mov Cap-2 Maneuver | 453 | - | - | - | - | - |
| Stage 1 | 783 | - | - | - | - | - |
| Stage 2 | 690 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.1 | 2.7 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1387 | - | 453 | 861 | - |
| HCM Lane V/C Ratio | 0.07 | - | 0.26 | 0.1 | - |
| HCM Control Delay (s) | 7.8 | 0 | 15.7 | 9.6 | - |
| HCM Lane LOS | A | A | C | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | 1 | 0.3 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 116 | 83 | 16 | 149 | 47 | 42 | 68 | 92 | 51 | 76 | 98 | 109 |
| Future Vol, veh/h | 116 | 83 | 16 | 149 | 47 | 42 | 68 | 92 | 51 | 76 | 98 | 109 |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 | 0.78 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 149 | 106 | 21 | 191 | 60 | 54 | 87 | 118 | 65 | 97 | 126 | 140 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 17.8 | 19.2 | 17 | 21.3 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 32% | 54% | 63% | 27% |
| Vol Thru, % | 44% | 39% | 20% | 35% |
| Vol Right, % | 24% | 7% | 18% | 39% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 211 | 215 | 238 | 283 |
| LT Vol | 68 | 116 | 149 | 76 |
| Through Vol | 92 | 83 | 47 | 98 |
| RT Vol | 51 | 16 | 42 | 109 |
| Lane Flow Rate | 271 | 276 | 305 | 363 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.514 | 0.534 | 0.584 | 0.659 |
| Departure Headway (Hd) | 6.836 | 6.979 | 6.886 | 6.538 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 528 | 515 | 525 | 555 |
| Service Time | 4.895 | 5.04 | 4.911 | 4.561 |
| HCM Lane V/C Ratio | 0.513 | 0.536 | 0.581 | 0.654 |
| HCM Control Delay | 17 | 17.8 | 19.2 | 21.3 |
| HCM Lane LOS | C | C | C | C |
| HCM 95th-tile Q | 2.9 | 3.1 | 3.7 | 4.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 258 | 104 | 2 | 176 | 0 | 0 | 0 | 0 | 1 | 251 | 97 |
| Future Volume (veh/h) | 0 | 258 | 104 | 2 | 176 | 0 | 0 | 0 | 0 | 1 | 251 | 97 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1856 | 1856 | 1856 | 1856 | 0 | | | | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | 0 | 344 | 3 | 3 | 235 | 0 | | | | 1 | 335 | 54 |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | | | 0.75 | 0.75 | 0.92 |
| Percent Heavy Veh, % | 0 | 3 | 3 | 3 | 3 | 0 | | | | 3 | 3 | 3 |
| Cap, veh/h | 0 | 896 | 400 | 25 | 1441 | 0 | | | | 493 | 849 | 135 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.01 | 0.41 | 0.00 | | | | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 0 | 3618 | 1572 | 3428 | 3618 | 0 | | | | 1767 | 3045 | 486 |
| Grp Volume(v), veh/h | 0 | 344 | 3 | 3 | 235 | 0 | | | | 1 | 193 | 196 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1763 | 1572 | 1714 | 1763 | 0 | | | | 1767 | 1763 | 1768 |
| Q Serve(g_s), s | 0.0 | 2.2 | 0.0 | 0.0 | 1.1 | 0.0 | | | | 0.0 | 2.4 | 2.5 |
| Cycle Q Clear(g_c), s | 0.0 | 2.2 | 0.0 | 0.0 | 1.1 | 0.0 | | | | 0.0 | 2.4 | 2.5 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | 0 | 896 | 400 | 25 | 1441 | 0 | | | | 493 | 491 | 493 |
| V/C Ratio(X) | 0.00 | 0.38 | 0.01 | 0.12 | 0.16 | 0.00 | | | | 0.00 | 0.39 | 0.40 |
| Avail Cap(c_a), veh/h | 0 | 2982 | 1330 | 1135 | 4667 | 0 | | | | 2534 | 2528 | 2536 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 8.4 | 7.6 | 13.4 | 5.1 | 0.0 | | | | 7.1 | 7.9 | 8.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.0 | 0.8 | 0.0 | 0.0 | | | | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | | | | 0.0 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 8.5 | 7.6 | 14.2 | 5.1 | 0.0 | | | | 7.1 | 8.1 | 8.2 |
| LnGrp LOS | A | A | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 347 | | | 238 | | | | | | 390 | |
| Approach Delay, s/veh | | 8.5 | | | 5.2 | | | | | | 8.1 | |
| Approach LOS | | A | | | A | | | | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.2 | 10.9 | | 12.1 | | 15.1 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.6 | 23.0 | | 39.0 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 4.5 | | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 1.3 | | 1.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.5 |
| HCM 6th LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 228 | 31 | 0 | 0 | 22 | 8 | 156 | 305 | 0 | 0 | 0 | 0 |
| Future Volume (veh/h) | 228 | 31 | 0 | 0 | 22 | 8 | 156 | 305 | 0 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 304 | 41 | 0 | 0 | 29 | 11 | 205 | 411 | 0 | | | |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 669 | 1558 | 0 | 0 | 391 | 174 | 468 | 983 | 0 | | | |
| Arrive On Green | 0.19 | 0.44 | 0.00 | 0.00 | 0.11 | 0.11 | 0.26 | 0.26 | 0.00 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3741 | 0 | | | |
| Grp Volume(v), veh/h | 304 | 41 | 0 | 0 | 29 | 11 | 205 | 411 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 0 | | | |
| Q Serve(g_s), s | 2.7 | 0.2 | 0.0 | 0.0 | 0.2 | 0.2 | 3.3 | 3.1 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 2.7 | 0.2 | 0.0 | 0.0 | 0.2 | 0.2 | 3.3 | 3.1 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.00 | | | |
| Lane Grp Cap(c), veh/h | 669 | 1558 | 0 | 0 | 391 | 174 | 468 | 983 | 0 | | | |
| V/C Ratio(X) | 0.45 | 0.03 | 0.00 | 0.00 | 0.07 | 0.06 | 0.44 | 0.42 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 911 | 3436 | 0 | 0 | 2186 | 975 | 1879 | 3945 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 12.2 | 5.4 | 0.0 | 0.0 | 13.6 | 13.6 | 10.5 | 10.4 | 0.0 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 1.0 | 1.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.3 | 5.5 | 0.0 | 0.0 | 13.7 | 13.7 | 10.7 | 10.5 | 0.0 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | A | | | |
| Approach Vol, veh/h | | 345 | | | 40 | | | 616 | | | | |
| Approach Delay, s/veh | | 11.5 | | | 13.7 | | | 10.6 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 20.1 | | | 11.2 | 8.9 | | 14.1 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | | 4.7 | 2.2 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | | 0.3 | 0.1 | | 2.1 | | | | |

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

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 378 | 129 | 236 | 376 | 0 | 5 | 0 | 61 | 41 | 118 | 198 |
| Future Volume (veh/h) | 0 | 378 | 129 | 236 | 376 | 0 | 5 | 0 | 61 | 41 | 118 | 198 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 434 | 120 | 271 | 432 | 0 | 6 | 0 | 70 | 47 | 136 | 99 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 867 | 571 | 596 | 1759 | 0 | 15 | 0 | 171 | 274 | 311 | 212 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.17 | 0.49 | 0.00 | 0.12 | 0.00 | 0.12 | 0.15 | 0.15 | 0.15 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 126 | 0 | 1473 | 1781 | 2024 | 1375 |
| Grp Volume(v), veh/h | 0 | 434 | 120 | 271 | 432 | 0 | 76 | 0 | 0 | 47 | 118 | 117 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1599 | 0 | 0 | 1781 | 1777 | 1623 |
| Q Serve(g_s), s | 0.0 | 5.4 | 2.7 | 3.6 | 3.6 | 0.0 | 2.3 | 0.0 | 0.0 | 1.2 | 3.1 | 3.4 |
| Cycle Q Clear(g_c), s | 0.0 | 5.4 | 2.7 | 3.6 | 3.6 | 0.0 | 2.3 | 0.0 | 0.0 | 1.2 | 3.1 | 3.4 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.08 | | 0.92 | 1.00 | | 0.85 |
| Lane Grp Cap(c), veh/h | 0 | 867 | 571 | 596 | 1759 | 0 | 186 | 0 | 0 | 274 | 273 | 250 |
| V/C Ratio(X) | 0.00 | 0.50 | 0.21 | 0.45 | 0.25 | 0.00 | 0.41 | 0.00 | 0.00 | 0.17 | 0.43 | 0.47 |
| Avail Cap(c_a), veh/h | 0 | 1601 | 898 | 609 | 2506 | 0 | 344 | 0 | 0 | 1151 | 1148 | 1049 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 16.6 | 11.3 | 19.0 | 7.4 | 0.0 | 20.9 | 0.0 | 0.0 | 18.8 | 19.6 | 19.7 |
| Incr Delay (d2), s/veh | 0.0 | 1.0 | 0.4 | 0.2 | 0.1 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 1.1 | 1.3 | 1.1 | 0.0 | 0.8 | 0.0 | 0.0 | 0.4 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.6 | 11.7 | 19.2 | 7.5 | 0.0 | 21.5 | 0.0 | 0.0 | 18.9 | 20.0 | 20.2 |
| LnGrp LOS | A | B | B | B | A | A | C | A | A | B | B | C |
| Approach Vol, veh/h | | 554 | | | 703 | | | 76 | | | 282 | |
| Approach Delay, s/veh | | 16.3 | | | 12.0 | | | 21.5 | | | 19.9 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 16.5 | | 11.9 | | 29.3 | | 9.9 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 7.4 | | 5.4 | | 5.6 | | 4.3 |
| Green Ext Time (p_c), s | 0.2 | 5.1 | | 1.0 | | 3.1 | | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.3 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 301 | 179 | 0 | 0 | 434 | 71 | 178 | 89 | 79 | 0 | 0 | 0 |
| Future Volume (veh/h) | 301 | 179 | 0 | 0 | 434 | 71 | 178 | 89 | 79 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 372 | 221 | 0 | 0 | 536 | 7 | 221 | 109 | 2 | | | |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 871 | 1987 | 0 | 0 | 713 | 317 | 729 | 375 | 7 | | | |
| Arrive On Green | 0.25 | 0.56 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1583 | 3563 | 1831 | 34 | | | |
| Grp Volume(v), veh/h | 372 | 221 | 0 | 0 | 536 | 7 | 221 | 0 | 111 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1583 | 1781 | 0 | 1864 | | | |
| Q Serve(g_s), s | 3.9 | 1.3 | 0.0 | 0.0 | 6.1 | 0.2 | 2.3 | 0.0 | 2.2 | | | |
| Cycle Q Clear(g_c), s | 3.9 | 1.3 | 0.0 | 0.0 | 6.1 | 0.2 | 2.3 | 0.0 | 2.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.02 | | | |
| Lane Grp Cap(c), veh/h | 871 | 1987 | 0 | 0 | 713 | 317 | 729 | 0 | 382 | | | |
| V/C Ratio(X) | 0.43 | 0.11 | 0.00 | 0.00 | 0.75 | 0.02 | 0.30 | 0.00 | 0.29 | | | |
| Avail Cap(c_a), veh/h | 1441 | 1987 | 0 | 0 | 823 | 367 | 825 | 0 | 432 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 13.5 | 4.5 | 0.0 | 0.0 | 16.2 | 13.9 | 14.6 | 0.0 | 14.5 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 2.7 | 0.0 | 0.1 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.3 | 0.0 | 0.0 | 2.4 | 0.0 | 0.8 | 0.0 | 0.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.7 | 4.5 | 0.0 | 0.0 | 18.9 | 13.9 | 14.6 | 0.0 | 14.7 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | A | B | | | |
| Approach Vol, veh/h | | 593 | | | 543 | | | 332 | | | | |
| Approach Delay, s/veh | | 10.2 | | | 18.9 | | | 14.7 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.2 | | | 15.5 | 13.8 | | 13.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.3 | | | 5.9 | 8.1 | | 4.3 | | | | |
| Green Ext Time (p_c), s | | 0.5 | | | 0.6 | 0.5 | | 0.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.4 |
| HCM 6th LOS | B |

**Notes**

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

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 241 | 17 | 8 | 494 | 26 | 8 | 4 | 5 | 21 | 7 | 3 |
| Future Vol, veh/h | 0 | 241 | 17 | 8 | 494 | 26 | 8 | 4 | 5 | 21 | 7 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 182 | - | - | 165 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 294 | 21 | 10 | 602 | 32 | 10 | 5 | 6 | 26 | 9 | 4 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 634 | 0 | 0 | 315 | 0 | 0 | 950 | 959 | 158 | 788 | 953 | 618 |
| Stage 1 | - | - | - | - | - | - | 305 | 305 | - | 638 | 638 | - |
| Stage 2 | - | - | - | - | - | - | 645 | 654 | - | 150 | 315 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 947 | - | - | 1244 | - | - | 227 | 256 | 860 | 295 | 258 | 488 |
| Stage 1 | - | - | - | - | - | - | 680 | 662 | - | 464 | 470 | - |
| Stage 2 | - | - | - | - | - | - | 460 | 462 | - | 838 | 655 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 947 | - | - | 1244 | - | - | 218 | 254 | 860 | 287 | 256 | 488 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 218 | 254 | - | 287 | 256 | - |
| Stage 1 | - | - | - | - | - | - | 680 | 662 | - | 464 | 466 | - |
| Stage 2 | - | - | - | - | - | - | 445 | 458 | - | 826 | 655 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 18.3 | 19.2 |
| HCM LOS | | | C | C |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 292 | 947 | - | - | 1244 | - | - | 291 |
| HCM Lane V/C Ratio | 0.071 | - | - | - | 0.008 | - | - | 0.13 |
| HCM Control Delay (s) | 18.3 | 0 | - | - | 7.9 | - | - | 19.2 |
| HCM Lane LOS | C | A | - | - | A | - | - | C |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 66 | 4 | 382 | 101 |
| Future Volume (veh/h) | 0 | 0 | 66 | 4 | 382 | 101 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 70 | 1 | 406 | 107 |
| Peak Hour Factor | | | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 382 | 5 | 546 | 1386 |
| Arrive On Green | | | 0.21 | 0.21 | 0.31 | 0.74 |
| Sat Flow, veh/h | | | 1839 | 26 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 71 | 406 | 107 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1866 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 0.5 | 3.2 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 0.5 | 3.2 | 0.2 |
| Prop In Lane | | | | 0.01 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 387 | 546 | 1386 |
| V/C Ratio(X) | | | 0.00 | 0.18 | 0.74 | 0.08 |
| Avail Cap(c_a), veh/h | | | 0 | 5438 | 3692 | 5451 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 5.0 | 4.8 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.1 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 5.1 | 5.6 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 71 | | | 513 |
| Approach Delay, s/veh | | | 5.1 | | | 4.5 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 7.2 | | | | 15.4 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 5.2 | 2.5 | | | | 2.2 |
| Green Ext Time (p_c), s | 0.6 | 0.2 | | | | 0.4 |

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 18 | 0 |
| Future Vol, veh/h | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 18 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 |
| Heavy Vehicles, % | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Mvmt Flow | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 6 | 0 | 0 | 28 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 35 | 34 | 28 | 35 | 34 | 6 | 28 | 0 | 0 | - | - | 0 |
| Stage 1 | 28 | 28 | - | 6 | 6 | - | - | - | - | - | - | - |
| Stage 2 | 7 | 6 | - | 29 | 28 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.14 | 6.54 | 6.24 | 7.14 | 6.54 | 6.24 | 4.14 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.14 | 5.54 | - | 6.14 | 5.54 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.14 | 5.54 | - | 6.14 | 5.54 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.536 | 4.036 | 3.336 | 3.536 | 4.036 | 3.336 | 2.236 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 966 | 855 | 1041 | 966 | 855 | 1071 | 1573 | - | - | 0 | - | - |
| Stage 1 | 984 | 868 | - | 1011 | 887 | - | - | - | - | 0 | - | - |
| Stage 2 | 1009 | 887 | - | 983 | 868 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 965 | 855 | 1041 | 965 | 855 | 1071 | 1573 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 965 | 855 | - | 965 | 855 | - | - | - | - | - | - | - |
| Stage 1 | 984 | 868 | - | 1011 | 887 | - | - | - | - | - | - | - |
| Stage 2 | 1007 | 887 | - | 981 | 868 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.9 | 9.2 | 0 | 0 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1573 | - | - | 965 | 855 | 855 | - | - |
| HCM Lane V/C Ratio | - | - | - | 0.006 | 0.002 | 0.002 | - | - |
| HCM Control Delay (s) | 0 | - | - | 8.8 | 9.2 | 9.2 | - | - |
| HCM Lane LOS | A | - | - | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.9 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 113 | 149 | 225 | 15 | 5 | 289 |
| Future Vol, veh/h | 113 | 149 | 225 | 15 | 5 | 289 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 123 | 162 | 245 | 16 | 5 | 314 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 261 | 0 | - | 0 | 661 | 253 |
| Stage 1 | - | - | - | - | 253 | - |
| Stage 2 | - | - | - | - | 408 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1303 | - | - | - | 427 | 786 |
| Stage 1 | - | - | - | - | 789 | - |
| Stage 2 | - | - | - | - | 671 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1303 | - | - | - | 383 | 786 |
| Mov Cap-2 Maneuver | - | - | - | - | 383 | - |
| Stage 1 | - | - | - | - | 707 | - |
| Stage 2 | - | - | - | - | 671 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 3.5 | 0 | 12.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1303 | - | - | - | 772 |
| HCM Lane V/C Ratio | 0.094 | - | - | - | 0.414 |
| HCM Control Delay (s) | 8.1 | 0 | - | - | 12.9 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - | 2 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 16 | 18 | 119 | 7 | 7 | 278 |
| Future Vol, veh/h | 16 | 18 | 119 | 7 | 7 | 278 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 20 | 129 | 8 | 8 | 302 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 451 | 133 | 0 | 0 | 137 | 0 |
| Stage 1 | 133 | - | - | - | - | - |
| Stage 2 | 318 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 566 | 916 | - | - | 1447 | - |
| Stage 1 | 893 | - | - | - | - | - |
| Stage 2 | 738 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 562 | 916 | - | - | 1447 | - |
| Mov Cap-2 Maneuver | 562 | - | - | - | - | - |
| Stage 1 | 893 | - | - | - | - | - |
| Stage 2 | 733 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.4 | 0 | 0.2 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 707 | 1447 | - |
| HCM Lane V/C Ratio | - | - | 0.052 | 0.005 | - |
| HCM Control Delay (s) | - | - | 10.4 | 7.5 | 0 |
| HCM Lane LOS | - | - | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

## 1: Carillion Blvd & Walnut Ave Performance by approach

| Approach | EB | WB | NB | SB | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s) | 6.3 | 6.4 | 5.8 | 7.4 | 6.5 |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 134 | 105 | 201 | 160 | 57 | 309 |
| Future Vol, veh/h | 134 | 105 | 201 | 160 | 57 | 309 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 60 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 143 | 112 | 214 | 170 | 61 | 329 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 750 | 299 | 0 | 0 | 384 | 0 |
| Stage 1 | 299 | - | - | - | - | - |
| Stage 2 | 451 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 379 | 741 | - | - | 1174 | - |
| Stage 1 | 752 | - | - | - | - | - |
| Stage 2 | 642 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 359 | 741 | - | - | 1174 | - |
| Mov Cap-2 Maneuver | 467 | - | - | - | - | - |
| Stage 1 | 752 | - | - | - | - | - |
| Stage 2 | 609 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.7 | 0 | 1.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 558 | 1174 | - |
| HCM Lane V/C Ratio | - | - | 0.456 | 0.052 | - |
| HCM Control Delay (s) | - | - | 16.7 | 8.2 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.4 | 0.2 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 79 | 83 | 49 | 33 | 118 | 90 | 44 | 192 | 7 | 89 | 246 | 93 |
| Future Vol, veh/h | 79 | 83 | 49 | 33 | 118 | 90 | 44 | 192 | 7 | 89 | 246 | 93 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 84 | 88 | 52 | 35 | 126 | 96 | 47 | 204 | 7 | 95 | 262 | 99 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 14.4 | 14.9 | 14 | 18.6 |
| HCM LOS | B | B | B | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 37% | 14% | 100% | 0% |
| Vol Thru, % | 0% | 96% | 39% | 49% | 0% | 73% |
| Vol Right, % | 0% | 4% | 23% | 37% | 0% | 27% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 44 | 199 | 211 | 241 | 89 | 339 |
| LT Vol | 44 | 0 | 79 | 33 | 89 | 0 |
| Through Vol | 0 | 192 | 83 | 118 | 0 | 246 |
| RT Vol | 0 | 7 | 49 | 90 | 0 | 93 |
| Lane Flow Rate | 47 | 212 | 224 | 256 | 95 | 361 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.098 | 0.411 | 0.415 | 0.459 | 0.189 | 0.649 |
| Departure Headway (Hd) | 7.522 | 6.984 | 6.652 | 6.445 | 7.187 | 6.479 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 476 | 514 | 541 | 559 | 499 | 555 |
| Service Time | 5.278 | 4.74 | 4.706 | 4.496 | 4.937 | 4.229 |
| HCM Lane V/C Ratio | 0.099 | 0.412 | 0.414 | 0.458 | 0.19 | 0.65 |
| HCM Control Delay | 11.1 | 14.6 | 14.4 | 14.9 | 11.6 | 20.5 |
| HCM Lane LOS | B | B | B | B | B | C |
| HCM 95th-tile Q | 0.3 | 2 | 2 | 2.4 | 0.7 | 4.7 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 150 | 135 | 51 | 89 | 181 | 41 |
| Future Vol, veh/h | 150 | 135 | 51 | 89 | 181 | 41 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | Free |
| Storage Length | 25 | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 158 | 142 | 54 | 94 | 191 | 43 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 393 | 191 | 191 | 0 | - | 0 |
| Stage 1 | 191 | - | - | - | - | - |
| Stage 2 | 202 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 611 | 851 | 1383 | - | - | 0 |
| Stage 1 | 841 | - | - | - | - | 0 |
| Stage 2 | 832 | - | - | - | - | 0 |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 586 | 851 | 1383 | - | - | - |
| Mov Cap-2 Maneuver | 586 | - | - | - | - | - |
| Stage 1 | 807 | - | - | - | - | - |
| Stage 2 | 832 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.8 | 2.8 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1383 | - | 586 | 851 | - |
| HCM Lane V/C Ratio | 0.039 | - | 0.269 | 0.167 | - |
| HCM Control Delay (s) | 7.7 | 0 | 13.4 | 10.1 | - |
| HCM Lane LOS | A | A | B | B | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 1.1 | 0.6 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 125 | 61 | 95 | 95 | 42 | 33 | 47 | 124 | 51 | 50 | 91 | 46 |
| Future Vol, veh/h | 125 | 61 | 95 | 95 | 42 | 33 | 47 | 124 | 51 | 50 | 91 | 46 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 139 | 68 | 106 | 106 | 47 | 37 | 52 | 138 | 57 | 56 | 101 | 51 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 13.4 | 11.4 | 12.2 | 11.6 |
| HCM LOS | B | B | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 21% | 44% | 56% | 27% |
| Vol Thru, % | 56% | 22% | 25% | 49% |
| Vol Right, % | 23% | 34% | 19% | 25% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 222 | 281 | 170 | 187 |
| LT Vol | 47 | 125 | 95 | 50 |
| Through Vol | 124 | 61 | 42 | 91 |
| RT Vol | 51 | 95 | 33 | 46 |
| Lane Flow Rate | 247 | 312 | 189 | 208 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.385 | 0.473 | 0.303 | 0.329 |
| Departure Headway (Hd) | 5.624 | 5.452 | 5.77 | 5.696 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 636 | 659 | 620 | 627 |
| Service Time | 3.69 | 3.514 | 3.841 | 3.765 |
| HCM Lane V/C Ratio | 0.388 | 0.473 | 0.305 | 0.332 |
| HCM Control Delay | 12.2 | 13.4 | 11.4 | 11.6 |
| HCM Lane LOS | B | B | B | B |
| HCM 95th-tile Q | 1.8 | 2.5 | 1.3 | 1.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 196 | 59 | 2 | 149 | 0 | 0 | 0 | 0 | 3 | 304 | 175 |
| Future Volume (veh/h) | 0 | 196 | 59 | 2 | 149 | 0 | 0 | 0 | 0 | 3 | 304 | 175 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 209 | 9 | 2 | 159 | 0 | | | | 3 | 323 | 56 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 874 | 390 | 17 | 1423 | 0 | | | | 502 | 854 | 147 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.00 | 0.40 | 0.00 | | | | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3033 | 520 |
| Grp Volume(v), veh/h | 0 | 209 | 9 | 2 | 159 | 0 | | | | 3 | 188 | 191 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1777 |
| Q Serve(g_s), s | 0.0 | 1.3 | 0.1 | 0.0 | 0.8 | 0.0 | | | | 0.0 | 2.3 | 2.3 |
| Cycle Q Clear(g_c), s | 0.0 | 1.3 | 0.1 | 0.0 | 0.8 | 0.0 | | | | 0.0 | 2.3 | 2.3 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.29 |
| Lane Grp Cap(c), veh/h | 0 | 874 | 390 | 17 | 1423 | 0 | | | | 502 | 500 | 500 |
| V/C Ratio(X) | 0.00 | 0.24 | 0.02 | 0.12 | 0.11 | 0.00 | | | | 0.01 | 0.38 | 0.38 |
| Avail Cap(c_a), veh/h | 0 | 3057 | 1363 | 1163 | 4785 | 0 | | | | 2598 | 2592 | 2591 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 8.1 | 7.6 | 13.2 | 5.0 | 0.0 | | | | 6.9 | 7.7 | 7.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.0 | 1.1 | 0.0 | 0.0 | | | | 0.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.0 | 0.0 | 0.1 | 0.0 | | | | 0.0 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 8.1 | 7.7 | 14.4 | 5.0 | 0.0 | | | | 6.9 | 7.9 | 7.9 |
| LnGrp LOS | A | A | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 218 | | | 161 | | | | | | 382 | |
| Approach Delay, s/veh | | 8.1 | | | 5.2 | | | | | | 7.9 | |
| Approach LOS | | A | | | A | | | | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.1 | 10.6 | | 12.0 | | 14.7 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 39.0 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 3.3 | | 4.3 | | 2.8 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | | 1.2 | | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.4 |
| HCM 6th LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 169 | 30 | 0 | 0 | 19 | 4 | 132 | 323 | 1 | 0 | 0 | 0 |
| Future Volume (veh/h) | 169 | 30 | 0 | 0 | 19 | 4 | 132 | 323 | 1 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 176 | 31 | 0 | 0 | 20 | 0 | 138 | 336 | 1 | | | |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 601 | 1417 | 0 | 0 | 284 | 127 | 498 | 1042 | 3 | | | |
| Arrive On Green | 0.17 | 0.40 | 0.00 | 0.00 | 0.08 | 0.00 | 0.28 | 0.28 | 0.28 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3728 | 11 | | | |
| Grp Volume(v), veh/h | 176 | 31 | 0 | 0 | 20 | 0 | 138 | 169 | 168 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1868 | | | |
| Q Serve(g_s), s | 1.4 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 2.3 | 2.3 | | | |
| Cycle Q Clear(g_c), s | 1.4 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 2.3 | 2.3 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.01 | | | |
| Lane Grp Cap(c), veh/h | 601 | 1417 | 0 | 0 | 284 | 127 | 498 | 523 | 522 | | | |
| V/C Ratio(X) | 0.29 | 0.02 | 0.00 | 0.00 | 0.07 | 0.00 | 0.28 | 0.32 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 981 | 3698 | 0 | 0 | 2353 | 1050 | 2022 | 2123 | 2121 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 11.4 | 5.8 | 0.0 | 0.0 | 13.5 | 0.0 | 8.9 | 9.0 | 9.0 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 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 | | | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 | 0.7 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.5 | 5.8 | 0.0 | 0.0 | 13.5 | 0.0 | 9.0 | 9.2 | 9.2 | | | |
| LnGrp LOS | B | A | A | A | B | A | A | A | A | | | |
| Approach Vol, veh/h | | 207 | | | 20 | | | 475 | | | | |
| Approach Delay, s/veh | | 10.6 | | | 13.5 | | | 9.1 | | | | |
| Approach LOS | | B | | | B | | | A | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 17.7 | | | 10.1 | 7.6 | | 14.0 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | | 3.4 | 2.2 | | 4.3 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | | 0.1 | 0.0 | | 1.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.7 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 398 | 125 | 155 | 363 | 0 | 11 | 0 | 82 | 43 | 118 | 204 |
| Future Volume (veh/h) | 0 | 398 | 125 | 155 | 363 | 0 | 11 | 0 | 82 | 43 | 118 | 204 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 463 | 116 | 180 | 422 | 0 | 13 | 0 | 95 | 50 | 137 | 123 |
| 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, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 890 | 612 | 549 | 1725 | 0 | 26 | 0 | 192 | 268 | 277 | 230 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.16 | 0.49 | 0.00 | 0.14 | 0.00 | 0.14 | 0.15 | 0.15 | 0.15 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 193 | 0 | 1413 | 1781 | 1843 | 1529 |
| Grp Volume(v), veh/h | 0 | 463 | 116 | 180 | 422 | 0 | 108 | 0 | 0 | 50 | 132 | 128 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1606 | 0 | 0 | 1781 | 1777 | 1595 |
| Q Serve(g_s), s | 0.0 | 5.9 | 2.5 | 2.4 | 3.6 | 0.0 | 3.3 | 0.0 | 0.0 | 1.3 | 3.6 | 3.9 |
| Cycle Q Clear(g_c), s | 0.0 | 5.9 | 2.5 | 2.4 | 3.6 | 0.0 | 3.3 | 0.0 | 0.0 | 1.3 | 3.6 | 3.9 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.12 | | 0.88 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 0 | 890 | 612 | 549 | 1725 | 0 | 218 | 0 | 0 | 268 | 268 | 240 |
| V/C Ratio(X) | 0.00 | 0.52 | 0.19 | 0.33 | 0.24 | 0.00 | 0.49 | 0.00 | 0.00 | 0.19 | 0.49 | 0.53 |
| Avail Cap(c_a), veh/h | 0 | 1555 | 909 | 592 | 2434 | 0 | 336 | 0 | 0 | 1118 | 1116 | 1001 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 17.0 | 10.7 | 19.6 | 7.9 | 0.0 | 21.0 | 0.0 | 0.0 | 19.5 | 20.5 | 20.6 |
| Incr Delay (d2), s/veh | 0.0 | 1.0 | 0.3 | 0.1 | 0.1 | 0.0 | 0.6 | 0.0 | 0.0 | 0.1 | 0.5 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.3 | 1.1 | 0.9 | 1.1 | 0.0 | 1.1 | 0.0 | 0.0 | 0.5 | 1.4 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 18.0 | 11.0 | 19.7 | 8.0 | 0.0 | 21.7 | 0.0 | 0.0 | 19.6 | 21.0 | 21.3 |
| LnGrp LOS | A | B | B | B | A | A | C | A | A | B | C | C |
| Approach Vol, veh/h | | 579 | | | 602 | | | 108 | | | 310 | |
| Approach Delay, s/veh | | 16.6 | | | 11.5 | | | 21.7 | | | 20.9 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.4 | 17.2 | | 11.9 | | 29.5 | | 11.1 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 7.9 | | 5.9 | | 5.6 | | 5.3 |
| Green Ext Time (p_c), s | 0.1 | 5.3 | | 1.1 | | 3.0 | | 0.1 |

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

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 315 | 208 | 0 | 0 | 310 | 34 | 208 | 107 | 133 | 0 | 0 | 0 |
| Future Volume (veh/h) | 315 | 208 | 0 | 0 | 310 | 34 | 208 | 107 | 133 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 321 | 212 | 0 | 0 | 316 | 7 | 230 | 84 | 26 | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 896 | 1920 | 0 | 0 | 603 | 268 | 760 | 292 | 90 | | | |
| Arrive On Green | 0.26 | 0.54 | 0.00 | 0.00 | 0.17 | 0.17 | 0.21 | 0.21 | 0.21 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1582 | 3563 | 1370 | 424 | | | |
| Grp Volume(v), veh/h | 321 | 212 | 0 | 0 | 316 | 7 | 230 | 0 | 110 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1582 | 1781 | 0 | 1794 | | | |
| Q Serve(g_s), s | 3.1 | 1.2 | 0.0 | 0.0 | 3.4 | 0.2 | 2.2 | 0.0 | 2.1 | | | |
| Cycle Q Clear(g_c), s | 3.1 | 1.2 | 0.0 | 0.0 | 3.4 | 0.2 | 2.2 | 0.0 | 2.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.24 | | | |
| Lane Grp Cap(c), veh/h | 896 | 1920 | 0 | 0 | 603 | 268 | 760 | 0 | 383 | | | |
| V/C Ratio(X) | 0.36 | 0.11 | 0.00 | 0.00 | 0.52 | 0.03 | 0.30 | 0.00 | 0.29 | | | |
| Avail Cap(c_a), veh/h | 1504 | 1920 | 0 | 0 | 859 | 383 | 861 | 0 | 434 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 12.5 | 4.7 | 0.0 | 0.0 | 15.7 | 14.3 | 13.7 | 0.0 | 13.6 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.3 | 0.0 | 0.0 | 1.2 | 0.0 | 0.8 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.6 | 4.7 | 0.0 | 0.0 | 15.9 | 14.3 | 13.8 | 0.0 | 13.8 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | A | B | | | |
| Approach Vol, veh/h | | 533 | | | 323 | | | 340 | | | | |
| Approach Delay, s/veh | | 9.4 | | | 15.9 | | | 13.8 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 27.4 | | | 15.3 | 12.1 | | 13.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.2 | | | 5.1 | 5.4 | | 4.2 | | | | |
| Green Ext Time (p_c), s | | 0.4 | | | 0.5 | 0.6 | | 0.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.4 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 333 | 8 | 3 | 334 | 18 | 8 | 5 | 4 | 26 | 3 | 2 |
| Future Vol, veh/h | 0 | 333 | 8 | 3 | 334 | 18 | 8 | 5 | 4 | 26 | 3 | 2 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 182 | - | - | 165 | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 358 | 9 | 3 | 359 | 19 | 9 | 5 | 4 | 28 | 3 | 2 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 378 | 0 | 0 | 367 | 0 | 0 | 740 | 747 | 184 | 557 | 742 | 369 |
| Stage 1 | - | - | - | - | - | - | 363 | 363 | - | 375 | 375 | - |
| Stage 2 | - | - | - | - | - | - | 377 | 384 | - | 182 | 367 | - |
| Critical Hdwy | 4.13 | - | - | 4.13 | - | - | 7.33 | 6.53 | 6.93 | 7.33 | 6.53 | 6.23 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.53 | 5.53 | - | 6.13 | 5.53 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.13 | 5.53 | - | 6.53 | 5.53 | - |
| Follow-up Hdwy | 2.219 | - | - | 2.219 | - | - | 3.519 | 4.019 | 3.319 | 3.519 | 4.019 | 3.319 |
| Pot Cap-1 Maneuver | 1179 | - | - | 1190 | - | - | 319 | 341 | 828 | 427 | 343 | 676 |
| Stage 1 | - | - | - | - | - | - | 629 | 624 | - | 645 | 616 | - |
| Stage 2 | - | - | - | - | - | - | 644 | 611 | - | 803 | 621 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1179 | - | - | 1190 | - | - | 315 | 340 | 828 | 419 | 342 | 676 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 315 | 340 | - | 419 | 342 | - |
| Stage 1 | - | - | - | - | - | - | 629 | 624 | - | 645 | 614 | - |
| Stage 2 | - | - | - | - | - | - | 637 | 609 | - | 792 | 621 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 0 | 0.1 | 15 | 14.3 |
| HCM LOS | | | C | B |

| Minor Lane/Major Mvmt | NBLn1 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 378 | 1179 | - | - | 1190 | - | - | 420 |
| HCM Lane V/C Ratio | 0.048 | - | - | - | 0.003 | - | - | 0.079 |
| HCM Control Delay (s) | 15 | 0 | - | - | 8 | - | - | 14.3 |
| HCM Lane LOS | C | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.2 | 0 | - | - | 0 | - | - | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 93 | 11 | 298 | 100 |
| Future Volume (veh/h) | 0 | 0 | 93 | 11 | 298 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1856 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h | | | 98 | 3 | 314 | 105 |
| Peak Hour Factor | | | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | 3 | 3 | 3 | 3 |
| Cap, veh/h | | | 420 | 13 | 422 | 1335 |
| Arrive On Green | | | 0.23 | 0.23 | 0.24 | 0.72 |
| Sat Flow, veh/h | | | 1791 | 55 | 1767 | 1856 |
| Grp Volume(v), veh/h | | | 0 | 101 | 314 | 105 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1846 | 1767 | 1856 |
| Q Serve(g_s), s | | | 0.0 | 0.6 | 2.3 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 0.6 | 2.3 | 0.2 |
| Prop In Lane | | | | 0.03 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 433 | 422 | 1335 |
| V/C Ratio(X) | | | 0.00 | 0.23 | 0.74 | 0.08 |
| Avail Cap(c_a), veh/h | | | 0 | 5830 | 3970 | 5862 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 4.4 | 5.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.1 | 1.0 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 4.5 | 6.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 101 | | | 419 |
| Approach Delay, s/veh | | | 4.5 | | | 4.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.9 | 7.3 | | | | 14.2 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 4.3 | 2.6 | | | | 2.2 |
| Green Ext Time (p_c), s | 0.4 | 0.4 | | | | 0.4 |

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

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 0 | 8 | 0 | 3 | 0 | 7 | 8 | 0 | 0 | 7 | 0 |
| Future Vol, veh/h | 1 | 0 | 8 | 0 | 3 | 0 | 7 | 8 | 0 | 0 | 7 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 0 | 12 | 0 | 4 | 0 | 10 | 12 | 0 | 0 | 10 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 44 | 42 | 10 | 48 | 42 | 12 | 10 | 0 | 0 | - | - | 0 |
| Stage 1 | 10 | 10 | - | 32 | 32 | - | - | - | - | - | - | - |
| Stage 2 | 34 | 32 | - | 16 | 10 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 958 | 850 | 1071 | 953 | 850 | 1069 | 1610 | - | - | 0 | - | - |
| Stage 1 | 1011 | 887 | - | 984 | 868 | - | - | - | - | 0 | - | - |
| Stage 2 | 982 | 868 | - | 1004 | 887 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 949 | 845 | 1071 | 938 | 845 | 1069 | 1610 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 949 | 845 | - | 938 | 845 | - | - | - | - | - | - | - |
| Stage 1 | 1005 | 887 | - | 978 | 863 | - | - | - | - | - | - | - |
| Stage 2 | 971 | 863 | - | 993 | 887 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 8.4 | 9.3 | 3.4 | 0 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1610 | - | - | 949 | 1071 | 845 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.002 | 0.011 | 0.005 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 8.8 | 8.4 | 9.3 | - | - |
| HCM Lane LOS | A | A | - | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | 0 | 0 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.3 |

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 211 | 152 | 157 | 15 | 10 | 184 |
| Future Vol, veh/h | 211 | 152 | 157 | 15 | 10 | 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 229 | 165 | 171 | 16 | 11 | 200 |

| Major/Minor | Major1 | | Major2 | | Minor2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 187 | 0 | - | 0 | 802 | 179 |
| Stage 1 | - | - | - | - | 179 | - |
| Stage 2 | - | - | - | - | 623 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1387 | - | - | - | 353 | 864 |
| Stage 1 | - | - | - | - | 852 | - |
| Stage 2 | - | - | - | - | 535 | - |
| Platoon blocked, % | | - | - | - | | |
| Mov Cap-1 Maneuver | 1387 | - | - | - | 289 | 864 |
| Mov Cap-2 Maneuver | - | - | - | - | 289 | - |
| Stage 1 | - | - | - | - | 697 | - |
| Stage 2 | - | - | - | - | 535 | - |

| Approach | EB | WB | SB |
|---|---|---|---|
| HCM Control Delay, s | 4.7 | 0 | 11.3 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1387 | - | - | - | 784 |
| HCM Lane V/C Ratio | 0.165 | - | - | - | 0.269 |
| HCM Control Delay (s) | 8.1 | 0 | - | - | 11.3 |
| HCM Lane LOS | A | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.6 | - | - | - | 1.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 14 | 5 | 190 | 20 | 5 | 172 |
| Future Vol, veh/h | 14 | 5 | 190 | 20 | 5 | 172 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 5 | 207 | 22 | 5 | 187 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 415 | 218 | 0 | 0 | 229 | 0 |
| Stage 1 | 218 | - | - | - | - | - |
| Stage 2 | 197 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 594 | 822 | - | - | 1339 | - |
| Stage 1 | 818 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 592 | 822 | - | - | 1339 | - |
| Mov Cap-2 Maneuver | 592 | - | - | - | - | - |
| Stage 1 | 818 | - | - | - | - | - |
| Stage 2 | 833 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10.8 | 0 | 0.2 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 639 | 1339 | - |
| HCM Lane V/C Ratio | - | - | 0.032 | 0.004 | - |
| HCM Control Delay (s) | - | - | 10.8 | 7.7 | 0 |
| HCM Lane LOS | - | - | B | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 360 | 385 | 220 | 705 | 75 | 195 | 445 | 390 | 80 | 435 | 45 |
| Future Volume (veh/h) | 50 | 360 | 385 | 220 | 705 | 75 | 195 | 445 | 390 | 80 | 435 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 391 | 320 | 239 | 766 | 9 | 212 | 484 | 369 | 87 | 473 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 1.00 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 86 | 795 | 577 | 288 | 1198 | 527 | 258 | 972 | 682 | 112 | 680 | 303 |
| Arrive On Green | 0.05 | 0.22 | 0.22 | 0.16 | 0.34 | 0.34 | 0.14 | 0.27 | 0.27 | 0.06 | 0.19 | 0.00 |
| Sat Flow, veh/h | 1781 | 3554 | 1555 | 1781 | 3554 | 1564 | 1781 | 3554 | 1558 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 54 | 391 | 320 | 239 | 766 | 9 | 212 | 484 | 369 | 87 | 473 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1555 | 1781 | 1777 | 1564 | 1781 | 1777 | 1558 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 1.9 | 6.2 | 10.6 | 8.4 | 11.8 | 0.2 | 7.5 | 7.4 | 11.3 | 3.1 | 8.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.9 | 6.2 | 10.6 | 8.4 | 11.8 | 0.2 | 7.5 | 7.4 | 11.3 | 3.1 | 8.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 86 | 795 | 577 | 288 | 1198 | 527 | 258 | 972 | 682 | 112 | 680 | 303 |
| V/C Ratio(X) | 0.63 | 0.49 | 0.55 | 0.83 | 0.64 | 0.02 | 0.82 | 0.50 | 0.54 | 0.78 | 0.70 | 0.00 |
| Avail Cap(c_a), veh/h | 182 | 990 | 663 | 372 | 1369 | 602 | 317 | 1309 | 830 | 185 | 1045 | 466 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 30.2 | 21.9 | 16.2 | 26.2 | 18.1 | 14.3 | 26.8 | 19.7 | 13.5 | 29.8 | 24.4 | 0.0 |
| Incr Delay (d2), s/veh | 7.5 | 0.5 | 0.8 | 11.6 | 0.8 | 0.0 | 13.2 | 0.4 | 0.7 | 11.0 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 2.3 | 3.3 | 4.1 | 4.2 | 0.1 | 3.8 | 2.7 | 3.3 | 1.6 | 3.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.7 | 22.4 | 17.1 | 37.9 | 18.9 | 14.3 | 40.0 | 20.1 | 14.2 | 40.8 | 25.7 | 0.0 |
| LnGrp LOS | D | C | B | D | B | B | D | C | B | D | C | A |
| Approach Vol, veh/h | | 765 | | | 1014 | | | 1065 | | | 560 | |
| Approach Delay, s/veh | | 21.2 | | | 23.3 | | | 22.0 | | | 28.0 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 22.2 | 14.9 | 19.0 | 13.9 | 16.9 | 7.6 | 26.3 |
| 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 | 6.7 | 23.8 | 13.5 | 18.0 | 11.5 | 19.0 | 6.6 | 24.9 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 13.3 | 10.4 | 12.6 | 9.5 | 10.0 | 3.9 | 13.8 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.2 | 1.7 | 0.1 | 1.9 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.2 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 125 | 100 | 225 | 225 | 40 | 250 |
| Future Vol, veh/h | 125 | 100 | 225 | 225 | 40 | 250 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 136 | 109 | 245 | 245 | 43 | 272 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 729 | 371 | 0 | 0 | 493 | 0 |
| Stage 1 | 371 | - | - | - | - | - |
| Stage 2 | 358 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 390 | 675 | - | - | 1071 | - |
| Stage 1 | 698 | - | - | - | - | - |
| Stage 2 | 707 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 373 | 673 | - | - | 1068 | - |
| Mov Cap-2 Maneuver | 484 | - | - | - | - | - |
| Stage 1 | 696 | - | - | - | - | - |
| Stage 2 | 679 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.6 | 0 | 1.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 553 | 1068 | - |
| HCM Lane V/C Ratio | - | - | 0.442 | 0.041 | - |
| HCM Control Delay (s) | - | - | 16.6 | 8.5 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.2 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 27.4 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 195 | 135 | 80 | 120 | 55 | 35 | 35 | 220 | 30 | 120 | 190 | 65 |
| Future Vol, veh/h | 195 | 135 | 80 | 120 | 55 | 35 | 35 | 220 | 30 | 120 | 190 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 212 | 147 | 87 | 130 | 60 | 38 | 38 | 239 | 33 | 130 | 207 | 71 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 43.5 | 18.7 | 21.2 | 19.5 |
| HCM LOS | E | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 48% | 57% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 33% | 26% | 0% | 75% |
| Vol Right, % | 0% | 12% | 20% | 17% | 0% | 25% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 35 | 250 | 410 | 210 | 120 | 255 |
| LT Vol | 35 | 0 | 195 | 120 | 120 | 0 |
| Through Vol | 0 | 220 | 135 | 55 | 0 | 190 |
| RT Vol | 0 | 30 | 80 | 35 | 0 | 65 |
| Lane Flow Rate | 38 | 272 | 446 | 228 | 130 | 277 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.091 | 0.607 | 0.883 | 0.5 | 0.308 | 0.6 |
| Departure Headway (Hd) | 8.645 | 8.039 | 7.136 | 7.885 | 8.491 | 7.787 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 414 | 448 | 508 | 457 | 423 | 463 |
| Service Time | 6.409 | 5.802 | 5.191 | 5.957 | 6.254 | 5.55 |
| HCM Lane V/C Ratio | 0.092 | 0.607 | 0.878 | 0.499 | 0.307 | 0.598 |
| HCM Control Delay | 12.3 | 22.5 | 43.5 | 18.7 | 15 | 21.6 |
| HCM Lane LOS | B | C | E | C | B | C |
| HCM 95th-tile Q | 0.3 | 3.9 | 9.7 | 2.7 | 1.3 | 3.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 145 | 135 | 15 | 115 | 220 | 40 | 25 | 395 | 140 | 220 | 340 | 90 |
| Future Volume (veh/h) | 145 | 135 | 15 | 115 | 220 | 40 | 25 | 395 | 140 | 220 | 340 | 90 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 158 | 147 | 12 | 125 | 239 | 35 | 27 | 429 | 111 | 239 | 370 | 72 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 202 | 365 | 30 | 161 | 304 | 45 | 54 | 596 | 153 | 301 | 1044 | 201 |
| Arrive On Green | 0.11 | 0.21 | 0.21 | 0.09 | 0.19 | 0.19 | 0.03 | 0.21 | 0.21 | 0.17 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1706 | 139 | 1781 | 1595 | 234 | 1781 | 2800 | 718 | 1781 | 2972 | 573 |
| Grp Volume(v), veh/h | 158 | 0 | 159 | 125 | 0 | 274 | 27 | 271 | 269 | 239 | 220 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1845 | 1781 | 0 | 1828 | 1781 | 1777 | 1741 | 1781 | 1777 | 1767 |
| Q Serve(g_s), s | 4.9 | 0.0 | 4.2 | 3.9 | 0.0 | 8.2 | 0.9 | 8.1 | 8.2 | 7.4 | 5.2 | 5.3 |
| Cycle Q Clear(g_c), s | 4.9 | 0.0 | 4.2 | 3.9 | 0.0 | 8.2 | 0.9 | 8.1 | 8.2 | 7.4 | 5.2 | 5.3 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.13 | 1.00 | | 0.41 | 1.00 | | 0.32 |
| Lane Grp Cap(c), veh/h | 202 | 0 | 395 | 161 | 0 | 349 | 54 | 378 | 371 | 301 | 624 | 621 |
| V/C Ratio(X) | 0.78 | 0.00 | 0.40 | 0.78 | 0.00 | 0.78 | 0.50 | 0.72 | 0.73 | 0.79 | 0.35 | 0.36 |
| Avail Cap(c_a), veh/h | 326 | 0 | 644 | 264 | 0 | 574 | 233 | 589 | 577 | 451 | 806 | 802 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 0.0 | 19.4 | 25.5 | 0.0 | 22.1 | 27.3 | 20.9 | 21.0 | 22.9 | 13.8 | 13.8 |
| Incr Delay (d2), s/veh | 6.5 | 0.0 | 0.7 | 7.8 | 0.0 | 3.9 | 6.9 | 2.5 | 2.7 | 5.7 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 1.5 | 1.8 | 0.0 | 3.2 | 0.4 | 3.1 | 3.1 | 3.1 | 1.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.2 | 0.0 | 20.0 | 33.3 | 0.0 | 26.0 | 34.2 | 23.5 | 23.7 | 28.6 | 14.1 | 14.1 |
| LnGrp LOS | C | A | C | C | A | C | C | C | C | C | B | B |
| Approach Vol, veh/h | | 317 | | | 399 | | | 567 | | | 681 | |
| Approach Delay, s/veh | | 25.6 | | | 28.3 | | | 24.1 | | | 19.2 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 16.7 | 9.7 | 16.8 | 6.2 | 24.6 | 11.0 | 15.4 |
| 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 | 14.5 | 19.0 | 8.5 | 20.0 | 7.5 | 26.0 | 10.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 10.2 | 5.9 | 6.2 | 2.9 | 7.3 | 6.9 | 10.2 |
| Green Ext Time (p_c), s | 0.3 | 2.0 | 0.1 | 0.5 | 0.0 | 2.2 | 0.1 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.5 |
| HCM 6th LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 525 | 105 | 345 | 470 | 0 | 0 | 0 | 0 | 100 | 200 | 70 |
| Future Volume (veh/h) | 0 | 525 | 105 | 345 | 470 | 0 | 0 | 0 | 0 | 100 | 200 | 70 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 571 | 10 | 375 | 511 | 0 | | | | 109 | 217 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 896 | 400 | 785 | 2068 | 0 | | | | 356 | 695 | 29 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.23 | 0.58 | 0.00 | | | | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3478 | 144 |
| Grp Volume(v), veh/h | 0 | 571 | 10 | 375 | 511 | 0 | | | | 109 | 110 | 116 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1845 |
| Q Serve(g_s), s | 0.0 | 5.6 | 0.2 | 3.7 | 2.7 | 0.0 | | | | 2.0 | 2.1 | 2.1 |
| Cycle Q Clear(g_c), s | 0.0 | 5.6 | 0.2 | 3.7 | 2.7 | 0.0 | | | | 2.0 | 2.1 | 2.1 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.08 |
| Lane Grp Cap(c), veh/h | 0 | 896 | 400 | 785 | 2068 | 0 | | | | 356 | 355 | 369 |
| V/C Ratio(X) | 0.00 | 0.64 | 0.03 | 0.48 | 0.25 | 0.00 | | | | 0.31 | 0.31 | 0.31 |
| Avail Cap(c_a), veh/h | 0 | 2098 | 936 | 798 | 3284 | 0 | | | | 1760 | 1756 | 1823 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.0 | 11.0 | 13.1 | 4.0 | 0.0 | | | | 13.3 | 13.3 | 13.3 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | | | | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.7 | 0.1 | 1.1 | 0.4 | 0.0 | | | | 0.6 | 0.6 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.3 | 11.0 | 13.2 | 4.0 | 0.0 | | | | 13.5 | 13.5 | 13.5 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 581 | | | 886 | | | | | | 335 | |
| Approach Delay, s/veh | | 13.2 | | | 7.9 | | | | | | 13.5 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 13.8 | | 12.3 | | 26.7 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 5.7 | 7.6 | | 4.1 | | 4.7 |
| Green Ext Time (p_c), s | 0.3 | 2.2 | | 0.8 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.7 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 430 | 0 | 0 | 660 | 30 | 155 | 245 | 415 | 0 | 0 | 0 |
| Future Volume (veh/h) | 195 | 430 | 0 | 0 | 660 | 30 | 155 | 245 | 415 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 212 | 467 | 0 | 0 | 717 | 3 | 168 | 266 | 316 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 474 | 1808 | 0 | 0 | 979 | 437 | 496 | 521 | 441 | | | |
| Arrive On Green | 0.14 | 0.51 | 0.00 | 0.00 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 1870 | 1585 | | | |
| Grp Volume(v), veh/h | 212 | 467 | 0 | 0 | 717 | 3 | 168 | 266 | 316 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1585 | | | |
| Q Serve(g_s), s | 2.7 | 3.6 | 0.0 | 0.0 | 8.8 | 0.1 | 3.6 | 5.7 | 8.6 | | | |
| Cycle Q Clear(g_c), s | 2.7 | 3.6 | 0.0 | 0.0 | 8.8 | 0.1 | 3.6 | 5.7 | 8.6 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 474 | 1808 | 0 | 0 | 979 | 437 | 496 | 521 | 441 | | | |
| V/C Ratio(X) | 0.45 | 0.26 | 0.00 | 0.00 | 0.73 | 0.01 | 0.34 | 0.51 | 0.72 | | | |
| Avail Cap(c_a), veh/h | 648 | 2445 | 0 | 0 | 1556 | 694 | 1337 | 1404 | 1190 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 19.0 | 6.7 | 0.0 | 0.0 | 15.8 | 12.6 | 13.8 | 14.6 | 15.6 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 0.3 | 0.8 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.9 | 0.0 | 0.0 | 3.0 | 0.0 | 1.3 | 2.1 | 2.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 6.7 | 0.0 | 0.0 | 16.2 | 12.6 | 13.9 | 14.8 | 16.4 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 679 | | | 720 | | | 750 | | | | |
| Approach Delay, s/veh | | 10.6 | | | 16.2 | | | 15.3 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.5 | | | 11.2 | 18.3 | | 18.5 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.6 | | | 4.7 | 10.8 | | 10.6 | | | | |
| Green Ext Time (p_c), s | | 2.0 | | | 0.2 | 2.4 | | 2.7 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.1 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 610 | 35 | 570 | 640 | 0 | 40 | 0 | 145 | 250 | 165 | 235 |
| Future Volume (veh/h) | 0 | 610 | 35 | 570 | 640 | 0 | 40 | 0 | 145 | 250 | 165 | 235 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 663 | 5 | 620 | 696 | 0 | 43 | 0 | 158 | 272 | 179 | 18 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 886 | 395 | 716 | 1820 | 0 | 48 | 0 | 177 | 324 | 593 | 59 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.21 | 0.51 | 0.00 | 0.14 | 0.00 | 0.14 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 347 | 0 | 1276 | 1781 | 3264 | 325 |
| Grp Volume(v), veh/h | 0 | 663 | 5 | 620 | 696 | 0 | 201 | 0 | 0 | 272 | 97 | 100 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1623 | 0 | 0 | 1781 | 1777 | 1811 |
| Q Serve(g_s), s | 0.0 | 12.4 | 0.2 | 12.5 | 8.5 | 0.0 | 8.7 | 0.0 | 0.0 | 10.6 | 3.4 | 3.5 |
| Cycle Q Clear(g_c), s | 0.0 | 12.4 | 0.2 | 12.5 | 8.5 | 0.0 | 8.7 | 0.0 | 0.0 | 10.6 | 3.4 | 3.5 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.21 | | 0.79 | 1.00 | | 0.18 |
| Lane Grp Cap(c), veh/h | 0 | 886 | 395 | 716 | 1820 | 0 | 226 | 0 | 0 | 324 | 323 | 329 |
| V/C Ratio(X) | 0.00 | 0.75 | 0.01 | 0.87 | 0.38 | 0.00 | 0.89 | 0.00 | 0.00 | 0.84 | 0.30 | 0.31 |
| Avail Cap(c_a), veh/h | 0 | 1038 | 463 | 817 | 2076 | 0 | 226 | 0 | 0 | 396 | 395 | 403 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 24.9 | 20.3 | 27.5 | 10.6 | 0.0 | 30.4 | 0.0 | 0.0 | 28.4 | 25.4 | 25.5 |
| Incr Delay (d2), s/veh | 0.0 | 3.6 | 0.0 | 8.0 | 0.1 | 0.0 | 31.5 | 0.0 | 0.0 | 10.7 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.4 | 0.1 | 5.7 | 3.0 | 0.0 | 5.2 | 0.0 | 0.0 | 5.3 | 1.4 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 28.5 | 20.4 | 35.5 | 10.8 | 0.0 | 61.9 | 0.0 | 0.0 | 39.1 | 25.6 | 25.7 |
| LnGrp LOS | A | C | C | D | B | A | E | A | A | D | C | C |
| Approach Vol, veh/h | | 668 | | | 1316 | | | 201 | | | 469 | |
| Approach Delay, s/veh | | 28.4 | | | 22.4 | | | 61.9 | | | 33.5 | |
| Approach LOS | | C | | | C | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.9 | 21.9 | | 17.1 | | 40.8 | | 14.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 17.0 | 21.0 | | 16.0 | | 42.0 | | 10.0 |
| Max Q Clear Time (g_c+I1), s | 14.5 | 14.4 | | 12.6 | | 10.5 | | 10.7 |
| Green Ext Time (p_c), s | 0.4 | 3.5 | | 0.4 | | 5.4 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.9 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 405 | 600 | 0 | 0 | 825 | 135 | 385 | 275 | 55 | 0 | 0 | 0 |
| Future Volume (veh/h) | 405 | 600 | 0 | 0 | 825 | 135 | 385 | 275 | 55 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 440 | 652 | 0 | 0 | 897 | 30 | 253 | 530 | 42 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 845 | 2026 | 0 | 0 | 793 | 354 | 360 | 692 | 55 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.20 | 0.20 | 0.20 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3422 | 270 | | | |
| Grp Volume(v), veh/h | 440 | 652 | 0 | 0 | 897 | 30 | 253 | 289 | 283 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1822 | | | |
| Q Serve(g_s), s | 4.9 | 4.3 | 0.0 | 0.0 | 10.0 | 0.7 | 5.9 | 6.5 | 6.6 | | | |
| Cycle Q Clear(g_c), s | 4.9 | 4.3 | 0.0 | 0.0 | 10.0 | 0.7 | 5.9 | 6.5 | 6.6 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.15 | | | |
| Lane Grp Cap(c), veh/h | 845 | 2026 | 0 | 0 | 793 | 354 | 360 | 378 | 369 | | | |
| V/C Ratio(X) | 0.52 | 0.32 | 0.00 | 0.00 | 1.13 | 0.08 | 0.70 | 0.76 | 0.77 | | | |
| Avail Cap(c_a), veh/h | 1388 | 2026 | 0 | 0 | 793 | 354 | 397 | 417 | 406 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.7 | 5.1 | 0.0 | 0.0 | 17.4 | 13.8 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 74.6 | 0.0 | 3.8 | 6.3 | 6.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.7 | 1.0 | 0.0 | 0.0 | 11.7 | 0.2 | 2.5 | 3.1 | 3.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.8 | 5.1 | 0.0 | 0.0 | 92.0 | 13.8 | 20.4 | 23.2 | 23.6 | | | |
| LnGrp LOS | B | A | A | A | F | B | C | C | C | | | |
| Approach Vol, veh/h | | 1092 | | | 927 | | | 825 | | | | |
| Approach Delay, s/veh | | 9.0 | | | 89.5 | | | 22.5 | | | | |
| Approach LOS | | A | | | F | | | C | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 30.7 | | | 15.6 | 15.1 | | 14.2 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.3 | | | 6.9 | 12.0 | | 8.6 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 39.2 |
| HCM 6th LOS | D |

**Notes**

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 560 | 45 | 15 | 510 | 25 | 85 | 5 | 10 | 15 | 35 | 365 |
| Future Volume (veh/h) | 50 | 560 | 45 | 15 | 510 | 25 | 85 | 5 | 10 | 15 | 35 | 365 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 609 | 44 | 16 | 554 | 25 | 92 | 5 | 1 | 16 | 38 | 90 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 156 | 1243 | 90 | 156 | 657 | 30 | 130 | 222 | 188 | 152 | 245 | 208 |
| Arrive On Green | 0.09 | 0.37 | 0.37 | 0.09 | 0.37 | 0.37 | 0.07 | 0.12 | 0.12 | 0.09 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3361 | 243 | 1781 | 1776 | 80 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 54 | 322 | 331 | 16 | 0 | 579 | 92 | 5 | 1 | 16 | 38 | 90 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1827 | 1781 | 0 | 1856 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.6 | 8.0 | 8.0 | 0.5 | 0.0 | 16.4 | 2.9 | 0.1 | 0.0 | 0.5 | 1.0 | 3.0 |
| Cycle Q Clear(g_c), s | 1.6 | 8.0 | 8.0 | 0.5 | 0.0 | 16.4 | 2.9 | 0.1 | 0.0 | 0.5 | 1.0 | 3.0 |
| Prop In Lane | 1.00 | | 0.13 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 156 | 657 | 676 | 156 | 0 | 686 | 130 | 222 | 188 | 152 | 245 | 208 |
| V/C Ratio(X) | 0.35 | 0.49 | 0.49 | 0.10 | 0.00 | 0.84 | 0.71 | 0.02 | 0.01 | 0.11 | 0.16 | 0.43 |
| Avail Cap(c_a), veh/h | 205 | 974 | 1001 | 202 | 0 | 1014 | 224 | 529 | 448 | 202 | 506 | 429 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.6 | 13.9 | 13.9 | 24.1 | 0.0 | 16.5 | 25.9 | 22.3 | 22.2 | 24.2 | 22.1 | 22.9 |
| Incr Delay (d2), s/veh | 1.3 | 0.6 | 0.6 | 0.3 | 0.0 | 4.4 | 6.9 | 0.0 | 0.0 | 0.3 | 0.3 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 2.9 | 3.0 | 0.2 | 0.0 | 6.3 | 1.4 | 0.1 | 0.0 | 0.2 | 0.4 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 25.9 | 14.4 | 14.4 | 24.4 | 0.0 | 20.9 | 32.8 | 22.3 | 22.3 | 24.5 | 22.4 | 24.3 |
| LnGrp LOS | C | B | B | C | A | C | C | C | C | C | C | C |
| Approach Vol, veh/h | | 707 | | | 595 | | | 98 | | | 144 | |
| Approach Delay, s/veh | | 15.3 | | | 21.0 | | | 32.2 | | | 23.8 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.6 | 26.3 | 8.8 | 12.6 | 9.6 | 26.3 | 9.5 | 11.9 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 31.4 | 7.2 | 15.5 | 6.6 | 31.3 | 6.5 | 16.2 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 10.0 | 4.9 | 5.0 | 3.6 | 18.4 | 2.5 | 2.1 |
| Green Ext Time (p_c), s | 0.0 | 4.1 | 0.0 | 0.3 | 0.0 | 2.8 | 0.0 | 0.0 |

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

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 185 | 5 | 670 | 100 |
| Future Volume (veh/h) | 0 | 0 | 185 | 5 | 670 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 197 | 3 | 713 | 106 |
| Peak Hour Factor | | | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 396 | 6 | 847 | 1562 |
| Arrive On Green | | | 0.22 | 0.22 | 0.48 | 0.84 |
| Sat Flow, veh/h | | | 1837 | 28 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 200 | 713 | 106 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1865 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.3 | 8.5 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.3 | 8.5 | 0.2 |
| Prop In Lane | | | | 0.01 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 402 | 847 | 1562 |
| V/C Ratio(X) | | | 0.00 | 0.50 | 0.84 | 0.07 |
| Avail Cap(c_a), veh/h | | | 0 | 3454 | 2346 | 3464 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 8.4 | 5.6 | 0.3 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.4 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.5 | 0.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 8.7 | 6.5 | 0.4 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 200 | | | 819 |
| Approach Delay, s/veh | | | 8.7 | | | 5.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.1 | 9.2 | | | | 24.3 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.6 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 4.3 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.2 | 0.7 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 30 | 135 | 5 | 5 | 50 | 5 | 5 | 5 | 5 | 0 | 5 | 50 |
| Future Vol, veh/h | 30 | 135 | 5 | 5 | 50 | 5 | 5 | 5 | 5 | 0 | 5 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 147 | 5 | 5 | 54 | 5 | 5 | 5 | 5 | 0 | 5 | 54 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 79 | 52 | 32 | 99 | 23 | 8 | 5 | 0 | 0 | - | - | 0 |
| Stage 1 | 32 | 32 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 47 | 20 | - | 81 | 5 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 910 | 839 | 1042 | 883 | 870 | 1074 | 1616 | - | - | 0 | - | - |
| Stage 1 | 984 | 868 | - | 1001 | 880 | - | - | - | - | 0 | - | - |
| Stage 2 | 967 | 879 | - | 927 | 892 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 860 | 836 | 1042 | 758 | 867 | 1074 | 1616 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 860 | 836 | - | 758 | 867 | - | - | - | - | - | - | - |
| Stage 1 | 981 | 868 | - | 998 | 877 | - | - | - | - | - | - | - |
| Stage 2 | 900 | 876 | - | 766 | 892 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.1 | 9.5 | 2.4 | 0 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1616 | - | - | 860 | 842 | 871 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.038 | 0.181 | 0.075 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 9.4 | 10.2 | 9.5 | - | - |
| HCM Lane LOS | A | A | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 0.7 | 0.2 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 140 | 25 | 5 | 195 | 25 | 125 | 30 | 20 | 30 | 35 | 230 |
| Future Volume (veh/h) | 420 | 140 | 25 | 5 | 195 | 25 | 125 | 30 | 20 | 30 | 35 | 230 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 457 | 152 | 19 | 5 | 212 | 20 | 136 | 33 | 1 | 33 | 38 | 15 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 648 | 584 | 73 | 12 | 299 | 28 | 265 | 278 | 236 | 96 | 111 | 180 |
| Arrive On Green | 0.19 | 0.36 | 0.36 | 0.01 | 0.18 | 0.18 | 0.15 | 0.15 | 0.15 | 0.11 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3456 | 1630 | 204 | 1781 | 1683 | 159 | 1781 | 1870 | 1585 | 850 | 978 | 1585 |
| Grp Volume(v), veh/h | 457 | 0 | 171 | 5 | 0 | 232 | 136 | 33 | 1 | 71 | 0 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 0 | 1834 | 1781 | 0 | 1842 | 1781 | 1870 | 1585 | 1828 | 0 | 1585 |
| Q Serve(g_s), s | 6.0 | 0.0 | 3.2 | 0.1 | 0.0 | 5.7 | 3.4 | 0.7 | 0.0 | 1.7 | 0.0 | 0.4 |
| Cycle Q Clear(g_c), s | 6.0 | 0.0 | 3.2 | 0.1 | 0.0 | 5.7 | 3.4 | 0.7 | 0.0 | 1.7 | 0.0 | 0.4 |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.09 | 1.00 | | 1.00 | 0.46 | | 1.00 |
| Lane Grp Cap(c), veh/h | 648 | 0 | 657 | 12 | 0 | 327 | 265 | 278 | 236 | 207 | 0 | 180 |
| V/C Ratio(X) | 0.71 | 0.00 | 0.26 | 0.42 | 0.00 | 0.71 | 0.51 | 0.12 | 0.00 | 0.34 | 0.00 | 0.08 |
| Avail Cap(c_a), veh/h | 1181 | 0 | 1174 | 188 | 0 | 744 | 461 | 484 | 410 | 511 | 0 | 443 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.4 | 0.0 | 11.0 | 23.9 | 0.0 | 18.7 | 18.9 | 17.8 | 17.5 | 19.7 | 0.0 | 19.2 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 0.2 | 21.6 | 0.0 | 2.8 | 1.5 | 0.2 | 0.0 | 1.0 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 1.0 | 0.1 | 0.0 | 2.2 | 1.3 | 0.3 | 0.0 | 0.7 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.8 | 0.0 | 11.2 | 45.4 | 0.0 | 21.5 | 20.5 | 18.0 | 17.5 | 20.7 | 0.0 | 19.4 |
| LnGrp LOS | B | A | B | D | A | C | C | B | B | C | A | B |
| Approach Vol, veh/h | | 628 | | | 237 | | | 170 | | | 86 | |
| Approach Delay, s/veh | | 17.4 | | | 22.0 | | | 20.0 | | | 20.5 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 21.8 | | 10.0 | 13.5 | 13.1 | | 11.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.1 | 30.9 | | 13.5 | 16.5 | 19.5 | | 12.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 5.2 | | 3.7 | 8.0 | 7.7 | | 5.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.8 | | 0.2 | 1.1 | 0.8 | | 0.3 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.0 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 160 | 680 | 5 | 340 | 500 | 10 | 5 | 20 | 55 | 15 | 70 | 185 |
| Future Volume (veh/h) | 160 | 680 | 5 | 340 | 500 | 10 | 5 | 20 | 55 | 15 | 70 | 185 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 739 | 2 | 370 | 543 | 10 | 5 | 22 | 1 | 16 | 76 | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 217 | 836 | 709 | 362 | 1887 | 35 | 52 | 55 | 47 | 103 | 108 | 91 |
| Arrive On Green | 0.12 | 0.45 | 0.45 | 0.20 | 0.53 | 0.53 | 0.03 | 0.03 | 0.03 | 0.06 | 0.06 | 0.06 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 3570 | 66 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 174 | 739 | 2 | 370 | 270 | 283 | 5 | 22 | 1 | 16 | 76 | 4 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1777 | 1859 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 7.2 | 27.4 | 0.1 | 15.4 | 6.4 | 6.4 | 0.2 | 0.9 | 0.0 | 0.6 | 3.0 | 0.2 |
| Cycle Q Clear(g_c), s | 7.2 | 27.4 | 0.1 | 15.4 | 6.4 | 6.4 | 0.2 | 0.9 | 0.0 | 0.6 | 3.0 | 0.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 217 | 836 | 709 | 362 | 939 | 983 | 52 | 55 | 47 | 103 | 108 | 91 |
| V/C Ratio(X) | 0.80 | 0.88 | 0.00 | 1.02 | 0.29 | 0.29 | 0.10 | 0.40 | 0.02 | 0.16 | 0.71 | 0.04 |
| Avail Cap(c_a), veh/h | 386 | 1096 | 929 | 362 | 1018 | 1065 | 118 | 123 | 105 | 125 | 131 | 111 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.4 | 19.1 | 11.6 | 30.2 | 9.9 | 9.9 | 35.8 | 36.1 | 35.7 | 33.9 | 35.1 | 33.7 |
| Incr Delay (d2), s/veh | 6.8 | 7.1 | 0.0 | 52.9 | 0.2 | 0.2 | 0.8 | 4.6 | 0.2 | 0.7 | 12.5 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 12.0 | 0.0 | 11.3 | 2.1 | 2.2 | 0.1 | 0.5 | 0.0 | 0.3 | 1.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.2 | 26.2 | 11.6 | 83.1 | 10.1 | 10.1 | 36.6 | 40.7 | 35.9 | 34.6 | 47.6 | 33.9 |
| LnGrp LOS | D | C | B | F | B | B | D | D | D | C | D | C |
| Approach Vol, veh/h | | 915 | | | 923 | | | 28 | | | 96 | |
| Approach Delay, s/veh | | 28.6 | | | 39.4 | | | 39.8 | | | 44.9 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 39.0 | | 9.5 | 13.8 | 45.2 | | 7.3 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 5.1 | 4.6 | 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 15.4 | 44.4 | | 5.3 | 16.4 | 43.4 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 17.4 | 29.4 | | 5.0 | 9.2 | 8.4 | | 2.9 |
| Green Ext Time (p_c), s | 0.0 | 4.5 | | 0.0 | 0.2 | 3.2 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 34.6 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 305 | 430 | 15 | 45 | 615 | 15 | 15 | 240 | 220 | 15 | 235 | 220 |
| Future Volume (veh/h) | 305 | 430 | 15 | 45 | 615 | 15 | 15 | 240 | 220 | 15 | 235 | 220 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 332 | 467 | 15 | 49 | 668 | 15 | 16 | 261 | 15 | 16 | 255 | 15 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 368 | 1002 | 32 | 71 | 709 | 16 | 164 | 374 | 167 | 164 | 374 | 167 |
| Arrive On Green | 0.21 | 0.56 | 0.56 | 0.04 | 0.39 | 0.39 | 0.09 | 0.11 | 0.11 | 0.09 | 0.11 | 0.11 |
| Sat Flow, veh/h | 1781 | 1802 | 58 | 1781 | 1822 | 41 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 332 | 0 | 482 | 49 | 0 | 683 | 16 | 261 | 15 | 16 | 255 | 15 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1860 | 1781 | 0 | 1863 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 15.8 | 0.0 | 13.5 | 2.4 | 0.0 | 30.8 | 0.7 | 6.2 | 0.7 | 0.7 | 6.0 | 0.7 |
| Cycle Q Clear(g_c), s | 15.8 | 0.0 | 13.5 | 2.4 | 0.0 | 30.8 | 0.7 | 6.2 | 0.7 | 0.7 | 6.0 | 0.7 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 368 | 0 | 1035 | 71 | 0 | 725 | 164 | 374 | 167 | 164 | 374 | 167 |
| V/C Ratio(X) | 0.90 | 0.00 | 0.47 | 0.69 | 0.00 | 0.94 | 0.10 | 0.70 | 0.09 | 0.10 | 0.68 | 0.09 |
| Avail Cap(c_a), veh/h | 399 | 0 | 1035 | 143 | 0 | 760 | 164 | 776 | 346 | 164 | 776 | 346 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.7 | 0.0 | 11.6 | 41.3 | 0.0 | 25.6 | 36.2 | 37.6 | 35.2 | 36.2 | 37.5 | 35.2 |
| Incr Delay (d2), s/veh | 22.0 | 0.0 | 0.3 | 11.3 | 0.0 | 19.4 | 0.3 | 2.4 | 0.2 | 0.3 | 2.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.6 | 0.0 | 4.8 | 1.2 | 0.0 | 16.0 | 0.3 | 2.7 | 0.3 | 0.3 | 2.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.7 | 0.0 | 11.9 | 52.5 | 0.0 | 45.0 | 36.5 | 40.0 | 35.4 | 36.5 | 39.7 | 35.4 |
| LnGrp LOS | E | A | B | D | A | D | D | D | D | D | D | D |
| Approach Vol, veh/h | | 814 | | | 732 | | | 292 | | | 286 | |
| Approach Delay, s/veh | | 29.8 | | | 45.5 | | | 39.5 | | | 39.3 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.5 | 13.7 | 8.0 | 52.9 | 12.5 | 13.7 | 22.5 | 38.4 |
| 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 | 8.0 | 19.0 | 7.0 | 48.0 | 8.0 | 19.0 | 19.5 | 35.5 |
| Max Q Clear Time (g_c+I1), s | 12.7 | 8.2 | 4.4 | 15.5 | 2.7 | 8.0 | 17.8 | 32.8 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | 0.0 | 2.9 | 0.0 | 1.0 | 0.2 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.8 |
| HCM 6th LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 95 | 215 | 385 | 115 | 550 | 65 | 155 | 390 | 295 | 90 | 465 | 60 |
| Future Volume (veh/h) | 95 | 215 | 385 | 115 | 550 | 65 | 155 | 390 | 295 | 90 | 465 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 103 | 234 | 309 | 125 | 598 | 14 | 168 | 424 | 126 | 98 | 505 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 832 | 557 | 163 | 890 | 391 | 217 | 968 | 570 | 127 | 788 | 344 |
| Arrive On Green | 0.08 | 0.23 | 0.23 | 0.09 | 0.25 | 0.25 | 0.12 | 0.27 | 0.27 | 0.07 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 3554 | 1555 | 1781 | 3554 | 1563 | 1781 | 3554 | 1558 | 1781 | 3554 | 1552 |
| Grp Volume(v), veh/h | 103 | 234 | 309 | 125 | 598 | 14 | 168 | 424 | 126 | 98 | 505 | 11 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1555 | 1781 | 1777 | 1563 | 1781 | 1777 | 1558 | 1781 | 1777 | 1552 |
| Q Serve(g_s), s | 3.1 | 2.9 | 8.7 | 3.7 | 8.3 | 0.4 | 5.0 | 5.4 | 3.0 | 2.9 | 7.0 | 0.3 |
| Cycle Q Clear(g_c), s | 3.1 | 2.9 | 8.7 | 3.7 | 8.3 | 0.4 | 5.0 | 5.4 | 3.0 | 2.9 | 7.0 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 134 | 832 | 557 | 163 | 890 | 391 | 217 | 968 | 570 | 127 | 788 | 344 |
| V/C Ratio(X) | 0.77 | 0.28 | 0.55 | 0.77 | 0.67 | 0.04 | 0.77 | 0.44 | 0.22 | 0.77 | 0.64 | 0.03 |
| Avail Cap(c_a), veh/h | 376 | 1403 | 808 | 409 | 1469 | 646 | 474 | 1795 | 932 | 344 | 1534 | 670 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 17.1 | 14.1 | 24.2 | 18.4 | 15.4 | 23.2 | 16.4 | 12.0 | 24.8 | 19.2 | 16.6 |
| Incr Delay (d2), s/veh | 8.9 | 0.2 | 0.9 | 7.3 | 0.9 | 0.0 | 5.8 | 0.3 | 0.2 | 9.4 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 1.0 | 2.5 | 1.7 | 2.9 | 0.1 | 2.1 | 1.8 | 0.9 | 1.4 | 2.5 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 33.6 | 17.3 | 14.9 | 31.5 | 19.3 | 15.5 | 28.9 | 16.7 | 12.2 | 34.3 | 20.1 | 16.6 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | C | B |
| Approach Vol, veh/h | | 646 | | | 737 | | | 718 | | | 614 | |
| Approach Delay, s/veh | | 18.8 | | | 21.3 | | | 18.8 | | | 22.3 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 19.3 | 9.5 | 17.2 | 11.1 | 16.6 | 8.6 | 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 Setting (Gmax), s | 10.5 | 27.5 | 12.5 | 21.5 | 14.5 | 23.5 | 11.5 | 22.5 |
| Max Q Clear Time (g_c+I1), s | 4.9 | 7.4 | 5.7 | 10.7 | 7.0 | 9.0 | 5.1 | 10.3 |
| Green Ext Time (p_c), s | 0.1 | 2.8 | 0.1 | 1.8 | 0.2 | 2.6 | 0.1 | 2.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.2 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 145 | 135 | 195 | 155 | 25 | 300 |
| Future Vol, veh/h | 145 | 135 | 195 | 155 | 25 | 300 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 154 | 144 | 207 | 165 | 27 | 319 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 666 | 293 | 0 | 0 | 375 | 0 |
| Stage 1 | 293 | - | - | - | - | - |
| Stage 2 | 373 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 425 | 746 | - | - | 1183 | - |
| Stage 1 | 757 | - | - | - | - | - |
| Stage 2 | 696 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 414 | 744 | - | - | 1180 | - |
| Mov Cap-2 Maneuver | 514 | - | - | - | - | - |
| Stage 1 | 755 | - | - | - | - | - |
| Stage 2 | 680 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.6 | 0 | 0.6 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 604 | 1180 | - |
| HCM Lane V/C Ratio | - | - | 0.493 | 0.023 | - |
| HCM Control Delay (s) | - | - | 16.6 | 8.1 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.7 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 150 | 100 | 60 | 100 | 60 | 30 | 40 | 170 | 30 | 170 | 205 | 70 |
| Future Vol, veh/h | 150 | 100 | 60 | 100 | 60 | 30 | 40 | 170 | 30 | 170 | 205 | 70 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 106 | 64 | 106 | 64 | 32 | 43 | 181 | 32 | 181 | 218 | 74 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 19.4 | 14.6 | 14.7 | 16.4 |
| HCM LOS | C | B | B | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 48% | 53% | 100% | 0% |
| Vol Thru, % | 0% | 85% | 32% | 32% | 0% | 75% |
| Vol Right, % | 0% | 15% | 19% | 16% | 0% | 25% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 40 | 200 | 310 | 190 | 170 | 275 |
| LT Vol | 40 | 0 | 150 | 100 | 170 | 0 |
| Through Vol | 0 | 170 | 100 | 60 | 0 | 205 |
| RT Vol | 0 | 30 | 60 | 30 | 0 | 70 |
| Lane Flow Rate | 43 | 213 | 330 | 202 | 181 | 293 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.093 | 0.426 | 0.606 | 0.393 | 0.374 | 0.549 |
| Departure Headway (Hd) | 7.829 | 7.206 | 6.612 | 6.997 | 7.454 | 6.758 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 457 | 498 | 544 | 513 | 481 | 532 |
| Service Time | 5.592 | 4.969 | 4.665 | 5.061 | 5.212 | 4.516 |
| HCM Lane V/C Ratio | 0.094 | 0.428 | 0.607 | 0.394 | 0.376 | 0.551 |
| HCM Control Delay | 11.4 | 15.3 | 19.4 | 14.6 | 14.6 | 17.5 |
| HCM Lane LOS | B | C | C | B | B | C |
| HCM 95th-tile Q | 0.3 | 2.1 | 4 | 1.9 | 1.7 | 3.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 115 | 75 | 30 | 155 | 195 | 60 | 35 | 425 | 120 | 195 | 350 | 80 |
| Future Volume (veh/h) | 115 | 75 | 30 | 155 | 195 | 60 | 35 | 425 | 120 | 195 | 350 | 80 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 125 | 82 | 11 | 168 | 212 | 49 | 38 | 462 | 94 | 212 | 380 | 59 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 161 | 243 | 33 | 232 | 280 | 65 | 72 | 666 | 135 | 277 | 1053 | 162 |
| Arrive On Green | 0.09 | 0.15 | 0.15 | 0.13 | 0.19 | 0.19 | 0.04 | 0.23 | 0.23 | 0.16 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1781 | 1615 | 217 | 1781 | 1470 | 340 | 1781 | 2945 | 595 | 1781 | 3086 | 475 |
| Grp Volume(v), veh/h | 125 | 0 | 93 | 168 | 0 | 261 | 38 | 278 | 278 | 212 | 217 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1831 | 1781 | 0 | 1809 | 1781 | 1777 | 1763 | 1781 | 1777 | 1785 |
| Q Serve(g_s), s | 3.7 | 0.0 | 2.4 | 4.8 | 0.0 | 7.3 | 1.1 | 7.6 | 7.7 | 6.1 | 4.9 | 5.0 |
| Cycle Q Clear(g_c), s | 3.7 | 0.0 | 2.4 | 4.8 | 0.0 | 7.3 | 1.1 | 7.6 | 7.7 | 6.1 | 4.9 | 5.0 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 0.19 | 1.00 | | 0.34 | 1.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | 161 | 0 | 276 | 232 | 0 | 345 | 72 | 402 | 399 | 277 | 607 | 609 |
| V/C Ratio(X) | 0.78 | 0.00 | 0.34 | 0.72 | 0.00 | 0.76 | 0.53 | 0.69 | 0.70 | 0.76 | 0.36 | 0.36 |
| Avail Cap(c_a), veh/h | 284 | 0 | 618 | 350 | 0 | 678 | 250 | 699 | 694 | 417 | 866 | 870 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 0.0 | 20.3 | 22.3 | 0.0 | 20.4 | 25.1 | 18.9 | 19.0 | 21.6 | 13.2 | 13.2 |
| Incr Delay (d2), s/veh | 7.7 | 0.0 | 0.7 | 4.2 | 0.0 | 3.4 | 5.9 | 2.1 | 2.2 | 4.6 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.0 | 0.9 | 1.9 | 0.0 | 2.8 | 0.5 | 2.8 | 2.9 | 2.5 | 1.6 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.5 | 0.0 | 21.0 | 26.5 | 0.0 | 23.8 | 31.0 | 21.1 | 21.2 | 26.2 | 13.5 | 13.6 |
| LnGrp LOS | C | A | C | C | A | C | C | C | C | C | B | B |
| Approach Vol, veh/h | | 218 | | | 429 | | | 594 | | | 651 | |
| Approach Delay, s/veh | | 27.0 | | | 24.9 | | | 21.8 | | | 17.7 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 16.6 | 11.5 | 12.5 | 6.7 | 22.7 | 9.3 | 14.7 |
| 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 | 12.5 | 21.0 | 10.5 | 18.0 | 7.5 | 26.0 | 8.5 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 9.7 | 6.8 | 4.4 | 3.1 | 7.0 | 5.7 | 9.3 |
| Green Ext Time (p_c), s | 0.2 | 2.3 | 0.1 | 0.3 | 0.0 | 2.2 | 0.1 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.7 |
| HCM 6th LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 460 | 60 | 360 | 440 | 0 | 0 | 0 | 0 | 95 | 190 | 120 |
| Future Volume (veh/h) | 0 | 460 | 60 | 360 | 440 | 0 | 0 | 0 | 0 | 95 | 190 | 120 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 489 | 13 | 383 | 468 | 0 | | | | 101 | 202 | 21 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 809 | 361 | 811 | 2021 | 0 | | | | 366 | 668 | 69 |
| Arrive On Green | 0.00 | 0.23 | 0.23 | 0.23 | 0.57 | 0.00 | | | | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3252 | 335 |
| Grp Volume(v), veh/h | 0 | 489 | 13 | 383 | 468 | 0 | | | | 101 | 109 | 114 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1810 |
| Q Serve(g_s), s | 0.0 | 4.6 | 0.2 | 3.6 | 2.5 | 0.0 | | | | 1.8 | 2.0 | 2.0 |
| Cycle Q Clear(g_c), s | 0.0 | 4.6 | 0.2 | 3.6 | 2.5 | 0.0 | | | | 1.8 | 2.0 | 2.0 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.18 |
| Lane Grp Cap(c), veh/h | 0 | 809 | 361 | 811 | 2021 | 0 | | | | 366 | 365 | 372 |
| V/C Ratio(X) | 0.00 | 0.60 | 0.04 | 0.47 | 0.23 | 0.00 | | | | 0.28 | 0.30 | 0.31 |
| Avail Cap(c_a), veh/h | 0 | 2172 | 969 | 827 | 3400 | 0 | | | | 1823 | 1818 | 1852 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.0 | 11.3 | 12.4 | 4.0 | 0.0 | | | | 12.6 | 12.7 | 12.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | | | | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.4 | 0.1 | 1.1 | 0.4 | 0.0 | | | | 0.5 | 0.6 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.3 | 11.3 | 12.5 | 4.1 | 0.0 | | | | 12.7 | 12.8 | 12.8 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 502 | | | 851 | | | | | | 324 | |
| Approach Delay, s/veh | | 13.2 | | | 7.9 | | | | | | 12.8 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 12.6 | | 12.2 | | 25.4 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 6.6 | | 4.0 | | 4.5 |
| Green Ext Time (p_c), s | 0.3 | 1.9 | | 0.8 | | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.4 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 405 | 0 | 0 | 660 | 40 | 140 | 275 | 405 | 0 | 0 | 0 |
| Future Volume (veh/h) | 150 | 405 | 0 | 0 | 660 | 40 | 140 | 275 | 405 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 155 | 418 | 0 | 0 | 680 | 11 | 144 | 284 | 194 | | | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 484 | 1881 | 0 | 0 | 989 | 441 | 402 | 474 | 314 | | | |
| Arrive On Green | 0.14 | 0.53 | 0.00 | 0.00 | 0.28 | 0.28 | 0.23 | 0.23 | 0.23 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 2100 | 1390 | | | |
| Grp Volume(v), veh/h | 155 | 418 | 0 | 0 | 680 | 11 | 144 | 252 | 226 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1620 | | | |
| Q Serve(g_s), s | 1.7 | 2.6 | 0.0 | 0.0 | 7.1 | 0.2 | 2.8 | 5.0 | 5.2 | | | |
| Cycle Q Clear(g_c), s | 1.7 | 2.6 | 0.0 | 0.0 | 7.1 | 0.2 | 2.8 | 5.0 | 5.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.86 | | | |
| Lane Grp Cap(c), veh/h | 484 | 1881 | 0 | 0 | 989 | 441 | 402 | 422 | 366 | | | |
| V/C Ratio(X) | 0.32 | 0.22 | 0.00 | 0.00 | 0.69 | 0.02 | 0.36 | 0.60 | 0.62 | | | |
| Avail Cap(c_a), veh/h | 748 | 2819 | 0 | 0 | 1794 | 800 | 1541 | 1618 | 1402 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 16.1 | 5.2 | 0.0 | 0.0 | 13.4 | 10.9 | 13.6 | 14.4 | 14.5 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.2 | 0.5 | 0.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.6 | 0.0 | 0.0 | 2.2 | 0.1 | 1.0 | 1.8 | 1.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.2 | 5.2 | 0.0 | 0.0 | 13.7 | 10.9 | 13.8 | 14.9 | 15.1 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 573 | | | 691 | | | 622 | | | | |
| Approach Delay, s/veh | | 8.2 | | | 13.7 | | | 14.7 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 27.1 | | | 10.4 | 16.7 | | 14.5 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.6 | | | 3.7 | 9.1 | | 7.2 | | | | |
| Green Ext Time (p_c), s | | 1.8 | | | 0.1 | 2.5 | | 2.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.4 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 620 | 55 | 510 | 670 | 0 | 75 | 0 | 150 | 245 | 135 | 230 |
| Future Volume (veh/h) | 0 | 620 | 55 | 510 | 670 | 0 | 75 | 0 | 150 | 245 | 135 | 230 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 674 | 21 | 554 | 728 | 0 | 82 | 0 | 163 | 266 | 147 | 111 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 967 | 690 | 461 | 1653 | 0 | 90 | 0 | 179 | 345 | 385 | 272 |
| Arrive On Green | 0.00 | 0.27 | 0.27 | 0.13 | 0.47 | 0.00 | 0.16 | 0.00 | 0.16 | 0.19 | 0.19 | 0.19 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 551 | 0 | 1095 | 1781 | 1989 | 1403 |
| Grp Volume(v), veh/h | 0 | 674 | 21 | 554 | 728 | 0 | 245 | 0 | 0 | 266 | 130 | 128 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1646 | 0 | 0 | 1781 | 1777 | 1615 |
| Q Serve(g_s), s | 0.0 | 11.5 | 0.5 | 9.0 | 9.3 | 0.0 | 9.9 | 0.0 | 0.0 | 9.5 | 4.3 | 4.7 |
| Cycle Q Clear(g_c), s | 0.0 | 11.5 | 0.5 | 9.0 | 9.3 | 0.0 | 9.9 | 0.0 | 0.0 | 9.5 | 4.3 | 4.7 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.33 | | 0.67 | 1.00 | | 0.87 |
| Lane Grp Cap(c), veh/h | 0 | 967 | 690 | 461 | 1653 | 0 | 269 | 0 | 0 | 345 | 344 | 313 |
| V/C Ratio(X) | 0.00 | 0.70 | 0.03 | 1.20 | 0.44 | 0.00 | 0.91 | 0.00 | 0.00 | 0.77 | 0.38 | 0.41 |
| Avail Cap(c_a), veh/h | 0 | 1213 | 800 | 461 | 1898 | 0 | 269 | 0 | 0 | 872 | 870 | 791 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 22.0 | 10.9 | 29.2 | 12.1 | 0.0 | 27.7 | 0.0 | 0.0 | 25.8 | 23.6 | 23.8 |
| Incr Delay (d2), s/veh | 0.0 | 2.2 | 0.0 | 109.5 | 0.2 | 0.0 | 32.2 | 0.0 | 0.0 | 1.4 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 4.8 | 0.2 | 10.6 | 3.3 | 0.0 | 6.0 | 0.0 | 0.0 | 4.0 | 1.7 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 24.2 | 10.9 | 138.7 | 12.3 | 0.0 | 59.9 | 0.0 | 0.0 | 27.1 | 23.9 | 24.1 |
| LnGrp LOS | A | C | B | F | B | A | E | A | A | C | C | C |
| Approach Vol, veh/h | | 695 | | | 1282 | | | 245 | | | 524 | |
| Approach Delay, s/veh | | 23.8 | | | 66.9 | | | 59.9 | | | 25.6 | |
| Approach LOS | | C | | | E | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 22.3 | | 17.1 | | 35.3 | | 15.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 13.5 | | 11.5 | | 11.3 | | 11.9 |
| Green Ext Time (p_c), s | 0.0 | 4.9 | | 1.3 | | 5.4 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.5 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 595 | 0 | 0 | 765 | 110 | 415 | 290 | 65 | 0 | 0 | 0 |
| Future Volume (veh/h) | 420 | 595 | 0 | 0 | 765 | 110 | 415 | 290 | 65 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 429 | 607 | 0 | 0 | 781 | 22 | 255 | 531 | 46 | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 843 | 2023 | 0 | 0 | 792 | 353 | 362 | 690 | 60 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.20 | 0.20 | 0.20 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3395 | 293 | | | |
| Grp Volume(v), veh/h | 429 | 607 | 0 | 0 | 781 | 22 | 255 | 292 | 285 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1818 | | | |
| Q Serve(g_s), s | 4.8 | 4.0 | 0.0 | 0.0 | 9.8 | 0.5 | 6.0 | 6.6 | 6.6 | | | |
| Cycle Q Clear(g_c), s | 4.8 | 4.0 | 0.0 | 0.0 | 9.8 | 0.5 | 6.0 | 6.6 | 6.6 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.16 | | | |
| Lane Grp Cap(c), veh/h | 843 | 2023 | 0 | 0 | 792 | 353 | 362 | 380 | 370 | | | |
| V/C Ratio(X) | 0.51 | 0.30 | 0.00 | 0.00 | 0.99 | 0.06 | 0.70 | 0.77 | 0.77 | | | |
| Avail Cap(c_a), veh/h | 1386 | 2023 | 0 | 0 | 792 | 353 | 397 | 417 | 405 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.6 | 5.0 | 0.0 | 0.0 | 17.4 | 13.7 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 28.4 | 0.0 | 3.9 | 6.6 | 7.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.9 | 0.0 | 0.0 | 6.5 | 0.2 | 2.5 | 3.1 | 3.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.8 | 5.1 | 0.0 | 0.0 | 45.8 | 13.8 | 20.5 | 23.5 | 23.9 | | | |
| LnGrp LOS | B | A | A | A | D | B | C | C | C | | | |
| Approach Vol, veh/h | | 1036 | | | 803 | | | 832 | | | | |
| Approach Delay, s/veh | | 9.1 | | | 44.9 | | | 22.7 | | | | |
| Approach LOS | | A | | | D | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.6 | | | 15.5 | 15.1 | | 14.2 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.0 | | | 6.8 | 11.8 | | 8.6 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.1 |
| HCM 6th LOS | C |

**Notes**

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 570 | 45 | 10 | 450 | 20 | 30 | 5 | 30 | 15 | 30 | 395 |
| Future Volume (veh/h) | 45 | 570 | 45 | 10 | 450 | 20 | 30 | 5 | 30 | 15 | 30 | 395 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 613 | 40 | 11 | 484 | 20 | 32 | 5 | 5 | 16 | 32 | 77 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 90 | 1302 | 85 | 25 | 621 | 26 | 65 | 270 | 229 | 36 | 239 | 203 |
| Arrive On Green | 0.05 | 0.38 | 0.38 | 0.01 | 0.35 | 0.35 | 0.04 | 0.14 | 0.14 | 0.02 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3387 | 221 | 1781 | 1783 | 74 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 48 | 321 | 332 | 11 | 0 | 504 | 32 | 5 | 5 | 16 | 32 | 77 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1831 | 1781 | 0 | 1857 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.2 | 6.0 | 6.1 | 0.3 | 0.0 | 10.8 | 0.8 | 0.1 | 0.1 | 0.4 | 0.7 | 2.0 |
| Cycle Q Clear(g_c), s | 1.2 | 6.0 | 6.1 | 0.3 | 0.0 | 10.8 | 0.8 | 0.1 | 0.1 | 0.4 | 0.7 | 2.0 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 90 | 683 | 704 | 25 | 0 | 647 | 65 | 270 | 229 | 36 | 239 | 203 |
| V/C Ratio(X) | 0.54 | 0.47 | 0.47 | 0.43 | 0.00 | 0.78 | 0.49 | 0.02 | 0.02 | 0.45 | 0.13 | 0.38 |
| Avail Cap(c_a), veh/h | 265 | 1224 | 1261 | 261 | 0 | 1275 | 265 | 716 | 607 | 261 | 712 | 603 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.6 | 10.3 | 10.3 | 21.7 | 0.0 | 12.9 | 21.0 | 16.3 | 16.3 | 21.5 | 17.2 | 17.8 |
| Incr Delay (d2), s/veh | 4.9 | 0.5 | 0.5 | 11.1 | 0.0 | 2.1 | 5.6 | 0.0 | 0.0 | 8.4 | 0.3 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 1.9 | 2.0 | 0.2 | 0.0 | 3.5 | 0.4 | 0.0 | 0.0 | 0.2 | 0.3 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 25.5 | 10.8 | 10.8 | 32.9 | 0.0 | 15.0 | 26.5 | 16.3 | 16.3 | 29.9 | 17.4 | 18.9 |
| LnGrp LOS | C | B | B | C | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 701 | | | 515 | | | 42 | | | 125 | |
| Approach Delay, s/veh | | 11.8 | | | 15.4 | | | 24.1 | | | 20.0 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 22.2 | 6.2 | 10.8 | 6.8 | 20.6 | 5.5 | 11.5 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 30.6 | 6.6 | 16.9 | 6.6 | 30.5 | 6.5 | 17.0 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 8.1 | 2.8 | 4.0 | 3.2 | 12.8 | 2.4 | 2.1 |
| Green Ext Time (p_c), s | 0.0 | 4.1 | 0.0 | 0.3 | 0.0 | 2.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.2 |
| HCM 6th LOS | B |

**Notes**

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 225 | 15 | 600 | 100 |
| Future Volume (veh/h) | 0 | 0 | 225 | 15 | 600 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 237 | 12 | 632 | 105 |
| Peak Hour Factor | | | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 416 | 21 | 774 | 1541 |
| Arrive On Green | | | 0.24 | 0.24 | 0.43 | 0.82 |
| Sat Flow, veh/h | | | 1765 | 89 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 249 | 632 | 105 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1854 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.7 | 7.1 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.7 | 7.1 | 0.2 |
| Prop In Lane | | | | 0.05 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 437 | 774 | 1541 |
| V/C Ratio(X) | | | 0.00 | 0.57 | 0.82 | 0.07 |
| Avail Cap(c_a), veh/h | | | 0 | 3671 | 2508 | 3703 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 7.7 | 5.6 | 0.4 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.4 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.5 | 0.6 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 8.1 | 6.5 | 0.4 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 249 | | | 737 |
| Approach Delay, s/veh | | | 8.1 | | | 5.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 9.4 | | | | 22.7 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.6 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 9.1 | 4.7 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.0 | 0.9 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.2 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 45 | 35 | 5 | 5 | 5 | 50 | 5 | 5 | 5 | 10 | 150 | 5 |
| Future Vol, veh/h | 45 | 35 | 5 | 5 | 5 | 50 | 5 | 5 | 5 | 10 | 150 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 49 | 38 | 5 | 5 | 5 | 54 | 5 | 5 | 5 | 11 | 163 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 235 | 208 | 166 | 225 | 203 | 8 | 163 | 0 | 0 | 10 | 0 | 0 |
| Stage 1 | 188 | 188 | - | 18 | 18 | - | - | - | - | - | - | - |
| Stage 2 | 47 | 20 | - | 207 | 185 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 720 | 689 | 878 | 730 | 693 | 1074 | 1416 | - | - | 1610 | - | - |
| Stage 1 | 814 | 745 | - | 1001 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 967 | 879 | - | 795 | 747 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 673 | 681 | 878 | 688 | 685 | 1074 | 1416 | - | - | 1610 | - | - |
| Mov Cap-2 Maneuver | 673 | 681 | - | 688 | 685 | - | - | - | - | - | - | - |
| Stage 1 | 811 | 739 | - | 997 | 876 | - | - | - | - | - | - | - |
| Stage 2 | 909 | 875 | - | 743 | 741 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.7 | 8.9 | 2.5 | 0.4 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1416 | - | - | 673 | 701 | 982 | 1610 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | - | 0.073 | 0.062 | 0.066 | 0.007 | - | - |
| HCM Control Delay (s) | 7.6 | 0 | - | 10.8 | 10.5 | 8.9 | 7.3 | - | - |
| HCM Lane LOS | A | A | - | B | B | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.2 | 0.2 | 0.2 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 430 | 160 | 25 | 15 | 175 | 55 | 100 | 45 | 20 | 30 | 15 | 205 |
| Future Volume (veh/h) | 430 | 160 | 25 | 15 | 175 | 55 | 100 | 45 | 20 | 30 | 15 | 205 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 467 | 174 | 19 | 16 | 190 | 45 | 109 | 49 | 1 | 33 | 16 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 642 | 568 | 62 | 35 | 258 | 61 | 267 | 281 | 238 | 183 | 89 | 238 |
| Arrive On Green | 0.19 | 0.34 | 0.34 | 0.02 | 0.18 | 0.18 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Sat Flow, veh/h | 3456 | 1657 | 181 | 1781 | 1462 | 346 | 1781 | 1870 | 1585 | 1219 | 591 | 1585 |
| Grp Volume(v), veh/h | 467 | 0 | 193 | 16 | 0 | 235 | 109 | 49 | 1 | 49 | 0 | 13 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 0 | 1838 | 1781 | 0 | 1808 | 1781 | 1870 | 1585 | 1809 | 0 | 1585 |
| Q Serve(g_s), s | 6.8 | 0.0 | 4.1 | 0.5 | 0.0 | 6.6 | 3.0 | 1.2 | 0.0 | 1.3 | 0.0 | 0.4 |
| Cycle Q Clear(g_c), s | 6.8 | 0.0 | 4.1 | 0.5 | 0.0 | 6.6 | 3.0 | 1.2 | 0.0 | 1.3 | 0.0 | 0.4 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.19 | 1.00 | | 1.00 | 0.67 | | 1.00 |
| Lane Grp Cap(c), veh/h | 642 | 0 | 630 | 35 | 0 | 319 | 267 | 281 | 238 | 271 | 0 | 238 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.31 | 0.45 | 0.00 | 0.74 | 0.41 | 0.17 | 0.00 | 0.18 | 0.00 | 0.05 |
| Avail Cap(c_a), veh/h | 1134 | 0 | 1124 | 170 | 0 | 685 | 354 | 372 | 315 | 465 | 0 | 407 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.4 | 0.0 | 12.9 | 25.8 | 0.0 | 20.8 | 20.5 | 19.8 | 19.3 | 19.8 | 0.0 | 19.4 |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.3 | 8.9 | 0.0 | 3.3 | 1.0 | 0.3 | 0.0 | 0.3 | 0.0 | 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 | 2.4 | 0.0 | 1.4 | 0.3 | 0.0 | 2.6 | 1.1 | 0.5 | 0.0 | 0.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.0 | 0.0 | 13.1 | 34.7 | 0.0 | 24.1 | 21.5 | 20.1 | 19.3 | 20.1 | 0.0 | 19.5 |
| LnGrp LOS | C | A | B | C | A | C | C | C | B | C | A | B |
| Approach Vol, veh/h | | 660 | | | 251 | | | 159 | | | 62 | |
| Approach Delay, s/veh | | 19.4 | | | 24.8 | | | 21.1 | | | 20.0 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 22.8 | | 12.5 | 14.4 | 13.9 | | 12.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | 5.1 | 32.6 | | 13.7 | 17.5 | 20.2 | | 10.6 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 6.1 | | 3.3 | 8.8 | 8.6 | | 5.0 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | | 0.1 | 1.1 | 0.9 | | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.9 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 675 | 5 | 420 | 510 | 30 | 5 | 25 | 40 | 10 | 15 | 185 |
| Future Volume (veh/h) | 130 | 675 | 5 | 420 | 510 | 30 | 5 | 25 | 40 | 10 | 15 | 185 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 734 | 2 | 457 | 554 | 28 | 5 | 27 | 0 | 11 | 16 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 180 | 832 | 705 | 398 | 1951 | 98 | 58 | 61 | 52 | 51 | 54 | 46 |
| Arrive On Green | 0.10 | 0.44 | 0.44 | 0.22 | 0.57 | 0.57 | 0.03 | 0.03 | 0.00 | 0.03 | 0.03 | 0.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 3442 | 174 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 141 | 734 | 2 | 457 | 286 | 296 | 5 | 27 | 0 | 11 | 16 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1777 | 1839 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 5.7 | 26.4 | 0.1 | 16.4 | 6.1 | 6.1 | 0.2 | 1.0 | 0.0 | 0.4 | 0.6 | 0.0 |
| Cycle Q Clear(g_c), s | 5.7 | 26.4 | 0.1 | 16.4 | 6.1 | 6.1 | 0.2 | 1.0 | 0.0 | 0.4 | 0.6 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 180 | 832 | 705 | 398 | 1007 | 1042 | 58 | 61 | 52 | 51 | 54 | 46 |
| V/C Ratio(X) | 0.78 | 0.88 | 0.00 | 1.15 | 0.28 | 0.28 | 0.09 | 0.44 | 0.00 | 0.21 | 0.30 | 0.00 |
| Avail Cap(c_a), veh/h | 356 | 1110 | 940 | 398 | 1095 | 1134 | 121 | 127 | 108 | 124 | 130 | 110 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 32.3 | 18.7 | 11.3 | 28.5 | 8.2 | 8.2 | 34.5 | 34.9 | 0.0 | 34.9 | 35.0 | 0.0 |
| Incr Delay (d2), s/veh | 7.3 | 6.8 | 0.0 | 92.6 | 0.2 | 0.1 | 0.6 | 5.0 | 0.0 | 2.1 | 3.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 11.2 | 0.0 | 16.5 | 1.8 | 1.9 | 0.1 | 0.5 | 0.0 | 0.2 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.6 | 25.4 | 11.4 | 121.2 | 8.4 | 8.4 | 35.1 | 39.8 | 0.0 | 36.9 | 38.0 | 0.0 |
| LnGrp LOS | D | C | B | F | A | A | D | D | A | D | D | A |
| Approach Vol, veh/h | | 877 | | | 1039 | | | 32 | | | 27 | |
| Approach Delay, s/veh | | 27.7 | | | 58.0 | | | 39.1 | | | 37.5 | |
| Approach LOS | | C | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.0 | 37.8 | | 7.2 | 12.0 | 46.8 | | 7.5 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 5.1 | 4.6 | 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 16.4 | 43.6 | | 5.1 | 14.7 | 45.3 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 18.4 | 28.4 | | 2.6 | 7.7 | 8.1 | | 3.0 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | | 0.0 | 0.2 | 3.4 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 43.9 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 300 | 410 | 15 | 55 | 575 | 10 | 35 | 255 | 240 | 5 | 180 | 350 |
| Future Volume (veh/h) | 300 | 410 | 15 | 55 | 575 | 10 | 35 | 255 | 240 | 5 | 180 | 350 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 326 | 446 | 15 | 60 | 625 | 10 | 38 | 277 | 29 | 5 | 196 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 374 | 968 | 33 | 88 | 693 | 11 | 67 | 520 | 232 | 12 | 410 | 183 |
| Arrive On Green | 0.21 | 0.54 | 0.54 | 0.05 | 0.38 | 0.38 | 0.04 | 0.15 | 0.15 | 0.01 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 1799 | 61 | 1781 | 1836 | 29 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 326 | 0 | 461 | 60 | 0 | 635 | 38 | 277 | 29 | 5 | 196 | 33 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1859 | 1781 | 0 | 1865 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 12.3 | 0.0 | 10.6 | 2.3 | 0.0 | 22.3 | 1.5 | 5.0 | 1.1 | 0.2 | 3.6 | 1.3 |
| Cycle Q Clear(g_c), s | 12.3 | 0.0 | 10.6 | 2.3 | 0.0 | 22.3 | 1.5 | 5.0 | 1.1 | 0.2 | 3.6 | 1.3 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 374 | 0 | 1000 | 88 | 0 | 704 | 67 | 520 | 232 | 12 | 410 | 183 |
| V/C Ratio(X) | 0.87 | 0.00 | 0.46 | 0.68 | 0.00 | 0.90 | 0.57 | 0.53 | 0.13 | 0.42 | 0.48 | 0.18 |
| Avail Cap(c_a), veh/h | 450 | 0 | 1041 | 221 | 0 | 805 | 131 | 1005 | 448 | 129 | 1000 | 446 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.5 | 0.0 | 9.8 | 32.4 | 0.0 | 20.4 | 32.8 | 27.4 | 25.7 | 34.3 | 28.7 | 27.7 |
| Incr Delay (d2), s/veh | 14.8 | 0.0 | 0.3 | 8.9 | 0.0 | 12.4 | 7.4 | 0.8 | 0.2 | 22.3 | 0.9 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.2 | 0.0 | 3.4 | 1.1 | 0.0 | 10.5 | 0.7 | 2.0 | 0.4 | 0.2 | 1.4 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.2 | 0.0 | 10.2 | 41.3 | 0.0 | 32.7 | 40.2 | 28.2 | 26.0 | 56.6 | 29.5 | 28.1 |
| LnGrp LOS | D | A | B | D | A | C | D | C | C | E | C | C |
| Approach Vol, veh/h | | 787 | | | 695 | | | 344 | | | 234 | |
| Approach Delay, s/veh | | 23.0 | | | 33.5 | | | 29.4 | | | 29.9 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 14.6 | 7.9 | 41.8 | 7.1 | 12.5 | 19.1 | 30.6 |
| 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 | 5.0 | 19.6 | 8.6 | 38.8 | 5.1 | 19.5 | 17.5 | 29.9 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 7.0 | 4.3 | 12.6 | 3.5 | 5.6 | 14.3 | 24.3 |
| Green Ext Time (p_c), s | 0.0 | 1.1 | 0.0 | 2.7 | 0.0 | 0.9 | 0.3 | 1.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.4 |
| HCM 6th LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 360 | 386 | 222 | 705 | 75 | 198 | 462 | 395 | 80 | 440 | 45 |
| Future Volume (veh/h) | 50 | 360 | 386 | 222 | 705 | 75 | 198 | 462 | 395 | 80 | 440 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 391 | 322 | 241 | 766 | 9 | 215 | 502 | 374 | 87 | 478 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 85 | 794 | 579 | 289 | 1201 | 529 | 261 | 979 | 687 | 112 | 682 | 304 |
| Arrive On Green | 0.05 | 0.22 | 0.22 | 0.16 | 0.34 | 0.34 | 0.15 | 0.28 | 0.28 | 0.06 | 0.19 | 0.00 |
| Sat Flow, veh/h | 1781 | 3554 | 1555 | 1781 | 3554 | 1564 | 1781 | 3554 | 1558 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 54 | 391 | 322 | 241 | 766 | 9 | 215 | 502 | 374 | 87 | 478 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1555 | 1781 | 1777 | 1564 | 1781 | 1777 | 1558 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 1.9 | 6.3 | 10.7 | 8.6 | 11.9 | 0.3 | 7.6 | 7.8 | 11.6 | 3.1 | 8.2 | 0.0 |
| Cycle Q Clear(g_c), s | 1.9 | 6.3 | 10.7 | 8.6 | 11.9 | 0.3 | 7.6 | 7.8 | 11.6 | 3.1 | 8.2 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 85 | 794 | 579 | 289 | 1201 | 529 | 261 | 979 | 687 | 112 | 682 | 304 |
| V/C Ratio(X) | 0.63 | 0.49 | 0.56 | 0.83 | 0.64 | 0.02 | 0.82 | 0.51 | 0.54 | 0.78 | 0.70 | 0.00 |
| Avail Cap(c_a), veh/h | 180 | 980 | 661 | 368 | 1356 | 596 | 314 | 1296 | 826 | 183 | 1034 | 461 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 30.5 | 22.1 | 16.3 | 26.5 | 18.2 | 14.4 | 27.0 | 19.9 | 13.6 | 30.1 | 24.6 | 0.0 |
| Incr Delay (d2), s/veh | 7.6 | 0.5 | 0.8 | 12.2 | 0.8 | 0.0 | 13.9 | 0.4 | 0.7 | 11.0 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 2.4 | 3.3 | 4.2 | 4.3 | 0.1 | 3.9 | 2.9 | 3.4 | 1.6 | 3.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.1 | 22.6 | 17.2 | 38.7 | 19.1 | 14.4 | 41.0 | 20.4 | 14.2 | 41.1 | 25.9 | 0.0 |
| LnGrp LOS | D | C | B | D | B | B | D | C | B | D | C | A |
| Approach Vol, veh/h | | 767 | | | 1016 | | | 1091 | | | 565 | |
| Approach Delay, s/veh | | 21.4 | | | 23.7 | | | 22.3 | | | 28.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 22.5 | 15.1 | 19.1 | 14.1 | 17.0 | 7.6 | 26.6 |
| 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 | 6.7 | 23.8 | 13.5 | 18.0 | 11.5 | 19.0 | 6.6 | 24.9 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 13.6 | 10.6 | 12.7 | 9.6 | 10.2 | 3.9 | 13.9 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.2 | 1.7 | 0.1 | 1.9 | 0.0 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.5 |
| HCM 6th LOS | C |

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

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 142 | 107 | 225 | 233 | 42 | 250 |
| Future Vol, veh/h | 142 | 107 | 225 | 233 | 42 | 250 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 154 | 116 | 245 | 253 | 46 | 272 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 739 | 375 | 0 | 0 | 501 | 0 |
| Stage 1 | 375 | - | - | - | - | - |
| Stage 2 | 364 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 385 | 671 | - | - | 1063 | - |
| Stage 1 | 695 | - | - | - | - | - |
| Stage 2 | 703 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 367 | 669 | - | - | 1060 | - |
| Mov Cap-2 Maneuver | 479 | - | - | - | - | - |
| Stage 1 | 693 | - | - | - | - | - |
| Stage 2 | 673 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 17.9 | 0 | 1.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 546 | 1060 | - |
| HCM Lane V/C Ratio | - | - | 0.496 | 0.043 | - |
| HCM Control Delay (s) | - | - | 17.9 | 8.5 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.7 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 28.5 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 195 | 135 | 80 | 120 | 55 | 43 | 35 | 220 | 30 | 137 | 190 | 65 |
| Future Vol, veh/h | 195 | 135 | 80 | 120 | 55 | 43 | 35 | 220 | 30 | 137 | 190 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 212 | 147 | 87 | 130 | 60 | 47 | 38 | 239 | 33 | 149 | 207 | 71 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 46 | 19.5 | 21.9 | 20 |
| HCM LOS | E | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 48% | 55% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 33% | 25% | 0% | 75% |
| Vol Right, % | 0% | 12% | 20% | 20% | 0% | 25% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 35 | 250 | 410 | 218 | 137 | 255 |
| LT Vol | 35 | 0 | 195 | 120 | 137 | 0 |
| Through Vol | 0 | 220 | 135 | 55 | 0 | 190 |
| RT Vol | 0 | 30 | 80 | 43 | 0 | 65 |
| Lane Flow Rate | 38 | 272 | 446 | 237 | 149 | 277 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.093 | 0.615 | 0.896 | 0.524 | 0.355 | 0.606 |
| Departure Headway (Hd) | 8.76 | 8.153 | 7.241 | 7.96 | 8.576 | 7.872 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 409 | 443 | 499 | 453 | 418 | 457 |
| Service Time | 6.526 | 5.919 | 5.3 | 6.035 | 6.342 | 5.638 |
| HCM Lane V/C Ratio | 0.093 | 0.614 | 0.894 | 0.523 | 0.356 | 0.606 |
| HCM Control Delay | 12.4 | 23.2 | 46 | 19.5 | 16 | 22.1 |
| HCM Lane LOS | B | C | E | C | C | C |
| HCM 95th-tile Q | 0.3 | 4 | 10.1 | 3 | 1.6 | 3.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 145 | 136 | 19 | 117 | 224 | 55 | 46 | 457 | 147 | 220 | 391 | 90 |
| Future Volume (veh/h) | 145 | 136 | 19 | 117 | 224 | 55 | 46 | 457 | 147 | 220 | 391 | 90 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 158 | 148 | 13 | 127 | 243 | 48 | 50 | 497 | 119 | 239 | 425 | 73 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 201 | 371 | 33 | 163 | 300 | 59 | 83 | 651 | 155 | 296 | 1058 | 180 |
| Arrive On Green | 0.11 | 0.22 | 0.22 | 0.09 | 0.20 | 0.20 | 0.05 | 0.23 | 0.23 | 0.17 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1695 | 149 | 1781 | 1517 | 300 | 1781 | 2847 | 678 | 1781 | 3036 | 518 |
| Grp Volume(v), veh/h | 158 | 0 | 161 | 127 | 0 | 291 | 50 | 309 | 307 | 239 | 247 | 251 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1844 | 1781 | 0 | 1816 | 1781 | 1777 | 1748 | 1781 | 1777 | 1777 |
| Q Serve(g_s), s | 5.3 | 0.0 | 4.6 | 4.3 | 0.0 | 9.4 | 1.7 | 9.9 | 10.0 | 7.9 | 6.4 | 6.5 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 4.6 | 4.3 | 0.0 | 9.4 | 1.7 | 9.9 | 10.0 | 7.9 | 6.4 | 6.5 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.16 | 1.00 | | 0.39 | 1.00 | | 0.29 |
| Lane Grp Cap(c), veh/h | 201 | 0 | 404 | 163 | 0 | 360 | 83 | 407 | 400 | 296 | 619 | 619 |
| V/C Ratio(X) | 0.79 | 0.00 | 0.40 | 0.78 | 0.00 | 0.81 | 0.60 | 0.76 | 0.77 | 0.81 | 0.40 | 0.40 |
| Avail Cap(c_a), veh/h | 306 | 0 | 603 | 248 | 0 | 535 | 218 | 552 | 543 | 422 | 755 | 756 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.4 | 0.0 | 20.4 | 27.2 | 0.0 | 23.4 | 28.6 | 22.0 | 22.1 | 24.5 | 15.1 | 15.1 |
| Incr Delay (d2), s/veh | 7.5 | 0.0 | 0.6 | 8.5 | 0.0 | 5.7 | 6.7 | 4.2 | 4.5 | 7.5 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 1.7 | 1.9 | 0.0 | 3.9 | 0.8 | 4.0 | 4.0 | 3.5 | 2.2 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 33.9 | 0.0 | 21.1 | 35.7 | 0.0 | 29.1 | 35.3 | 26.2 | 26.6 | 32.0 | 15.5 | 15.5 |
| LnGrp LOS | C | A | C | D | A | C | D | C | C | C | B | B |
| Approach Vol, veh/h | | 319 | | | 418 | | | 666 | | | 737 | |
| Approach Delay, s/veh | | 27.4 | | | 31.1 | | | 27.1 | | | 20.9 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.7 | 18.5 | 10.1 | 17.9 | 7.4 | 25.8 | 11.4 | 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 | 14.5 | 19.0 | 8.5 | 20.0 | 7.5 | 26.0 | 10.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 11.9 | 12.0 | 6.3 | 6.6 | 3.7 | 8.5 | 7.3 | 11.4 |
| Green Ext Time (p_c), s | 0.3 | 2.0 | 0.1 | 0.5 | 0.0 | 2.5 | 0.1 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.8 |
| HCM 6th LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 528 | 105 | 375 | 479 | 0 | 0 | 0 | 0 | 122 | 203 | 70 |
| Future Volume (veh/h) | 0 | 528 | 105 | 375 | 479 | 0 | 0 | 0 | 0 | 122 | 203 | 70 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 574 | 10 | 408 | 521 | 0 | | | | 133 | 221 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 898 | 401 | 785 | 2069 | 0 | | | | 357 | 691 | 34 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.23 | 0.58 | 0.00 | | | | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3446 | 171 |
| Grp Volume(v), veh/h | 0 | 574 | 10 | 408 | 521 | 0 | | | | 133 | 113 | 119 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1840 |
| Q Serve(g_s), s | 0.0 | 5.6 | 0.2 | 4.0 | 2.8 | 0.0 | | | | 2.5 | 2.1 | 2.2 |
| Cycle Q Clear(g_c), s | 0.0 | 5.6 | 0.2 | 4.0 | 2.8 | 0.0 | | | | 2.5 | 2.1 | 2.2 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 0 | 898 | 401 | 785 | 2069 | 0 | | | | 357 | 356 | 369 |
| V/C Ratio(X) | 0.00 | 0.64 | 0.02 | 0.52 | 0.25 | 0.00 | | | | 0.37 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 0 | 2089 | 932 | 795 | 3269 | 0 | | | | 1752 | 1748 | 1810 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.0 | 11.0 | 13.2 | 4.0 | 0.0 | | | | 13.5 | 13.4 | 13.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.3 | 0.0 | 0.0 | | | | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.7 | 0.1 | 1.3 | 0.4 | 0.0 | | | | 0.8 | 0.6 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.3 | 11.0 | 13.5 | 4.0 | 0.0 | | | | 13.8 | 13.5 | 13.6 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 584 | | | 929 | | | | | | 365 | |
| Approach Delay, s/veh | | 13.3 | | | 8.2 | | | | | | 13.6 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 13.9 | | 12.3 | | 26.8 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 7.6 | | 4.5 | | 4.8 |
| Green Ext Time (p_c), s | 0.3 | 2.3 | | 0.9 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.8 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 455 | 0 | 0 | 699 | 52 | 155 | 250 | 418 | 0 | 0 | 0 |
| Future Volume (veh/h) | 195 | 455 | 0 | 0 | 699 | 52 | 155 | 250 | 418 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 212 | 495 | 0 | 0 | 760 | 5 | 168 | 272 | 333 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 459 | 1809 | 0 | 0 | 1010 | 451 | 511 | 536 | 455 | | | |
| Arrive On Green | 0.13 | 0.51 | 0.00 | 0.00 | 0.28 | 0.28 | 0.29 | 0.29 | 0.29 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 1870 | 1585 | | | |
| Grp Volume(v), veh/h | 212 | 495 | 0 | 0 | 760 | 5 | 168 | 272 | 333 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1585 | | | |
| Q Serve(g_s), s | 2.8 | 4.0 | 0.0 | 0.0 | 9.7 | 0.1 | 3.7 | 6.1 | 9.5 | | | |
| Cycle Q Clear(g_c), s | 2.8 | 4.0 | 0.0 | 0.0 | 9.7 | 0.1 | 3.7 | 6.1 | 9.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 459 | 1809 | 0 | 0 | 1010 | 451 | 511 | 536 | 455 | | | |
| V/C Ratio(X) | 0.46 | 0.27 | 0.00 | 0.00 | 0.75 | 0.01 | 0.33 | 0.51 | 0.73 | | | |
| Avail Cap(c_a), veh/h | 623 | 2347 | 0 | 0 | 1494 | 666 | 1284 | 1348 | 1142 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 20.0 | 7.0 | 0.0 | 0.0 | 16.3 | 12.8 | 14.0 | 14.9 | 16.1 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.1 | 0.3 | 0.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 1.1 | 0.0 | 0.0 | 3.4 | 0.0 | 1.3 | 2.3 | 3.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.3 | 7.0 | 0.0 | 0.0 | 16.8 | 12.8 | 14.2 | 15.1 | 16.9 | | | |
| LnGrp LOS | C | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 707 | | | 765 | | | 773 | | | | |
| Approach Delay, s/veh | | 11.0 | | | 16.8 | | | 15.7 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.5 | | | 11.2 | 19.3 | | 19.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.0 | | | 4.8 | 11.7 | | 11.5 | | | | |
| Green Ext Time (p_c), s | | 2.2 | | | 0.1 | 2.5 | | 2.9 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.6 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 625 | 35 | 578 | 669 | 0 | 40 | 0 | 145 | 253 | 195 | 235 |
| Future Volume (veh/h) | 0 | 625 | 35 | 578 | 669 | 0 | 40 | 0 | 145 | 253 | 195 | 235 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 679 | 5 | 628 | 727 | 0 | 43 | 0 | 158 | 275 | 212 | 19 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 891 | 398 | 721 | 1828 | 0 | 48 | 0 | 175 | 327 | 605 | 54 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.21 | 0.51 | 0.00 | 0.14 | 0.00 | 0.14 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 347 | 0 | 1276 | 1781 | 3301 | 293 |
| Grp Volume(v), veh/h | 0 | 679 | 5 | 628 | 727 | 0 | 201 | 0 | 0 | 275 | 113 | 118 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1623 | 0 | 0 | 1781 | 1777 | 1817 |
| Q Serve(g_s), s | 0.0 | 12.9 | 0.2 | 12.8 | 9.1 | 0.0 | 8.9 | 0.0 | 0.0 | 10.9 | 4.0 | 4.1 |
| Cycle Q Clear(g_c), s | 0.0 | 12.9 | 0.2 | 12.8 | 9.1 | 0.0 | 8.9 | 0.0 | 0.0 | 10.9 | 4.0 | 4.1 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.21 | | 0.79 | 1.00 | | 0.16 |
| Lane Grp Cap(c), veh/h | 0 | 891 | 398 | 721 | 1828 | 0 | 223 | 0 | 0 | 327 | 326 | 333 |
| V/C Ratio(X) | 0.00 | 0.76 | 0.01 | 0.87 | 0.40 | 0.00 | 0.90 | 0.00 | 0.00 | 0.84 | 0.35 | 0.35 |
| Avail Cap(c_a), veh/h | 0 | 1025 | 457 | 807 | 2050 | 0 | 223 | 0 | 0 | 391 | 390 | 399 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 25.3 | 20.5 | 27.9 | 10.8 | 0.0 | 30.9 | 0.0 | 0.0 | 28.7 | 25.9 | 26.0 |
| Incr Delay (d2), s/veh | 0.0 | 4.0 | 0.0 | 8.7 | 0.1 | 0.0 | 34.2 | 0.0 | 0.0 | 11.5 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.6 | 0.1 | 5.9 | 3.2 | 0.0 | 5.4 | 0.0 | 0.0 | 5.5 | 1.7 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 29.2 | 20.5 | 36.5 | 10.9 | 0.0 | 65.1 | 0.0 | 0.0 | 40.2 | 26.2 | 26.2 |
| LnGrp LOS | A | C | C | D | B | A | E | A | A | D | C | C |
| Approach Vol, veh/h | | 684 | | | 1355 | | | 201 | | | 506 | |
| Approach Delay, s/veh | | 29.2 | | | 22.8 | | | 65.1 | | | 33.8 | |
| Approach LOS | | C | | | C | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.2 | 22.3 | | 17.4 | | 41.5 | | 14.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 17.0 | 21.0 | | 16.0 | | 42.0 | | 10.0 |
| Max Q Clear Time (g_c+I1), s | 14.8 | 14.9 | | 12.9 | | 11.1 | | 10.9 |
| Green Ext Time (p_c), s | 0.4 | 3.4 | | 0.5 | | 5.7 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.5 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 405 | 618 | 0 | 0 | 862 | 140 | 385 | 278 | 57 | 0 | 0 | 0 |
| Future Volume (veh/h) | 405 | 618 | 0 | 0 | 862 | 140 | 385 | 278 | 57 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 440 | 672 | 0 | 0 | 937 | 35 | 254 | 531 | 42 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 844 | 2025 | 0 | 0 | 793 | 354 | 361 | 693 | 55 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.20 | 0.20 | 0.20 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3422 | 270 | | | |
| Grp Volume(v), veh/h | 440 | 672 | 0 | 0 | 937 | 35 | 254 | 290 | 283 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1822 | | | |
| Q Serve(g_s), s | 4.9 | 4.5 | 0.0 | 0.0 | 10.0 | 0.8 | 5.9 | 6.6 | 6.6 | | | |
| Cycle Q Clear(g_c), s | 4.9 | 4.5 | 0.0 | 0.0 | 10.0 | 0.8 | 5.9 | 6.6 | 6.6 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.15 | | | |
| Lane Grp Cap(c), veh/h | 844 | 2025 | 0 | 0 | 793 | 354 | 361 | 379 | 369 | | | |
| V/C Ratio(X) | 0.52 | 0.33 | 0.00 | 0.00 | 1.18 | 0.10 | 0.70 | 0.76 | 0.77 | | | |
| Avail Cap(c_a), veh/h | 1387 | 2025 | 0 | 0 | 793 | 354 | 397 | 417 | 406 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.7 | 5.1 | 0.0 | 0.0 | 17.4 | 13.8 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 94.7 | 0.0 | 3.9 | 6.4 | 6.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.7 | 1.0 | 0.0 | 0.0 | 13.9 | 0.2 | 2.5 | 3.1 | 3.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.9 | 5.1 | 0.0 | 0.0 | 112.1 | 13.9 | 20.5 | 23.2 | 23.6 | | | |
| LnGrp LOS | B | A | A | A | F | B | C | C | C | | | |
| Approach Vol, veh/h | | 1112 | | | 972 | | | 827 | | | | |
| Approach Delay, s/veh | | 9.0 | | | 108.6 | | | 22.5 | | | | |
| Approach LOS | | A | | | F | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.7 | | | 15.6 | 15.1 | | 14.2 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.5 | | | 6.9 | 12.0 | | 8.6 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.1 |
| HCM 6th LOS | D |

**Notes**

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 54 | 576 | 45 | 15 | 542 | 25 | 85 | 5 | 10 | 15 | 15 | 340 |
| Future Volume (veh/h) | 54 | 576 | 45 | 15 | 542 | 25 | 85 | 5 | 10 | 15 | 15 | 340 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 59 | 626 | 44 | 16 | 589 | 25 | 92 | 5 | 1 | 16 | 16 | 102 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 152 | 1300 | 91 | 152 | 688 | 29 | 128 | 216 | 183 | 148 | 237 | 201 |
| Arrive On Green | 0.09 | 0.39 | 0.39 | 0.09 | 0.39 | 0.39 | 0.07 | 0.12 | 0.12 | 0.08 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3368 | 236 | 1781 | 1781 | 76 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 59 | 330 | 340 | 16 | 0 | 614 | 92 | 5 | 1 | 16 | 16 | 102 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1828 | 1781 | 0 | 1857 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.8 | 8.2 | 8.2 | 0.5 | 0.0 | 17.8 | 3.0 | 0.1 | 0.0 | 0.5 | 0.4 | 3.5 |
| Cycle Q Clear(g_c), s | 1.8 | 8.2 | 8.2 | 0.5 | 0.0 | 17.8 | 3.0 | 0.1 | 0.0 | 0.5 | 0.4 | 3.5 |
| Prop In Lane | 1.00 | | 0.13 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 152 | 686 | 706 | 152 | 0 | 717 | 128 | 216 | 183 | 148 | 237 | 201 |
| V/C Ratio(X) | 0.39 | 0.48 | 0.48 | 0.11 | 0.00 | 0.86 | 0.72 | 0.02 | 0.01 | 0.11 | 0.07 | 0.51 |
| Avail Cap(c_a), veh/h | 200 | 950 | 977 | 197 | 0 | 989 | 218 | 516 | 437 | 197 | 493 | 418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.4 | 13.6 | 13.6 | 24.8 | 0.0 | 16.5 | 26.7 | 23.0 | 23.0 | 24.9 | 22.6 | 23.9 |
| Incr Delay (d2), s/veh | 1.6 | 0.5 | 0.5 | 0.3 | 0.0 | 5.6 | 7.3 | 0.0 | 0.0 | 0.3 | 0.1 | 2.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 3.0 | 3.1 | 0.2 | 0.0 | 7.0 | 1.4 | 0.1 | 0.0 | 0.2 | 0.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.1 | 14.1 | 14.1 | 25.1 | 0.0 | 22.1 | 34.0 | 23.1 | 23.0 | 25.2 | 22.7 | 25.9 |
| LnGrp LOS | C | B | B | C | A | C | C | C | C | C | C | C |
| Approach Vol, veh/h | | 729 | | | 630 | | | 98 | | | 134 | |
| Approach Delay, s/veh | | 15.2 | | | 22.2 | | | 33.3 | | | 25.5 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.6 | 27.8 | 8.8 | 12.5 | 9.6 | 27.8 | 9.5 | 11.9 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 31.4 | 7.2 | 15.5 | 6.6 | 31.3 | 6.5 | 16.2 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 10.2 | 5.0 | 5.5 | 3.8 | 19.8 | 2.5 | 2.1 |
| Green Ext Time (p_c), s | 0.0 | 4.2 | 0.0 | 0.2 | 0.0 | 2.9 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.9 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 185 | 5 | 708 | 100 |
| Future Volume (veh/h) | 0 | 0 | 185 | 5 | 708 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 197 | 3 | 753 | 106 |
| Peak Hour Factor | | | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 384 | 6 | 882 | 1575 |
| Arrive On Green | | | 0.21 | 0.21 | 0.50 | 0.84 |
| Sat Flow, veh/h | | | 1837 | 28 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 200 | 753 | 106 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1865 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.4 | 9.4 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.4 | 9.4 | 0.2 |
| Prop In Lane | | | | 0.01 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 390 | 882 | 1575 |
| V/C Ratio(X) | | | 0.00 | 0.51 | 0.85 | 0.07 |
| Avail Cap(c_a), veh/h | | | 0 | 3310 | 2248 | 3319 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 8.9 | 5.6 | 0.3 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.4 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.6 | 0.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 9.3 | 6.5 | 0.3 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 200 | | | 859 |
| Approach Delay, s/veh | | | 9.3 | | | 5.8 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 9.3 | | | | 25.4 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.6 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 11.4 | 4.4 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.2 | 0.7 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.4 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 30 | 153 | 5 | 7 | 50 | 5 | 5 | 5 | 6 | 0 | 5 | 50 |
| Future Vol, veh/h | 30 | 153 | 5 | 7 | 50 | 5 | 5 | 5 | 6 | 0 | 5 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 166 | 5 | 8 | 54 | 5 | 5 | 5 | 7 | 0 | 5 | 54 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 80 | 54 | 32 | 110 | 24 | 9 | 5 | 0 | 0 | - | - | 0 |
| Stage 1 | 32 | 32 | - | 19 | 19 | - | - | - | - | - | - | - |
| Stage 2 | 48 | 22 | - | 91 | 5 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 908 | 837 | 1042 | 868 | 869 | 1073 | 1616 | - | - | 0 | - | - |
| Stage 1 | 984 | 868 | - | 1000 | 880 | - | - | - | - | 0 | - | - |
| Stage 2 | 965 | 877 | - | 916 | 892 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 858 | 834 | 1042 | 729 | 866 | 1073 | 1616 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 858 | 834 | - | 729 | 866 | - | - | - | - | - | - | - |
| Stage 1 | 981 | 868 | - | 997 | 877 | - | - | - | - | - | - | - |
| Stage 2 | 898 | 874 | - | 737 | 892 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.2 | 9.5 | 2.3 | 0 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1616 | - | - | 858 | 839 | 861 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.038 | 0.205 | 0.078 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 9.4 | 10.4 | 9.5 | - | - |
| HCM Lane LOS | A | A | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 0.8 | 0.3 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 431 | 140 | 25 | 5 | 195 | 5 | 125 | 49 | 20 | 30 | 37 | 232 |
| Future Volume (veh/h) | 431 | 140 | 25 | 5 | 195 | 5 | 125 | 49 | 20 | 30 | 37 | 232 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 468 | 152 | 19 | 5 | 212 | 4 | 136 | 53 | 8 | 33 | 40 | 19 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 659 | 571 | 71 | 12 | 305 | 6 | 274 | 287 | 243 | 97 | 118 | 186 |
| Arrive On Green | 0.19 | 0.35 | 0.35 | 0.01 | 0.17 | 0.17 | 0.15 | 0.15 | 0.15 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 3456 | 1630 | 204 | 1781 | 1830 | 35 | 1781 | 1870 | 1585 | 827 | 1002 | 1585 |
| Grp Volume(v), veh/h | 468 | 0 | 171 | 5 | 0 | 216 | 136 | 53 | 8 | 73 | 0 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 0 | 1834 | 1781 | 0 | 1864 | 1781 | 1870 | 1585 | 1829 | 0 | 1585 |
| Q Serve(g_s), s | 6.1 | 0.0 | 3.2 | 0.1 | 0.0 | 5.3 | 3.4 | 1.2 | 0.2 | 1.8 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 6.1 | 0.0 | 3.2 | 0.1 | 0.0 | 5.3 | 3.4 | 1.2 | 0.2 | 1.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.45 | | 1.00 |
| Lane Grp Cap(c), veh/h | 659 | 0 | 643 | 12 | 0 | 311 | 274 | 287 | 243 | 215 | 0 | 186 |
| V/C Ratio(X) | 0.71 | 0.00 | 0.27 | 0.42 | 0.00 | 0.70 | 0.50 | 0.18 | 0.03 | 0.34 | 0.00 | 0.10 |
| Avail Cap(c_a), veh/h | 1178 | 0 | 1170 | 188 | 0 | 751 | 460 | 483 | 409 | 510 | 0 | 442 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.3 | 0.0 | 11.3 | 23.9 | 0.0 | 19.0 | 18.8 | 17.8 | 17.4 | 19.6 | 0.0 | 19.1 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 0.2 | 21.6 | 0.0 | 2.8 | 1.4 | 0.3 | 0.1 | 0.9 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 1.0 | 0.1 | 0.0 | 2.1 | 1.3 | 0.4 | 0.1 | 0.7 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.8 | 0.0 | 11.5 | 45.5 | 0.0 | 21.8 | 20.2 | 18.2 | 17.5 | 20.6 | 0.0 | 19.3 |
| LnGrp LOS | B | A | B | D | A | C | C | B | B | C | A | B |
| Approach Vol, veh/h | | 639 | | | 221 | | | 197 | | | 92 | |
| Approach Delay, s/veh | | 17.6 | | | 22.3 | | | 19.5 | | | 20.3 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 21.5 | | 10.2 | 13.7 | 12.6 | | 11.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | 5.1 | 30.9 | | 13.5 | 16.5 | 19.5 | | 12.5 |
| Max Q Clear Time (g_c+I1), s | 2.1 | 5.2 | | 3.8 | 8.1 | 7.3 | | 5.4 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | | 0.2 | 1.1 | 0.8 | | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.0 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 161 | 702 | 5 | 347 | 539 | 10 | 15 | 22 | 57 | 5 | 73 | 207 |
| Future Volume (veh/h) | 161 | 702 | 5 | 347 | 539 | 10 | 15 | 22 | 57 | 5 | 73 | 207 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 175 | 763 | 2 | 377 | 586 | 9 | 16 | 24 | 0 | 5 | 79 | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 217 | 855 | 724 | 354 | 1894 | 29 | 66 | 70 | 59 | 102 | 107 | 91 |
| Arrive On Green | 0.12 | 0.46 | 0.46 | 0.20 | 0.53 | 0.53 | 0.04 | 0.04 | 0.00 | 0.06 | 0.06 | 0.06 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 3582 | 55 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 175 | 763 | 2 | 377 | 291 | 304 | 16 | 24 | 0 | 5 | 79 | 4 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1777 | 1860 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 7.4 | 29.0 | 0.1 | 15.4 | 7.2 | 7.2 | 0.7 | 1.0 | 0.0 | 0.2 | 3.2 | 0.2 |
| Cycle Q Clear(g_c), s | 7.4 | 29.0 | 0.1 | 15.4 | 7.2 | 7.2 | 0.7 | 1.0 | 0.0 | 0.2 | 3.2 | 0.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 217 | 855 | 724 | 354 | 939 | 983 | 66 | 70 | 59 | 102 | 107 | 91 |
| V/C Ratio(X) | 0.81 | 0.89 | 0.00 | 1.07 | 0.31 | 0.31 | 0.24 | 0.34 | 0.00 | 0.05 | 0.74 | 0.04 |
| Avail Cap(c_a), veh/h | 367 | 1070 | 907 | 354 | 1005 | 1053 | 115 | 121 | 102 | 133 | 140 | 118 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.2 | 19.3 | 11.5 | 31.1 | 10.3 | 10.3 | 36.3 | 36.4 | 0.0 | 34.6 | 36.0 | 34.6 |
| Incr Delay (d2), s/veh | 7.0 | 8.2 | 0.0 | 66.6 | 0.2 | 0.2 | 1.9 | 2.9 | 0.0 | 0.2 | 13.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.5 | 13.0 | 0.0 | 12.6 | 2.3 | 2.5 | 0.3 | 0.5 | 0.0 | 0.1 | 1.8 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.2 | 27.6 | 11.5 | 97.7 | 10.5 | 10.5 | 38.1 | 39.3 | 0.0 | 34.8 | 49.3 | 34.8 |
| LnGrp LOS | D | C | B | F | B | B | D | D | A | C | D | C |
| Approach Vol, veh/h | | 940 | | | 972 | | | 40 | | | 88 | |
| Approach Delay, s/veh | | 29.9 | | | 44.3 | | | 38.9 | | | 47.9 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 40.6 | | 9.1 | 14.4 | 46.1 | | 8.0 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 4.6 | 5.0 | * 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 15.4 | 44.4 | | 5.8 | 16.0 | * 44 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 17.4 | 31.0 | | 5.2 | 9.4 | 9.2 | | 3.0 |
| Green Ext Time (p_c), s | 0.0 | 4.4 | | 0.0 | 0.2 | 3.4 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.7 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 325 | 433 | 16 | 48 | 631 | 27 | 17 | 273 | 221 | 19 | 259 | 248 |
| Future Volume (veh/h) | 325 | 433 | 16 | 48 | 631 | 27 | 17 | 273 | 221 | 19 | 259 | 248 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 353 | 471 | 16 | 52 | 686 | 28 | 18 | 297 | 14 | 21 | 282 | 19 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 380 | 1009 | 34 | 71 | 693 | 28 | 156 | 407 | 181 | 156 | 407 | 181 |
| Arrive On Green | 0.21 | 0.56 | 0.56 | 0.04 | 0.39 | 0.39 | 0.09 | 0.11 | 0.11 | 0.09 | 0.11 | 0.11 |
| Sat Flow, veh/h | 1781 | 1798 | 61 | 1781 | 1784 | 73 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 353 | 0 | 487 | 52 | 0 | 714 | 18 | 297 | 14 | 21 | 282 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1859 | 1781 | 0 | 1857 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 17.8 | 0.0 | 14.2 | 2.6 | 0.0 | 35.0 | 0.9 | 7.4 | 0.7 | 1.0 | 7.0 | 1.0 |
| Cycle Q Clear(g_c), s | 17.8 | 0.0 | 14.2 | 2.6 | 0.0 | 35.0 | 0.9 | 7.4 | 0.7 | 1.0 | 7.0 | 1.0 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 380 | 0 | 1043 | 71 | 0 | 721 | 156 | 407 | 181 | 156 | 407 | 181 |
| V/C Ratio(X) | 0.93 | 0.00 | 0.47 | 0.73 | 0.00 | 0.99 | 0.12 | 0.73 | 0.08 | 0.13 | 0.69 | 0.10 |
| Avail Cap(c_a), veh/h | 380 | 0 | 1043 | 136 | 0 | 721 | 156 | 738 | 329 | 156 | 738 | 329 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.3 | 0.0 | 11.9 | 43.4 | 0.0 | 27.8 | 38.5 | 39.1 | 36.2 | 38.5 | 39.0 | 36.3 |
| Incr Delay (d2), s/veh | 29.0 | 0.0 | 0.3 | 13.2 | 0.0 | 31.1 | 0.3 | 2.5 | 0.2 | 0.4 | 2.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.3 | 0.0 | 5.1 | 1.4 | 0.0 | 20.1 | 0.4 | 3.2 | 0.3 | 0.4 | 3.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.4 | 0.0 | 12.3 | 56.6 | 0.0 | 58.9 | 38.8 | 41.7 | 36.4 | 38.9 | 41.1 | 36.6 |
| LnGrp LOS | E | A | B | E | A | E | D | D | D | D | D | D |
| Approach Vol, veh/h | | 840 | | | 766 | | | 329 | | | 322 | |
| Approach Delay, s/veh | | 34.1 | | | 58.7 | | | 41.3 | | | 40.7 | |
| Approach LOS | | C | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.5 | 15.0 | 8.2 | 55.8 | 12.5 | 15.0 | 24.0 | 40.0 |
| 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 | 8.0 | 19.0 | 7.0 | 48.0 | 8.0 | 19.0 | 19.5 | 35.5 |
| Max Q Clear Time (g_c+I1), s | 13.0 | 9.4 | 4.6 | 16.2 | 2.9 | 9.0 | 19.8 | 37.0 |
| Green Ext Time (p_c), s | 0.0 | 1.1 | 0.0 | 3.0 | 0.0 | 1.1 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.5 |
| HCM 6th LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 95 | 215 | 390 | 122 | 550 | 65 | 158 | 404 | 299 | 90 | 490 | 60 |
| Future Volume (veh/h) | 95 | 215 | 390 | 122 | 550 | 65 | 158 | 404 | 299 | 90 | 490 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 103 | 234 | 315 | 133 | 598 | 14 | 172 | 439 | 130 | 98 | 533 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 831 | 561 | 173 | 909 | 400 | 221 | 993 | 590 | 127 | 806 | 352 |
| Arrive On Green | 0.08 | 0.23 | 0.23 | 0.10 | 0.26 | 0.26 | 0.12 | 0.28 | 0.28 | 0.07 | 0.23 | 0.23 |
| Sat Flow, veh/h | 1781 | 3554 | 1555 | 1781 | 3554 | 1563 | 1781 | 3554 | 1559 | 1781 | 3554 | 1552 |
| Grp Volume(v), veh/h | 103 | 234 | 315 | 133 | 598 | 14 | 172 | 439 | 130 | 98 | 533 | 11 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1555 | 1781 | 1777 | 1563 | 1781 | 1777 | 1559 | 1781 | 1777 | 1552 |
| Q Serve(g_s), s | 3.2 | 3.1 | 9.2 | 4.1 | 8.5 | 0.4 | 5.3 | 5.7 | 3.2 | 3.1 | 7.7 | 0.3 |
| Cycle Q Clear(g_c), s | 3.2 | 3.1 | 9.2 | 4.1 | 8.5 | 0.4 | 5.3 | 5.7 | 3.2 | 3.1 | 7.7 | 0.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 134 | 831 | 561 | 173 | 909 | 400 | 221 | 993 | 590 | 127 | 806 | 352 |
| V/C Ratio(X) | 0.77 | 0.28 | 0.56 | 0.77 | 0.66 | 0.04 | 0.78 | 0.44 | 0.22 | 0.77 | 0.66 | 0.03 |
| Avail Cap(c_a), veh/h | 362 | 1350 | 788 | 393 | 1413 | 621 | 456 | 1727 | 911 | 330 | 1476 | 644 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.7 | 17.8 | 14.6 | 24.9 | 18.8 | 15.8 | 24.0 | 16.8 | 12.0 | 25.8 | 19.9 | 17.0 |
| Incr Delay (d2), s/veh | 8.9 | 0.2 | 0.9 | 7.0 | 0.8 | 0.0 | 5.8 | 0.3 | 0.2 | 9.4 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 1.1 | 2.7 | 1.9 | 3.0 | 0.1 | 2.3 | 2.0 | 0.9 | 1.5 | 2.8 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.5 | 18.0 | 15.5 | 31.9 | 19.7 | 15.9 | 29.8 | 17.1 | 12.2 | 35.2 | 20.8 | 17.1 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | D | C | B |
| Approach Vol, veh/h | | 652 | | | 745 | | | 741 | | | 642 | |
| Approach Delay, s/veh | | 19.4 | | | 21.8 | | | 19.2 | | | 23.0 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 20.3 | 10.0 | 17.7 | 11.5 | 17.3 | 8.8 | 19.0 |
| 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 | 10.5 | 27.5 | 12.5 | 21.5 | 14.5 | 23.5 | 11.5 | 22.5 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 7.7 | 6.1 | 11.2 | 7.3 | 9.7 | 5.2 | 10.5 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | 0.1 | 1.8 | 0.2 | 2.7 | 0.1 | 2.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.8 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 159 | 141 | 195 | 192 | 35 | 300 |
| Future Vol, veh/h | 159 | 141 | 195 | 192 | 35 | 300 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 169 | 150 | 207 | 204 | 37 | 319 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 705 | 312 | 0 | 0 | 414 | 0 |
| Stage 1 | 312 | - | - | - | - | - |
| Stage 2 | 393 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 403 | 728 | - | - | 1145 | - |
| Stage 1 | 742 | - | - | - | - | - |
| Stage 2 | 682 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 389 | 726 | - | - | 1142 | - |
| Mov Cap-2 Maneuver | 495 | - | - | - | - | - |
| Stage 1 | 740 | - | - | - | - | - |
| Stage 2 | 660 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 18.4 | 0 | 0.9 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 582 | 1142 | - |
| HCM Lane V/C Ratio | - | - | 0.548 | 0.033 | - |
| HCM Control Delay (s) | - | - | 18.4 | 8.3 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 3.3 | 0.1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 17.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 150 | 100 | 60 | 100 | 60 | 67 | 40 | 170 | 30 | 184 | 205 | 70 |
| Future Vol, veh/h | 150 | 100 | 60 | 100 | 60 | 67 | 40 | 170 | 30 | 184 | 205 | 70 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 106 | 64 | 106 | 64 | 71 | 43 | 181 | 32 | 196 | 218 | 74 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 20.6 | 16.2 | 15.3 | 17.4 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 48% | 44% | 100% | 0% |
| Vol Thru, % | 0% | 85% | 32% | 26% | 0% | 75% |
| Vol Right, % | 0% | 15% | 19% | 30% | 0% | 25% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 40 | 200 | 310 | 227 | 184 | 275 |
| LT Vol | 40 | 0 | 150 | 100 | 184 | 0 |
| Through Vol | 0 | 170 | 100 | 60 | 0 | 205 |
| RT Vol | 0 | 30 | 60 | 67 | 0 | 70 |
| Lane Flow Rate | 43 | 213 | 330 | 241 | 196 | 293 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.095 | 0.44 | 0.624 | 0.47 | 0.416 | 0.565 |
| Departure Headway (Hd) | 8.064 | 7.44 | 6.816 | 7.006 | 7.649 | 6.952 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 443 | 483 | 528 | 512 | 470 | 518 |
| Service Time | 5.841 | 5.216 | 4.883 | 5.081 | 5.419 | 4.722 |
| HCM Lane V/C Ratio | 0.097 | 0.441 | 0.625 | 0.471 | 0.417 | 0.566 |
| HCM Control Delay | 11.7 | 16 | 20.6 | 16.2 | 15.8 | 18.5 |
| HCM Lane LOS | B | C | C | C | C | C |
| HCM 95th-tile Q | 0.3 | 2.2 | 4.2 | 2.5 | 2 | 3.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 115 | 80 | 50 | 165 | 198 | 60 | 48 | 457 | 126 | 195 | 397 | 80 |
| Future Volume (veh/h) | 115 | 80 | 50 | 165 | 198 | 60 | 48 | 457 | 126 | 195 | 397 | 80 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 125 | 87 | 32 | 179 | 215 | 49 | 52 | 497 | 101 | 212 | 432 | 59 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 161 | 190 | 70 | 241 | 281 | 64 | 89 | 696 | 141 | 275 | 1072 | 146 |
| Arrive On Green | 0.09 | 0.15 | 0.15 | 0.14 | 0.19 | 0.19 | 0.05 | 0.24 | 0.24 | 0.15 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1781 | 1304 | 480 | 1781 | 1474 | 336 | 1781 | 2945 | 595 | 1781 | 3143 | 427 |
| Grp Volume(v), veh/h | 125 | 0 | 119 | 179 | 0 | 264 | 52 | 299 | 299 | 212 | 243 | 248 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1784 | 1781 | 0 | 1810 | 1781 | 1777 | 1763 | 1781 | 1777 | 1794 |
| Q Serve(g_s), s | 3.8 | 0.0 | 3.4 | 5.3 | 0.0 | 7.6 | 1.6 | 8.5 | 8.6 | 6.3 | 5.7 | 5.8 |
| Cycle Q Clear(g_c), s | 3.8 | 0.0 | 3.4 | 5.3 | 0.0 | 7.6 | 1.6 | 8.5 | 8.6 | 6.3 | 5.7 | 5.8 |
| Prop In Lane | 1.00 | | 0.27 | 1.00 | | 0.19 | 1.00 | | 0.34 | 1.00 | | 0.24 |
| Lane Grp Cap(c), veh/h | 161 | 0 | 260 | 241 | 0 | 345 | 89 | 420 | 417 | 275 | 606 | 612 |
| V/C Ratio(X) | 0.78 | 0.00 | 0.46 | 0.74 | 0.00 | 0.76 | 0.59 | 0.71 | 0.72 | 0.77 | 0.40 | 0.41 |
| Avail Cap(c_a), veh/h | 276 | 0 | 585 | 341 | 0 | 659 | 243 | 680 | 674 | 406 | 841 | 849 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.4 | 0.0 | 21.5 | 22.8 | 0.0 | 21.1 | 25.5 | 19.2 | 19.3 | 22.3 | 13.8 | 13.8 |
| Incr Delay (d2), s/veh | 7.8 | 0.0 | 1.3 | 5.3 | 0.0 | 3.5 | 6.0 | 2.2 | 2.3 | 5.2 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.0 | 1.2 | 2.2 | 0.0 | 2.9 | 0.7 | 3.2 | 3.2 | 2.6 | 1.9 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.2 | 0.0 | 22.7 | 28.1 | 0.0 | 24.6 | 31.5 | 21.5 | 21.6 | 27.5 | 14.2 | 14.3 |
| LnGrp LOS | C | A | C | C | A | C | C | C | C | C | B | B |
| Approach Vol, veh/h | | 244 | | | 443 | | | 650 | | | 703 | |
| Approach Delay, s/veh | | 27.6 | | | 26.0 | | | 22.3 | | | 18.3 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 17.5 | 11.9 | 12.5 | 7.2 | 23.2 | 9.5 | 15.0 |
| 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 | 12.5 | 21.0 | 10.5 | 18.0 | 7.5 | 26.0 | 8.5 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 9.3 | 10.6 | 7.3 | 5.4 | 3.6 | 7.8 | 5.8 | 9.6 |
| Green Ext Time (p_c), s | 0.2 | 2.4 | 0.1 | 0.3 | 0.0 | 2.4 | 0.1 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.4 |
| HCM 6th LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 472 | 60 | 378 | 447 | 0 | 0 | 0 | 0 | 124 | 203 | 120 |
| Future Volume (veh/h) | 0 | 472 | 60 | 378 | 447 | 0 | 0 | 0 | 0 | 124 | 203 | 120 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 502 | 13 | 402 | 476 | 0 | | | | 132 | 216 | 21 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 821 | 366 | 807 | 2025 | 0 | | | | 367 | 676 | 65 |
| Arrive On Green | 0.00 | 0.23 | 0.23 | 0.23 | 0.57 | 0.00 | | | | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3275 | 315 |
| Grp Volume(v), veh/h | 0 | 502 | 13 | 402 | 476 | 0 | | | | 132 | 116 | 121 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1814 |
| Q Serve(g_s), s | 0.0 | 4.8 | 0.2 | 3.8 | 2.5 | 0.0 | | | | 2.4 | 2.1 | 2.2 |
| Cycle Q Clear(g_c), s | 0.0 | 4.8 | 0.2 | 3.8 | 2.5 | 0.0 | | | | 2.4 | 2.1 | 2.2 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.17 |
| Lane Grp Cap(c), veh/h | 0 | 821 | 366 | 807 | 2025 | 0 | | | | 367 | 367 | 374 |
| V/C Ratio(X) | 0.00 | 0.61 | 0.04 | 0.50 | 0.24 | 0.00 | | | | 0.36 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 0 | 2152 | 960 | 819 | 3368 | 0 | | | | 1805 | 1801 | 1838 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.1 | 11.3 | 12.6 | 4.1 | 0.0 | | | | 12.9 | 12.8 | 12.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | | | | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.5 | 0.1 | 1.2 | 0.4 | 0.0 | | | | 0.7 | 0.6 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.4 | 11.3 | 12.8 | 4.1 | 0.0 | | | | 13.1 | 13.0 | 13.0 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 515 | | | 878 | | | | | | 369 | |
| Approach Delay, s/veh | | 13.3 | | | 8.1 | | | | | | 13.0 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 12.8 | | 12.3 | | 25.7 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 6.8 | | 4.4 | | 4.5 |
| Green Ext Time (p_c), s | 0.3 | 2.0 | | 0.9 | | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.6 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 446 | 0 | 0 | 685 | 54 | 140 | 279 | 417 | 0 | 0 | 0 |
| Future Volume (veh/h) | 150 | 446 | 0 | 0 | 685 | 54 | 140 | 279 | 417 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 155 | 460 | 0 | 0 | 706 | 26 | 144 | 288 | 206 | | | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 477 | 1886 | 0 | 0 | 1011 | 451 | 409 | 472 | 328 | | | |
| Arrive On Green | 0.14 | 0.53 | 0.00 | 0.00 | 0.28 | 0.28 | 0.23 | 0.23 | 0.23 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 2057 | 1427 | | | |
| Grp Volume(v), veh/h | 155 | 460 | 0 | 0 | 706 | 26 | 144 | 261 | 233 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1614 | | | |
| Q Serve(g_s), s | 1.7 | 3.0 | 0.0 | 0.0 | 7.6 | 0.5 | 2.9 | 5.3 | 5.5 | | | |
| Cycle Q Clear(g_c), s | 1.7 | 3.0 | 0.0 | 0.0 | 7.6 | 0.5 | 2.9 | 5.3 | 5.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.88 | | | |
| Lane Grp Cap(c), veh/h | 477 | 1886 | 0 | 0 | 1011 | 451 | 409 | 430 | 371 | | | |
| V/C Ratio(X) | 0.32 | 0.24 | 0.00 | 0.00 | 0.70 | 0.06 | 0.35 | 0.61 | 0.63 | | | |
| Avail Cap(c_a), veh/h | 730 | 2754 | 0 | 0 | 1753 | 782 | 1506 | 1581 | 1364 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 16.6 | 5.4 | 0.0 | 0.0 | 13.6 | 11.1 | 13.7 | 14.7 | 14.8 | | | |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.2 | 0.5 | 0.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.7 | 0.0 | 0.0 | 2.4 | 0.1 | 1.0 | 1.9 | 1.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.7 | 5.4 | 0.0 | 0.0 | 13.9 | 11.1 | 13.9 | 15.2 | 15.4 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 615 | | | 732 | | | 638 | | | | |
| Approach Delay, s/veh | | 8.3 | | | 13.8 | | | 15.0 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 27.7 | | | 10.5 | 17.2 | | 14.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.0 | | | 3.7 | 9.6 | | 7.5 | | | | |
| Green Ext Time (p_c), s | | 2.0 | | | 0.1 | 2.6 | | 2.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.5 |
| HCM 6th LOS | B |

Notes

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 639 | 55 | 517 | 683 | 0 | 75 | 0 | 150 | 258 | 153 | 230 |
| Future Volume (veh/h) | 0 | 639 | 55 | 517 | 683 | 0 | 75 | 0 | 150 | 258 | 153 | 230 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 695 | 21 | 562 | 742 | 0 | 82 | 0 | 163 | 280 | 166 | 111 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 975 | 689 | 453 | 1648 | 0 | 88 | 0 | 175 | 359 | 421 | 266 |
| Arrive On Green | 0.00 | 0.27 | 0.27 | 0.13 | 0.46 | 0.00 | 0.16 | 0.00 | 0.16 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 551 | 0 | 1095 | 1781 | 2089 | 1319 |
| Grp Volume(v), veh/h | 0 | 695 | 21 | 562 | 742 | 0 | 245 | 0 | 0 | 280 | 140 | 137 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1646 | 0 | 0 | 1781 | 1777 | 1631 |
| Q Serve(g_s), s | 0.0 | 12.1 | 0.5 | 9.0 | 9.7 | 0.0 | 10.1 | 0.0 | 0.0 | 10.2 | 4.7 | 5.0 |
| Cycle Q Clear(g_c), s | 0.0 | 12.1 | 0.5 | 9.0 | 9.7 | 0.0 | 10.1 | 0.0 | 0.0 | 10.2 | 4.7 | 5.0 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.33 | | 0.67 | 1.00 | | 0.81 |
| Lane Grp Cap(c), veh/h | 0 | 975 | 689 | 453 | 1648 | 0 | 264 | 0 | 0 | 359 | 358 | 328 |
| V/C Ratio(X) | 0.00 | 0.71 | 0.03 | 1.24 | 0.45 | 0.00 | 0.93 | 0.00 | 0.00 | 0.78 | 0.39 | 0.42 |
| Avail Cap(c_a), veh/h | 0 | 1190 | 785 | 453 | 1863 | 0 | 264 | 0 | 0 | 856 | 854 | 783 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 22.5 | 11.1 | 29.8 | 12.5 | 0.0 | 28.5 | 0.0 | 0.0 | 26.0 | 23.8 | 23.9 |
| Incr Delay (d2), s/veh | 0.0 | 2.5 | 0.0 | 126.1 | 0.2 | 0.0 | 36.5 | 0.0 | 0.0 | 1.4 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.1 | 0.2 | 11.5 | 3.5 | 0.0 | 6.4 | 0.0 | 0.0 | 4.2 | 1.9 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 25.0 | 11.2 | 155.9 | 12.7 | 0.0 | 64.9 | 0.0 | 0.0 | 27.4 | 24.0 | 24.2 |
| LnGrp LOS | A | C | B | F | B | A | E | A | A | C | C | C |
| Approach Vol, veh/h | | 716 | | | 1304 | | | 245 | | | 557 | |
| Approach Delay, s/veh | | 24.5 | | | 74.4 | | | 64.9 | | | 25.8 | |
| Approach LOS | | C | | | E | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 22.9 | | 17.8 | | 35.9 | | 15.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 14.1 | | 12.2 | | 11.7 | | 12.1 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | | 1.4 | | 5.5 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.3 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 627 | 0 | 0 | 785 | 114 | 415 | 302 | 77 | 0 | 0 | 0 |
| Future Volume (veh/h) | 420 | 627 | 0 | 0 | 785 | 114 | 415 | 302 | 77 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 429 | 640 | 0 | 0 | 801 | 26 | 263 | 532 | 59 | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 840 | 2016 | 0 | 0 | 789 | 352 | 367 | 683 | 75 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.21 | 0.21 | 0.21 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3309 | 366 | | | |
| Grp Volume(v), veh/h | 429 | 640 | 0 | 0 | 801 | 26 | 263 | 300 | 291 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1805 | | | |
| Q Serve(g_s), s | 4.8 | 4.3 | 0.0 | 0.0 | 10.0 | 0.6 | 6.2 | 6.8 | 6.9 | | | |
| Cycle Q Clear(g_c), s | 4.8 | 4.3 | 0.0 | 0.0 | 10.0 | 0.6 | 6.2 | 6.8 | 6.9 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.20 | | | |
| Lane Grp Cap(c), veh/h | 840 | 2016 | 0 | 0 | 789 | 352 | 367 | 386 | 372 | | | |
| V/C Ratio(X) | 0.51 | 0.32 | 0.00 | 0.00 | 1.02 | 0.07 | 0.72 | 0.78 | 0.78 | | | |
| Avail Cap(c_a), veh/h | 1381 | 2016 | 0 | 0 | 789 | 352 | 395 | 415 | 401 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.7 | 5.1 | 0.0 | 0.0 | 17.5 | 13.9 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 35.9 | 0.0 | 4.6 | 7.4 | 8.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.6 | 1.0 | 0.0 | 0.0 | 7.4 | 0.2 | 2.6 | 3.3 | 3.3 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.9 | 5.2 | 0.0 | 0.0 | 53.4 | 13.9 | 21.2 | 24.3 | 24.9 | | | |
| LnGrp LOS | B | A | A | A | F | B | C | C | C | | | |
| Approach Vol, veh/h | | 1069 | | | 827 | | | 854 | | | | |
| Approach Delay, s/veh | | 9.1 | | | 52.2 | | | 23.6 | | | | |
| Approach LOS | | A | | | D | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.6 | | | 15.5 | 15.1 | | 14.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.3 | | | 6.8 | 12.0 | | 8.9 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.5 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 594 | 45 | 10 | 466 | 20 | 30 | 5 | 30 | 15 | 30 | 403 |
| Future Volume (veh/h) | 65 | 594 | 45 | 10 | 466 | 20 | 30 | 5 | 30 | 15 | 30 | 403 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 70 | 639 | 42 | 11 | 501 | 20 | 32 | 5 | 5 | 16 | 32 | 86 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 1368 | 90 | 25 | 633 | 25 | 65 | 269 | 228 | 36 | 238 | 202 |
| Arrive On Green | 0.06 | 0.40 | 0.40 | 0.01 | 0.35 | 0.35 | 0.04 | 0.14 | 0.14 | 0.02 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3385 | 222 | 1781 | 1786 | 71 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 70 | 335 | 346 | 11 | 0 | 521 | 32 | 5 | 5 | 16 | 32 | 86 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1830 | 1781 | 0 | 1858 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.8 | 6.4 | 6.4 | 0.3 | 0.0 | 11.7 | 0.8 | 0.1 | 0.1 | 0.4 | 0.7 | 2.3 |
| Cycle Q Clear(g_c), s | 1.8 | 6.4 | 6.4 | 0.3 | 0.0 | 11.7 | 0.8 | 0.1 | 0.1 | 0.4 | 0.7 | 2.3 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 114 | 718 | 740 | 25 | 0 | 658 | 65 | 269 | 228 | 36 | 238 | 202 |
| V/C Ratio(X) | 0.61 | 0.47 | 0.47 | 0.43 | 0.00 | 0.79 | 0.49 | 0.02 | 0.02 | 0.45 | 0.13 | 0.43 |
| Avail Cap(c_a), veh/h | 253 | 1172 | 1207 | 250 | 0 | 1221 | 253 | 685 | 581 | 250 | 681 | 577 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 10.2 | 10.2 | 22.7 | 0.0 | 13.4 | 21.9 | 17.1 | 17.1 | 22.5 | 18.0 | 18.7 |
| Incr Delay (d2), s/veh | 5.3 | 0.5 | 0.5 | 11.2 | 0.0 | 2.2 | 5.7 | 0.0 | 0.0 | 8.5 | 0.3 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 2.1 | 2.1 | 0.2 | 0.0 | 3.8 | 0.4 | 0.0 | 0.0 | 0.2 | 0.3 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 26.4 | 10.6 | 10.6 | 33.9 | 0.0 | 15.6 | 27.6 | 17.1 | 17.1 | 31.0 | 18.2 | 20.1 |
| LnGrp LOS | C | B | B | C | A | B | C | B | B | C | B | C |
| Approach Vol, veh/h | | 751 | | | 532 | | | 42 | | | 134 | |
| Approach Delay, s/veh | | 12.1 | | | 16.0 | | | 25.1 | | | 21.0 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 23.8 | 6.3 | 11.0 | 7.6 | 21.5 | 5.5 | 11.8 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 30.6 | 6.6 | 16.9 | 6.6 | 30.5 | 6.5 | 17.0 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 8.4 | 2.8 | 4.3 | 3.8 | 13.7 | 2.4 | 2.1 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.3 | 0.0 | 2.8 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.7 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 225 | 15 | 625 | 100 |
| Future Volume (veh/h) | 0 | 0 | 225 | 15 | 625 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 237 | 12 | 658 | 105 |
| Peak Hour Factor | | | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 408 | 21 | 797 | 1550 |
| Arrive On Green | | | 0.23 | 0.23 | 0.45 | 0.83 |
| Sat Flow, veh/h | | | 1765 | 89 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 249 | 658 | 105 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1854 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.8 | 7.6 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.8 | 7.6 | 0.2 |
| Prop In Lane | | | | 0.05 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 429 | 797 | 1550 |
| V/C Ratio(X) | | | 0.00 | 0.58 | 0.83 | 0.07 |
| Avail Cap(c_a), veh/h | | | 0 | 3575 | 2442 | 3606 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 8.0 | 5.6 | 0.4 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.5 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.6 | 0.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 8.4 | 6.5 | 0.4 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 249 | | | 763 |
| Approach Delay, s/veh | | | 8.4 | | | 5.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 9.4 | | | | 23.3 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 9.6 | 4.8 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.0 | 0.9 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 45 | 53 | 5 | 6 | 5 | 50 | 5 | 5 | 7 | 10 | 150 | 5 |
| Future Vol, veh/h | 45 | 53 | 5 | 6 | 5 | 50 | 5 | 5 | 7 | 10 | 150 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 49 | 58 | 5 | 7 | 5 | 54 | 5 | 5 | 8 | 11 | 163 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 237 | 211 | 166 | 236 | 204 | 9 | 163 | 0 | 0 | 13 | 0 | 0 |
| Stage 1 | 188 | 188 | - | 19 | 19 | - | - | - | - | - | - | - |
| Stage 2 | 49 | 23 | - | 217 | 185 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 717 | 686 | 878 | 718 | 692 | 1073 | 1416 | - | - | 1606 | - | - |
| Stage 1 | 814 | 745 | - | 1000 | 880 | - | - | - | - | - | - | - |
| Stage 2 | 964 | 876 | - | 785 | 747 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 670 | 678 | 878 | 661 | 684 | 1073 | 1416 | - | - | 1606 | - | - |
| Mov Cap-2 Maneuver | 670 | 678 | - | 661 | 684 | - | - | - | - | - | - | - |
| Stage 1 | 811 | 739 | - | 996 | 876 | - | - | - | - | - | - | - |
| Stage 2 | 906 | 872 | - | 714 | 741 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.7 | 9 | 2.2 | 0.4 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1416 | - | - | 670 | 692 | 968 | 1606 | - | - |
| HCM Lane V/C Ratio | 0.004 | - | - | 0.073 | 0.091 | 0.068 | 0.007 | - | - |
| HCM Control Delay (s) | 7.6 | 0 | - | 10.8 | 10.7 | 9 | 7.3 | - | - |
| HCM Lane LOS | A | A | - | B | B | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.2 | 0.3 | 0.2 | 0 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 454 | 160 | 25 | 15 | 175 | 55 | 100 | 65 | 20 | 30 | 16 | 221 |
| Future Volume (veh/h) | 454 | 160 | 25 | 15 | 175 | 55 | 100 | 65 | 20 | 30 | 16 | 221 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 493 | 174 | 20 | 16 | 190 | 45 | 109 | 71 | 6 | 33 | 17 | 31 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 667 | 575 | 66 | 35 | 257 | 61 | 264 | 278 | 235 | 177 | 91 | 235 |
| Arrive On Green | 0.19 | 0.35 | 0.35 | 0.02 | 0.18 | 0.18 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Sat Flow, veh/h | 3456 | 1647 | 189 | 1781 | 1462 | 346 | 1781 | 1870 | 1585 | 1195 | 616 | 1585 |
| Grp Volume(v), veh/h | 493 | 0 | 194 | 16 | 0 | 235 | 109 | 71 | 6 | 50 | 0 | 31 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 0 | 1836 | 1781 | 0 | 1808 | 1781 | 1870 | 1585 | 1811 | 0 | 1585 |
| Q Serve(g_s), s | 7.2 | 0.0 | 4.1 | 0.5 | 0.0 | 6.6 | 3.0 | 1.8 | 0.2 | 1.3 | 0.0 | 0.9 |
| Cycle Q Clear(g_c), s | 7.2 | 0.0 | 4.1 | 0.5 | 0.0 | 6.6 | 3.0 | 1.8 | 0.2 | 1.3 | 0.0 | 0.9 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.19 | 1.00 | | 1.00 | 0.66 | | 1.00 |
| Lane Grp Cap(c), veh/h | 667 | 0 | 641 | 35 | 0 | 318 | 264 | 278 | 235 | 269 | 0 | 235 |
| V/C Ratio(X) | 0.74 | 0.00 | 0.30 | 0.45 | 0.00 | 0.74 | 0.41 | 0.26 | 0.03 | 0.19 | 0.00 | 0.13 |
| Avail Cap(c_a), veh/h | 1122 | 0 | 1111 | 169 | 0 | 678 | 350 | 368 | 312 | 460 | 0 | 403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.5 | 0.0 | 12.8 | 26.1 | 0.0 | 21.0 | 20.8 | 20.3 | 19.6 | 20.1 | 0.0 | 19.9 |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.3 | 8.9 | 0.0 | 3.4 | 1.0 | 0.5 | 0.0 | 0.3 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 0.0 | 1.4 | 0.3 | 0.0 | 2.7 | 1.1 | 0.7 | 0.1 | 0.5 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.1 | 0.0 | 13.0 | 35.0 | 0.0 | 24.4 | 21.8 | 20.8 | 19.7 | 20.4 | 0.0 | 20.2 |
| LnGrp LOS | C | A | B | D | A | C | C | C | B | C | A | C |
| Approach Vol, veh/h | | 687 | | | 251 | | | 186 | | | 81 | |
| Approach Delay, s/veh | | 19.5 | | | 25.1 | | | 21.4 | | | 20.3 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 23.3 | | 12.5 | 14.9 | 14.0 | | 12.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 |
| Max Green Setting (Gmax), s | 5.1 | 32.6 | | 13.7 | 17.5 | 20.2 | | 10.6 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 6.1 | | 3.3 | 9.2 | 8.6 | | 5.0 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | | 0.2 | 1.2 | 0.9 | | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.0 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 155 | 703 | 5 | 426 | 531 | 30 | 5 | 35 | 50 | 10 | 17 | 203 |
| Future Volume (veh/h) | 155 | 703 | 5 | 426 | 531 | 30 | 5 | 35 | 50 | 10 | 17 | 203 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 168 | 764 | 2 | 463 | 577 | 29 | 5 | 38 | 2 | 11 | 18 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 208 | 852 | 722 | 379 | 1876 | 94 | 71 | 75 | 64 | 71 | 75 | 64 |
| Arrive On Green | 0.12 | 0.46 | 0.46 | 0.21 | 0.54 | 0.54 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 3443 | 173 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 168 | 764 | 2 | 463 | 297 | 309 | 5 | 38 | 2 | 11 | 18 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1777 | 1839 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 7.1 | 29.0 | 0.1 | 16.4 | 7.1 | 7.1 | 0.2 | 1.5 | 0.1 | 0.5 | 0.7 | 0.8 |
| Cycle Q Clear(g_c), s | 7.1 | 29.0 | 0.1 | 16.4 | 7.1 | 7.1 | 0.2 | 1.5 | 0.1 | 0.5 | 0.7 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 208 | 852 | 722 | 379 | 968 | 1002 | 71 | 75 | 64 | 71 | 75 | 64 |
| V/C Ratio(X) | 0.81 | 0.90 | 0.00 | 1.22 | 0.31 | 0.31 | 0.07 | 0.51 | 0.03 | 0.15 | 0.24 | 0.25 |
| Avail Cap(c_a), veh/h | 328 | 1058 | 896 | 379 | 1055 | 1092 | 116 | 121 | 103 | 129 | 136 | 115 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.2 | 19.3 | 11.4 | 30.4 | 9.6 | 9.6 | 35.6 | 36.3 | 35.6 | 35.7 | 35.9 | 35.9 |
| Incr Delay (d2), s/veh | 7.8 | 8.7 | 0.0 | 121.4 | 0.2 | 0.2 | 0.4 | 5.2 | 0.2 | 1.0 | 1.6 | 2.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.3 | 12.8 | 0.0 | 19.2 | 2.3 | 2.3 | 0.1 | 0.8 | 0.0 | 0.2 | 0.4 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.0 | 28.1 | 11.4 | 151.8 | 9.8 | 9.8 | 36.0 | 41.5 | 35.8 | 36.7 | 37.5 | 37.9 |
| LnGrp LOS | D | C | B | F | A | A | D | D | D | D | D | D |
| Approach Vol, veh/h | | 934 | | | 1069 | | | 45 | | | 45 | |
| Approach Delay, s/veh | | 30.3 | | | 71.3 | | | 40.6 | | | 37.5 | |
| Approach LOS | | C | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.0 | 40.2 | | 7.7 | 14.1 | 47.1 | | 8.2 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 4.6 | 5.1 | * 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 16.4 | 43.6 | | 5.6 | 14.2 | * 46 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 18.4 | 31.0 | | 2.8 | 9.1 | 9.1 | | 3.5 |
| Green Ext Time (p_c), s | 0.0 | 4.1 | | 0.0 | 0.2 | 3.5 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.6 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 319 | 432 | 17 | 58 | 584 | 20 | 36 | 281 | 245 | 22 | 203 | 392 |
| Future Volume (veh/h) | 319 | 432 | 17 | 58 | 584 | 20 | 36 | 281 | 245 | 22 | 203 | 392 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 347 | 470 | 17 | 63 | 635 | 21 | 39 | 305 | 27 | 24 | 221 | 64 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 390 | 989 | 36 | 88 | 687 | 23 | 67 | 448 | 200 | 47 | 409 | 182 |
| Arrive On Green | 0.22 | 0.55 | 0.55 | 0.05 | 0.38 | 0.38 | 0.04 | 0.13 | 0.13 | 0.03 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 1794 | 65 | 1781 | 1800 | 60 | 1781 | 3554 | 1585 | 1781 | 3554 | 1585 |
| Grp Volume(v), veh/h | 347 | 0 | 487 | 63 | 0 | 656 | 39 | 305 | 27 | 24 | 221 | 64 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1859 | 1781 | 0 | 1860 | 1781 | 1777 | 1585 | 1781 | 1777 | 1585 |
| Q Serve(g_s), s | 13.8 | 0.0 | 11.6 | 2.5 | 0.0 | 24.6 | 1.6 | 6.0 | 1.1 | 1.0 | 4.3 | 2.7 |
| Cycle Q Clear(g_c), s | 13.8 | 0.0 | 11.6 | 2.5 | 0.0 | 24.6 | 1.6 | 6.0 | 1.1 | 1.0 | 4.3 | 2.7 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 390 | 0 | 1025 | 88 | 0 | 710 | 67 | 448 | 200 | 47 | 409 | 182 |
| V/C Ratio(X) | 0.89 | 0.00 | 0.48 | 0.72 | 0.00 | 0.92 | 0.58 | 0.68 | 0.14 | 0.51 | 0.54 | 0.35 |
| Avail Cap(c_a), veh/h | 427 | 0 | 1025 | 210 | 0 | 762 | 125 | 955 | 426 | 122 | 950 | 424 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.6 | 0.0 | 9.9 | 34.2 | 0.0 | 21.5 | 34.5 | 30.5 | 28.3 | 35.0 | 30.5 | 29.8 |
| Incr Delay (d2), s/veh | 19.0 | 0.0 | 0.3 | 10.3 | 0.0 | 16.3 | 7.9 | 1.8 | 0.3 | 8.3 | 1.1 | 1.1 |
| 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 | 7.3 | 0.0 | 3.8 | 1.3 | 0.0 | 12.3 | 0.8 | 2.5 | 0.4 | 0.5 | 1.8 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.6 | 0.0 | 10.3 | 44.5 | 0.0 | 37.8 | 42.4 | 32.3 | 28.6 | 43.4 | 31.6 | 30.9 |
| LnGrp LOS | D | A | B | D | A | D | D | C | C | D | C | C |
| Approach Vol, veh/h | | 834 | | | 719 | | | 371 | | | 309 | |
| Approach Delay, s/veh | | 25.4 | | | 38.4 | | | 33.1 | | | 32.3 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 13.7 | 8.1 | 44.7 | 7.2 | 12.9 | 20.5 | 32.3 |
| 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 | 5.0 | 19.6 | 8.6 | 38.8 | 5.1 | 19.5 | 17.5 | 29.9 |
| Max Q Clear Time (g_c+I1), s | 3.0 | 8.0 | 4.5 | 13.6 | 3.6 | 6.3 | 15.8 | 26.6 |
| Green Ext Time (p_c), s | 0.0 | 1.2 | 0.0 | 2.8 | 0.0 | 1.1 | 0.2 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.8 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 92 | 152 | 280 | 203 | 237 | 350 |
| Future Vol, veh/h | 92 | 152 | 280 | 203 | 237 | 350 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 100 | 165 | 304 | 221 | 258 | 380 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1314 | 418 | 0 | 0 | 528 | 0 |
| Stage 1 | 418 | - | - | - | - | - |
| Stage 2 | 896 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 174 | 635 | - | - | 1039 | - |
| Stage 1 | 664 | - | - | - | - | - |
| Stage 2 | 399 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 130 | 633 | - | - | 1036 | - |
| Mov Cap-2 Maneuver | 236 | - | - | - | - | - |
| Stage 1 | 662 | - | - | - | - | - |
| Stage 2 | 300 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 32.3 | 0 | 3.9 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 387 | 1036 | - |
| HCM Lane V/C Ratio | - | - | 0.685 | 0.249 | - |
| HCM Control Delay (s) | - | - | 32.3 | 9.6 | - |
| HCM Lane LOS | - | - | D | A | - |
| HCM 95th %tile Q(veh) | - | - | 4.9 | 1 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 44 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 160 | 155 | 80 | 110 | 75 | 33 | 55 | 290 | 30 | 117 | 280 | 45 |
| Future Vol, veh/h | 160 | 155 | 80 | 110 | 75 | 33 | 55 | 290 | 30 | 117 | 280 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 174 | 168 | 87 | 120 | 82 | 36 | 60 | 315 | 33 | 127 | 304 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 65.7 | 24.9 | 40.1 | 37.2 |
| HCM LOS | F | C | E | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 41% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 91% | 39% | 34% | 0% | 86% |
| Vol Right, % | 0% | 9% | 20% | 15% | 0% | 14% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 55 | 320 | 395 | 218 | 117 | 325 |
| LT Vol | 55 | 0 | 160 | 110 | 117 | 0 |
| Through Vol | 0 | 290 | 155 | 75 | 0 | 280 |
| RT Vol | 0 | 30 | 80 | 33 | 0 | 45 |
| Lane Flow Rate | 60 | 348 | 429 | 237 | 127 | 353 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.155 | 0.847 | 0.974 | 0.598 | 0.328 | 0.85 |
| Departure Headway (Hd) | 9.355 | 8.764 | 8.163 | 9.092 | 9.286 | 8.662 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 383 | 414 | 442 | 396 | 387 | 417 |
| Service Time | 7.12 | 6.529 | 6.225 | 7.176 | 7.055 | 6.431 |
| HCM Lane V/C Ratio | 0.157 | 0.841 | 0.971 | 0.598 | 0.328 | 0.847 |
| HCM Control Delay | 13.8 | 44.6 | 65.7 | 24.9 | 16.6 | 44.6 |
| HCM Lane LOS | B | E | F | C | C | E |
| HCM 95th-tile Q | 0.5 | 8.1 | 12 | 3.7 | 1.4 | 8.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 533 | 110 | 330 | 489 | 0 | 0 | 0 | 0 | 152 | 258 | 60 |
| Future Volume (veh/h) | 0 | 533 | 110 | 330 | 489 | 0 | 0 | 0 | 0 | 152 | 258 | 60 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 579 | 10 | 359 | 532 | 0 | | | | 165 | 280 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 903 | 403 | 777 | 2064 | 0 | | | | 361 | 664 | 64 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.22 | 0.58 | 0.00 | | | | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3277 | 314 |
| Grp Volume(v), veh/h | 0 | 579 | 10 | 359 | 532 | 0 | | | | 165 | 151 | 156 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1814 |
| Q Serve(g_s), s | 0.0 | 5.7 | 0.2 | 3.5 | 2.9 | 0.0 | | | | 3.2 | 2.9 | 2.9 |
| Cycle Q Clear(g_c), s | 0.0 | 5.7 | 0.2 | 3.5 | 2.9 | 0.0 | | | | 3.2 | 2.9 | 2.9 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.17 |
| Lane Grp Cap(c), veh/h | 0 | 903 | 403 | 777 | 2064 | 0 | | | | 361 | 360 | 368 |
| V/C Ratio(X) | 0.00 | 0.64 | 0.02 | 0.46 | 0.26 | 0.00 | | | | 0.46 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h | 0 | 2082 | 929 | 792 | 3259 | 0 | | | | 1747 | 1743 | 1779 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.0 | 11.0 | 13.2 | 4.1 | 0.0 | | | | 13.8 | 13.6 | 13.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | | | | 0.3 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.8 | 0.1 | 1.1 | 0.5 | 0.0 | | | | 1.0 | 0.9 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.3 | 11.0 | 13.3 | 4.1 | 0.0 | | | | 14.1 | 13.9 | 13.9 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 589 | | | 891 | | | | | | 472 | |
| Approach Delay, s/veh | | 13.3 | | | 7.8 | | | | | | 14.0 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 14.0 | | 12.5 | | 26.8 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 5.5 | 7.7 | | 5.2 | | 4.9 |
| Green Ext Time (p_c), s | 0.3 | 2.3 | | 1.2 | | 2.4 |

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 245 | 440 | 0 | 0 | 654 | 57 | 165 | 315 | 363 | 0 | 0 | 0 |
| Future Volume (veh/h) | 245 | 440 | 0 | 0 | 654 | 57 | 165 | 315 | 363 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 266 | 478 | 0 | 0 | 711 | 4 | 179 | 342 | 268 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 500 | 1844 | 0 | 0 | 981 | 438 | 469 | 516 | 397 | | | |
| Arrive On Green | 0.14 | 0.52 | 0.00 | 0.00 | 0.28 | 0.28 | 0.26 | 0.26 | 0.26 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 1962 | 1508 | | | |
| Grp Volume(v), veh/h | 266 | 478 | 0 | 0 | 711 | 4 | 179 | 326 | 284 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1599 | | | |
| Q Serve(g_s), s | 3.3 | 3.5 | 0.0 | 0.0 | 8.5 | 0.1 | 3.9 | 7.3 | 7.5 | | | |
| Cycle Q Clear(g_c), s | 3.3 | 3.5 | 0.0 | 0.0 | 8.5 | 0.1 | 3.9 | 7.3 | 7.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.94 | | | |
| Lane Grp Cap(c), veh/h | 500 | 1844 | 0 | 0 | 981 | 438 | 469 | 492 | 421 | | | |
| V/C Ratio(X) | 0.53 | 0.26 | 0.00 | 0.00 | 0.72 | 0.01 | 0.38 | 0.66 | 0.68 | | | |
| Avail Cap(c_a), veh/h | 664 | 2504 | 0 | 0 | 1593 | 711 | 1369 | 1437 | 1229 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 18.6 | 6.3 | 0.0 | 0.0 | 15.3 | 12.3 | 14.1 | 15.4 | 15.5 | | | |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 | 0.6 | 0.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.9 | 0.0 | 0.0 | 2.9 | 0.0 | 1.4 | 2.7 | 2.4 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.9 | 6.3 | 0.0 | 0.0 | 15.7 | 12.3 | 14.3 | 16.0 | 16.2 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 744 | | | 715 | | | 789 | | | | |
| Approach Delay, s/veh | | 10.8 | | | 15.7 | | | 15.7 | | | | |
| Approach LOS | | B | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 29.4 | | | 11.4 | 18.0 | | 17.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.5 | | | 5.3 | 10.5 | | 9.5 | | | | |
| Green Ext Time (p_c), s | | 2.1 | | | 0.2 | 2.4 | | 2.9 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.1 |
| HCM 6th LOS | B |

Notes

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 615 | 75 | 533 | 629 | 0 | 40 | 0 | 130 | 283 | 195 | 220 |
| Future Volume (veh/h) | 0 | 615 | 75 | 533 | 629 | 0 | 40 | 0 | 130 | 283 | 195 | 220 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 668 | 14 | 579 | 684 | 0 | 43 | 0 | 141 | 308 | 212 | 18 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 886 | 395 | 678 | 1779 | 0 | 51 | 0 | 168 | 355 | 662 | 56 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.20 | 0.50 | 0.00 | 0.13 | 0.00 | 0.13 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 380 | 0 | 1247 | 1781 | 3317 | 279 |
| Grp Volume(v), veh/h | 0 | 668 | 14 | 579 | 684 | 0 | 184 | 0 | 0 | 308 | 113 | 117 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1627 | 0 | 0 | 1781 | 1777 | 1820 |
| Q Serve(g_s), s | 0.0 | 12.6 | 0.5 | 11.7 | 8.6 | 0.0 | 8.0 | 0.0 | 0.0 | 12.1 | 3.9 | 4.0 |
| Cycle Q Clear(g_c), s | 0.0 | 12.6 | 0.5 | 11.7 | 8.6 | 0.0 | 8.0 | 0.0 | 0.0 | 12.1 | 3.9 | 4.0 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.23 | | 0.77 | 1.00 | | 0.15 |
| Lane Grp Cap(c), veh/h | 0 | 886 | 395 | 678 | 1779 | 0 | 219 | 0 | 0 | 355 | 355 | 363 |
| V/C Ratio(X) | 0.00 | 0.75 | 0.04 | 0.85 | 0.38 | 0.00 | 0.84 | 0.00 | 0.00 | 0.87 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 0 | 1028 | 459 | 809 | 2056 | 0 | 224 | 0 | 0 | 393 | 392 | 401 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 25.2 | 20.6 | 28.2 | 11.2 | 0.0 | 30.6 | 0.0 | 0.0 | 28.1 | 24.8 | 24.9 |
| Incr Delay (d2), s/veh | 0.0 | 3.8 | 0.1 | 6.7 | 0.1 | 0.0 | 22.2 | 0.0 | 0.0 | 15.7 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.5 | 0.2 | 5.3 | 3.1 | 0.0 | 4.3 | 0.0 | 0.0 | 6.5 | 1.6 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 28.9 | 20.7 | 34.9 | 11.3 | 0.0 | 52.8 | 0.0 | 0.0 | 43.8 | 25.0 | 25.0 |
| LnGrp LOS | A | C | C | C | B | A | D | A | A | D | C | C |
| Approach Vol, veh/h | | 682 | | | 1263 | | | 184 | | | 538 | |
| Approach Delay, s/veh | | 28.8 | | | 22.1 | | | 52.8 | | | 35.8 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.2 | 22.1 | | 18.5 | | 40.3 | | 13.8 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 17.0 | 21.0 | | 16.0 | | 42.0 | | 10.0 |
| Max Q Clear Time (g_c+I1), s | 13.7 | 14.6 | | 14.1 | | 10.6 | | 10.0 |
| Green Ext Time (p_c), s | 0.5 | 3.5 | | 0.3 | | 5.3 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.7 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 415 | 613 | 0 | 0 | 772 | 165 | 390 | 263 | 57 | 0 | 0 | 0 |
| Future Volume (veh/h) | 415 | 613 | 0 | 0 | 772 | 165 | 390 | 263 | 57 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 451 | 666 | 0 | 0 | 839 | 62 | 251 | 528 | 42 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 845 | 2027 | 0 | 0 | 793 | 354 | 360 | 691 | 55 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.20 | 0.20 | 0.20 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3420 | 271 | | | |
| Grp Volume(v), veh/h | 451 | 666 | 0 | 0 | 839 | 62 | 251 | 288 | 282 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1822 | | | |
| Q Serve(g_s), s | 5.1 | 4.4 | 0.0 | 0.0 | 10.0 | 1.4 | 5.9 | 6.5 | 6.5 | | | |
| Cycle Q Clear(g_c), s | 5.1 | 4.4 | 0.0 | 0.0 | 10.0 | 1.4 | 5.9 | 6.5 | 6.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.15 | | | |
| Lane Grp Cap(c), veh/h | 845 | 2027 | 0 | 0 | 793 | 354 | 360 | 378 | 368 | | | |
| V/C Ratio(X) | 0.53 | 0.33 | 0.00 | 0.00 | 1.06 | 0.18 | 0.70 | 0.76 | 0.77 | | | |
| Avail Cap(c_a), veh/h | 1388 | 2027 | 0 | 0 | 793 | 354 | 398 | 417 | 406 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.7 | 5.1 | 0.0 | 0.0 | 17.4 | 14.1 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 48.4 | 0.1 | 3.6 | 6.2 | 6.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.7 | 1.0 | 0.0 | 0.0 | 8.8 | 0.4 | 2.4 | 3.1 | 3.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.9 | 5.1 | 0.0 | 0.0 | 65.8 | 14.2 | 20.2 | 23.1 | 23.5 | | | |
| LnGrp LOS | B | A | A | A | F | B | C | C | C | | | |
| Approach Vol, veh/h | | 1117 | | | 901 | | | 821 | | | | |
| Approach Delay, s/veh | | 9.1 | | | 62.2 | | | 22.3 | | | | |
| Approach LOS | | A | | | E | | | C | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 30.7 | | | 15.6 | 15.1 | | 14.2 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.4 | | | 7.1 | 12.0 | | 8.5 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.5 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.8 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 49 | 546 | 75 | 40 | 542 | 55 | 70 | 20 | 10 | 20 | 20 | 325 |
| Future Volume (veh/h) | 49 | 546 | 75 | 40 | 542 | 55 | 70 | 20 | 10 | 20 | 20 | 325 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 53 | 593 | 68 | 43 | 589 | 55 | 76 | 22 | 7 | 22 | 22 | 175 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 88 | 1324 | 152 | 77 | 683 | 64 | 109 | 341 | 289 | 46 | 275 | 233 |
| Arrive On Green | 0.05 | 0.41 | 0.41 | 0.04 | 0.41 | 0.41 | 0.06 | 0.18 | 0.18 | 0.03 | 0.15 | 0.15 |
| Sat Flow, veh/h | 1781 | 3213 | 368 | 1781 | 1685 | 157 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 53 | 327 | 334 | 43 | 0 | 644 | 76 | 22 | 7 | 22 | 22 | 175 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1804 | 1781 | 0 | 1842 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.7 | 7.6 | 7.7 | 1.4 | 0.0 | 18.4 | 2.4 | 0.6 | 0.2 | 0.7 | 0.6 | 6.1 |
| Cycle Q Clear(g_c), s | 1.7 | 7.6 | 7.7 | 1.4 | 0.0 | 18.4 | 2.4 | 0.6 | 0.2 | 0.7 | 0.6 | 6.1 |
| Prop In Lane | 1.00 | | 0.20 | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 88 | 732 | 744 | 77 | 0 | 747 | 109 | 341 | 289 | 46 | 275 | 233 |
| V/C Ratio(X) | 0.60 | 0.45 | 0.45 | 0.56 | 0.00 | 0.86 | 0.70 | 0.06 | 0.02 | 0.48 | 0.08 | 0.75 |
| Avail Cap(c_a), veh/h | 204 | 969 | 983 | 201 | 0 | 1001 | 223 | 526 | 446 | 201 | 503 | 426 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.8 | 12.2 | 12.2 | 27.0 | 0.0 | 15.6 | 26.5 | 19.5 | 19.4 | 27.7 | 21.2 | 23.6 |
| Incr Delay (d2), s/veh | 6.4 | 0.4 | 0.4 | 6.2 | 0.0 | 6.0 | 7.8 | 0.1 | 0.0 | 7.6 | 0.1 | 4.9 |
| 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 | 2.7 | 2.8 | 0.7 | 0.0 | 7.1 | 1.2 | 0.2 | 0.1 | 0.4 | 0.2 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 33.2 | 12.6 | 12.6 | 33.2 | 0.0 | 21.7 | 34.4 | 19.6 | 19.4 | 35.2 | 21.3 | 28.4 |
| LnGrp LOS | C | B | B | C | A | C | C | B | B | D | C | C |
| Approach Vol, veh/h | | 714 | | | 687 | | | 105 | | | 219 | |
| Approach Delay, s/veh | | 14.2 | | | 22.4 | | | 30.3 | | | 28.4 | |
| Approach LOS | | B | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 28.8 | 8.1 | 13.6 | 7.5 | 28.5 | 6.1 | 15.6 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 31.4 | 7.2 | 15.5 | 6.6 | 31.3 | 6.5 | 16.2 |
| Max Q Clear Time (g_c+I1), s | 3.4 | 9.7 | 4.4 | 8.1 | 3.7 | 20.4 | 2.7 | 2.6 |
| Green Ext Time (p_c), s | 0.0 | 4.2 | 0.0 | 0.4 | 0.0 | 3.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.2 |
| HCM 6th LOS | C |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 170 | 10 | 703 | 100 |
| Future Volume (veh/h) | 0 | 0 | 170 | 10 | 703 | 100 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 181 | 6 | 748 | 106 |
| Peak Hour Factor | | | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 375 | 12 | 878 | 1572 |
| Arrive On Green | | | 0.21 | 0.21 | 0.49 | 0.84 |
| Sat Flow, veh/h | | | 1800 | 60 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 187 | 748 | 106 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1860 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.2 | 9.2 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.2 | 9.2 | 0.2 |
| Prop In Lane | | | | 0.03 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 387 | 878 | 1572 |
| V/C Ratio(X) | | | 0.00 | 0.48 | 0.85 | 0.07 |
| Avail Cap(c_a), veh/h | | | 0 | 3335 | 2272 | 3354 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 8.7 | 5.6 | 0.3 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.3 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.5 | 0.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 9.1 | 6.5 | 0.3 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 187 | | | 854 |
| Approach Delay, s/veh | | | 9.1 | | | 5.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.9 | 9.2 | | | | 25.1 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 11.2 | 4.2 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.2 | 0.7 | | | | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 30 | 153 | 5 | 7 | 50 | 5 | 5 | 5 | 6 | 0 | 5 | 50 |
| Future Vol, veh/h | 30 | 153 | 5 | 7 | 50 | 5 | 5 | 5 | 6 | 0 | 5 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 33 | 166 | 5 | 8 | 54 | 5 | 5 | 5 | 7 | 0 | 5 | 54 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 80 | 54 | 32 | 110 | 24 | 9 | 5 | 0 | 0 | - | - | 0 |
| Stage 1 | 32 | 32 | - | 19 | 19 | - | - | - | - | - | - | - |
| Stage 2 | 48 | 22 | - | 91 | 5 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 908 | 837 | 1042 | 868 | 869 | 1073 | 1616 | - | - | 0 | - | - |
| Stage 1 | 984 | 868 | - | 1000 | 880 | - | - | - | - | 0 | - | - |
| Stage 2 | 965 | 877 | - | 916 | 892 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 858 | 834 | 1042 | 729 | 866 | 1073 | 1616 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 858 | 834 | - | 729 | 866 | - | - | - | - | - | - | - |
| Stage 1 | 981 | 868 | - | 997 | 877 | - | - | - | - | - | - | - |
| Stage 2 | 898 | 874 | - | 737 | 892 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.2 | 9.5 | 2.3 | 0 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1616 | - | - | 858 | 839 | 861 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.038 | 0.205 | 0.078 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 9.4 | 10.4 | 9.5 | - | - |
| HCM Lane LOS | A | A | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 0.8 | 0.3 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 181 | 612 | 10 | 337 | 484 | 30 | 15 | 47 | 62 | 5 | 18 | 212 |
| Future Volume (veh/h) | 181 | 612 | 10 | 337 | 484 | 30 | 15 | 47 | 62 | 5 | 18 | 212 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 197 | 665 | 10 | 366 | 526 | 28 | 16 | 51 | 4 | 5 | 20 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 249 | 977 | 15 | 418 | 1231 | 65 | 149 | 157 | 133 | 149 | 157 | 133 |
| Arrive On Green | 0.14 | 0.27 | 0.27 | 0.23 | 0.36 | 0.36 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1781 | 3584 | 54 | 1781 | 3432 | 182 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 197 | 330 | 345 | 366 | 272 | 282 | 16 | 51 | 4 | 5 | 20 | 3 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1861 | 1781 | 1777 | 1838 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 6.4 | 9.9 | 9.9 | 11.8 | 6.9 | 6.9 | 0.5 | 1.5 | 0.1 | 0.2 | 0.6 | 0.1 |
| Cycle Q Clear(g_c), s | 6.4 | 9.9 | 9.9 | 11.8 | 6.9 | 6.9 | 0.5 | 1.5 | 0.1 | 0.2 | 0.6 | 0.1 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.10 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 249 | 484 | 507 | 418 | 637 | 659 | 149 | 157 | 133 | 149 | 157 | 133 |
| V/C Ratio(X) | 0.79 | 0.68 | 0.68 | 0.88 | 0.43 | 0.43 | 0.11 | 0.33 | 0.03 | 0.03 | 0.13 | 0.02 |
| Avail Cap(c_a), veh/h | 475 | 1323 | 1385 | 460 | 1308 | 1352 | 149 | 157 | 133 | 173 | 182 | 154 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.8 | 19.4 | 19.4 | 22.0 | 14.5 | 14.5 | 25.3 | 25.7 | 25.1 | 25.1 | 25.3 | 25.1 |
| Incr Delay (d2), s/veh | 5.5 | 1.7 | 1.6 | 16.1 | 0.5 | 0.4 | 0.3 | 1.2 | 0.1 | 0.1 | 0.4 | 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 | 2.8 | 3.8 | 4.0 | 6.3 | 2.5 | 2.6 | 0.2 | 0.7 | 0.1 | 0.1 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.3 | 21.1 | 21.0 | 38.1 | 14.9 | 14.9 | 25.6 | 26.9 | 25.2 | 25.2 | 25.7 | 25.1 |
| LnGrp LOS | C | C | C | D | B | B | C | C | C | C | C | C |
| Approach Vol, veh/h | | 872 | | | 920 | | | 71 | | | 28 | |
| Approach Delay, s/veh | | 23.1 | | | 24.2 | | | 26.5 | | | 25.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.6 | 21.4 | | 9.6 | 13.5 | 26.5 | | 10.1 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 4.6 | 5.1 | * 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 15.4 | 44.4 | | 5.8 | 15.9 | * 44 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 11.9 | | 2.6 | 8.4 | 8.9 | | 3.5 |
| Green Ext Time (p_c), s | 0.2 | 4.4 | | 0.0 | 0.3 | 3.5 | | 0.0 |

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

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 104 | 161 | 290 | 182 | 215 | 355 |
| Future Vol, veh/h | 104 | 161 | 290 | 182 | 215 | 355 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 3 | 3 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | 0 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 111 | 171 | 309 | 194 | 229 | 378 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1245 | 409 | 0 | 0 | 506 | 0 |
| Stage 1 | 409 | - | - | - | - | - |
| Stage 2 | 836 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 192 | 642 | - | - | 1059 | - |
| Stage 1 | 671 | - | - | - | - | - |
| Stage 2 | 425 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 150 | 640 | - | - | 1056 | - |
| Mov Cap-2 Maneuver | 260 | - | - | - | - | - |
| Stage 1 | 669 | - | - | - | - | - |
| Stage 2 | 333 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 31.5 | 0 | 3.5 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 407 | 1056 | - |
| HCM Lane V/C Ratio | - | - | 0.693 | 0.217 | - |
| HCM Control Delay (s) | - | - | 31.5 | 9.3 | - |
| HCM Lane LOS | - | - | D | A | - |
| HCM 95th %tile Q(veh) | - | - | 5.1 | 0.8 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 36.9 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 150 | 155 | 80 | 110 | 75 | 42 | 55 | 280 | 30 | 129 | 285 | 45 |
| Future Vol, veh/h | 150 | 155 | 80 | 110 | 75 | 42 | 55 | 280 | 30 | 129 | 285 | 45 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 165 | 85 | 117 | 80 | 45 | 59 | 298 | 32 | 137 | 303 | 48 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 52.6 | 23.6 | 33 | 33.3 |
| HCM LOS | F | C | D | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 39% | 48% | 100% | 0% |
| Vol Thru, % | 0% | 90% | 40% | 33% | 0% | 86% |
| Vol Right, % | 0% | 10% | 21% | 19% | 0% | 14% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 55 | 310 | 385 | 227 | 129 | 330 |
| LT Vol | 55 | 0 | 150 | 110 | 129 | 0 |
| Through Vol | 0 | 280 | 155 | 75 | 0 | 285 |
| RT Vol | 0 | 30 | 80 | 42 | 0 | 45 |
| Lane Flow Rate | 59 | 330 | 410 | 241 | 137 | 351 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.149 | 0.786 | 0.915 | 0.587 | 0.345 | 0.821 |
| Departure Headway (Hd) | 9.174 | 8.582 | 8.045 | 8.757 | 9.038 | 8.418 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 390 | 422 | 455 | 411 | 398 | 428 |
| Service Time | 6.94 | 6.347 | 6.045 | 6.833 | 6.805 | 6.184 |
| HCM Lane V/C Ratio | 0.151 | 0.782 | 0.901 | 0.586 | 0.344 | 0.82 |
| HCM Control Delay | 13.6 | 36.5 | 52.6 | 23.6 | 16.5 | 39.9 |
| HCM Lane LOS | B | E | F | C | C | E |
| HCM 95th-tile Q | 0.5 | 6.8 | 10.2 | 3.6 | 1.5 | 7.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 477 | 65 | 333 | 492 | 0 | 0 | 0 | 0 | 149 | 258 | 110 |
| Future Volume (veh/h) | 0 | 477 | 65 | 333 | 492 | 0 | 0 | 0 | 0 | 149 | 258 | 110 |
| Initial Q (Qb), veh | 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 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 507 | 15 | 354 | 523 | 0 | | | | 159 | 274 | 30 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | | | | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 827 | 369 | 797 | 2020 | 0 | | | | 371 | 674 | 73 |
| Arrive On Green | 0.00 | 0.23 | 0.23 | 0.23 | 0.57 | 0.00 | | | | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | | | | 1781 | 3233 | 351 |
| Grp Volume(v), veh/h | 0 | 507 | 15 | 354 | 523 | 0 | | | | 159 | 149 | 155 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | | | | 1781 | 1777 | 1807 |
| Q Serve(g_s), s | 0.0 | 4.9 | 0.3 | 3.3 | 2.8 | 0.0 | | | | 3.0 | 2.8 | 2.8 |
| Cycle Q Clear(g_c), s | 0.0 | 4.9 | 0.3 | 3.3 | 2.8 | 0.0 | | | | 3.0 | 2.8 | 2.8 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.19 |
| Lane Grp Cap(c), veh/h | 0 | 827 | 369 | 797 | 2020 | 0 | | | | 371 | 370 | 377 |
| V/C Ratio(X) | 0.00 | 0.61 | 0.04 | 0.44 | 0.26 | 0.00 | | | | 0.43 | 0.40 | 0.41 |
| Avail Cap(c_a), veh/h | 0 | 2146 | 957 | 817 | 3359 | 0 | | | | 1800 | 1796 | 1827 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 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 | 0.00 | | | | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.1 | 11.3 | 12.6 | 4.2 | 0.0 | | | | 13.1 | 13.0 | 13.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.0 | 0.1 | 0.0 | 0.0 | | | | 0.3 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.5 | 0.1 | 1.0 | 0.5 | 0.0 | | | | 0.9 | 0.8 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.4 | 11.3 | 12.7 | 4.2 | 0.0 | | | | 13.4 | 13.3 | 13.3 |
| LnGrp LOS | A | B | B | B | A | A | | | | B | B | B |
| Approach Vol, veh/h | | 522 | | | 877 | | | | | | 463 | |
| Approach Delay, s/veh | | 13.3 | | | 7.6 | | | | | | 13.3 | |
| Approach LOS | | B | | | A | | | | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 12.9 | | 12.4 | | 25.7 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.5 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 38.5 | | 36.0 |
| Max Q Clear Time (g_c+I1), s | 5.3 | 6.9 | | 5.0 | | 4.8 |
| Green Ext Time (p_c), s | 0.3 | 2.0 | | 1.1 | | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.6 |
| HCM 6th LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 431 | 0 | 0 | 675 | 69 | 150 | 339 | 362 | 0 | 0 | 0 |
| Future Volume (veh/h) | 195 | 431 | 0 | 0 | 675 | 69 | 150 | 339 | 362 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 201 | 444 | 0 | 0 | 696 | 19 | 155 | 349 | 164 | | | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 509 | 1894 | 0 | 0 | 993 | 443 | 413 | 561 | 259 | | | |
| Arrive On Green | 0.15 | 0.53 | 0.00 | 0.00 | 0.28 | 0.28 | 0.23 | 0.23 | 0.23 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 2422 | 1117 | | | |
| Grp Volume(v), veh/h | 201 | 444 | 0 | 0 | 696 | 19 | 155 | 268 | 245 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1669 | | | |
| Q Serve(g_s), s | 2.3 | 2.9 | 0.0 | 0.0 | 7.6 | 0.4 | 3.2 | 5.6 | 5.7 | | | |
| Cycle Q Clear(g_c), s | 2.3 | 2.9 | 0.0 | 0.0 | 7.6 | 0.4 | 3.2 | 5.6 | 5.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.67 | | | |
| Lane Grp Cap(c), veh/h | 509 | 1894 | 0 | 0 | 993 | 443 | 413 | 433 | 387 | | | |
| V/C Ratio(X) | 0.40 | 0.23 | 0.00 | 0.00 | 0.70 | 0.04 | 0.38 | 0.62 | 0.63 | | | |
| Avail Cap(c_a), veh/h | 718 | 2706 | 0 | 0 | 1722 | 768 | 1480 | 1554 | 1387 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 16.7 | 5.4 | 0.0 | 0.0 | 14.0 | 11.4 | 14.0 | 14.9 | 15.0 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.2 | 0.5 | 0.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.6 | 0.0 | 0.0 | 2.5 | 0.1 | 1.1 | 2.1 | 1.9 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 5.4 | 0.0 | 0.0 | 14.3 | 11.4 | 14.2 | 15.5 | 15.6 | | | |
| LnGrp LOS | B | A | A | A | B | B | B | B | B | | | |
| Approach Vol, veh/h | | 645 | | | 715 | | | 668 | | | | |
| Approach Delay, s/veh | | 9.0 | | | 14.2 | | | 15.2 | | | | |
| Approach LOS | | A | | | B | | | B | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 28.2 | | | 11.0 | 17.2 | | 15.1 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 33.0 | | | 9.0 | 21.0 | | 36.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.9 | | | 4.3 | 9.6 | | 7.7 | | | | |
| Green Ext Time (p_c), s | | 1.9 | | | 0.2 | 2.5 | | 2.3 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.9 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 624 | 95 | 472 | 648 | 0 | 75 | 0 | 135 | 293 | 148 | 215 |
| Future Volume (veh/h) | 0 | 624 | 95 | 472 | 648 | 0 | 75 | 0 | 135 | 293 | 148 | 215 |
| 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 | 0 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 678 | 33 | 513 | 704 | 0 | 82 | 0 | 147 | 318 | 161 | 96 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 951 | 672 | 443 | 1609 | 0 | 93 | 0 | 166 | 392 | 481 | 272 |
| Arrive On Green | 0.00 | 0.27 | 0.27 | 0.13 | 0.45 | 0.00 | 0.16 | 0.00 | 0.16 | 0.22 | 0.22 | 0.22 |
| Sat Flow, veh/h | 0 | 3647 | 1585 | 3456 | 3647 | 0 | 591 | 0 | 1059 | 1781 | 2187 | 1235 |
| Grp Volume(v), veh/h | 0 | 678 | 33 | 513 | 704 | 0 | 229 | 0 | 0 | 318 | 129 | 128 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1585 | 1728 | 1777 | 0 | 1650 | 0 | 0 | 1781 | 1777 | 1646 |
| Q Serve(g_s), s | 0.0 | 12.1 | 0.9 | 9.0 | 9.5 | 0.0 | 9.5 | 0.0 | 0.0 | 11.9 | 4.3 | 4.6 |
| Cycle Q Clear(g_c), s | 0.0 | 12.1 | 0.9 | 9.0 | 9.5 | 0.0 | 9.5 | 0.0 | 0.0 | 11.9 | 4.3 | 4.6 |
| Prop In Lane | 0.00 | | 1.00 | 1.00 | | 0.00 | 0.36 | | 0.64 | 1.00 | | 0.75 |
| Lane Grp Cap(c), veh/h | 0 | 951 | 672 | 443 | 1609 | 0 | 258 | 0 | 0 | 392 | 391 | 362 |
| V/C Ratio(X) | 0.00 | 0.71 | 0.05 | 1.16 | 0.44 | 0.00 | 0.89 | 0.00 | 0.00 | 0.81 | 0.33 | 0.35 |
| Avail Cap(c_a), veh/h | 0 | 1163 | 767 | 443 | 1821 | 0 | 258 | 0 | 0 | 837 | 834 | 773 |
| 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) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 23.3 | 11.9 | 30.6 | 13.1 | 0.0 | 29.0 | 0.0 | 0.0 | 26.0 | 23.0 | 23.2 |
| Incr Delay (d2), s/veh | 0.0 | 2.5 | 0.1 | 94.1 | 0.2 | 0.0 | 27.9 | 0.0 | 0.0 | 1.6 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.1 | 0.4 | 9.4 | 3.5 | 0.0 | 5.5 | 0.0 | 0.0 | 4.9 | 1.7 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 25.8 | 12.0 | 124.7 | 13.3 | 0.0 | 56.9 | 0.0 | 0.0 | 27.6 | 23.2 | 23.4 |
| LnGrp LOS | A | C | B | F | B | A | E | A | A | C | C | C |
| Approach Vol, veh/h | | 711 | | | 1217 | | | 229 | | | 575 | |
| Approach Delay, s/veh | | 25.2 | | | 60.3 | | | 56.9 | | | 25.7 | |
| Approach LOS | | C | | | E | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 22.8 | | 19.5 | | 35.8 | | 15.0 |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | | 4.0 | | 4.0 |
| Max Green Setting (Gmax), s | 9.0 | 23.0 | | 33.0 | | 36.0 | | 11.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 14.1 | | 13.9 | | 11.5 | | 11.5 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | | 1.4 | | 5.2 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 43.6 |
| HCM 6th LOS | D |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 430 | 622 | 0 | 0 | 700 | 134 | 420 | 287 | 77 | 0 | 0 | 0 |
| Future Volume (veh/h) | 430 | 622 | 0 | 0 | 700 | 134 | 420 | 287 | 77 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 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 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 439 | 635 | 0 | 0 | 714 | 28 | 259 | 531 | 55 | | | |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 841 | 2019 | 0 | 0 | 790 | 352 | 366 | 684 | 71 | | | |
| Arrive On Green | 0.24 | 0.57 | 0.00 | 0.00 | 0.22 | 0.22 | 0.21 | 0.21 | 0.21 | | | |
| Sat Flow, veh/h | 3456 | 3647 | 0 | 0 | 3647 | 1585 | 1781 | 3334 | 344 | | | |
| Grp Volume(v), veh/h | 439 | 635 | 0 | 0 | 714 | 28 | 259 | 297 | 289 | | | |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 0 | 0 | 1777 | 1585 | 1781 | 1870 | 1808 | | | |
| Q Serve(g_s), s | 5.0 | 4.2 | 0.0 | 0.0 | 8.8 | 0.6 | 6.1 | 6.8 | 6.8 | | | |
| Cycle Q Clear(g_c), s | 5.0 | 4.2 | 0.0 | 0.0 | 8.8 | 0.6 | 6.1 | 6.8 | 6.8 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 1.00 | | 0.19 | | | |
| Lane Grp Cap(c), veh/h | 841 | 2019 | 0 | 0 | 790 | 352 | 366 | 384 | 371 | | | |
| V/C Ratio(X) | 0.52 | 0.31 | 0.00 | 0.00 | 0.90 | 0.08 | 0.71 | 0.77 | 0.78 | | | |
| Avail Cap(c_a), veh/h | 1383 | 2019 | 0 | 0 | 790 | 352 | 396 | 416 | 402 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 14.7 | 5.1 | 0.0 | 0.0 | 17.0 | 13.9 | 16.6 | 16.9 | 16.9 | | | |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.0 | 13.5 | 0.0 | 4.2 | 7.1 | 7.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 1.7 | 1.0 | 0.0 | 0.0 | 4.5 | 0.2 | 2.6 | 3.2 | 3.2 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.9 | 5.1 | 0.0 | 0.0 | 30.5 | 13.9 | 20.8 | 24.0 | 24.5 | | | |
| LnGrp LOS | B | A | A | A | C | B | C | C | C | | | |
| Approach Vol, veh/h | | 1074 | | | 742 | | | 845 | | | | |
| Approach Delay, s/veh | | 9.1 | | | 29.9 | | | 23.2 | | | | |
| Approach LOS | | A | | | C | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.7 | | | 15.6 | 15.1 | | 14.3 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | | 4.6 | 5.1 | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | | | 18.0 | 10.0 | | 10.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.2 | | | 7.0 | 10.8 | | 8.8 | | | | |
| Green Ext Time (p_c), s | | 1.1 | | | 0.7 | 0.0 | | 0.4 | | | | |

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

**Notes**

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

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 60 | 594 | 45 | 10 | 466 | 25 | 70 | 20 | 20 | 30 | 35 | 298 |
| Future Volume (veh/h) | 60 | 594 | 45 | 10 | 466 | 25 | 70 | 20 | 20 | 30 | 35 | 298 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 639 | 42 | 11 | 501 | 25 | 75 | 22 | 4 | 32 | 38 | 39 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 107 | 1353 | 89 | 25 | 625 | 31 | 117 | 281 | 238 | 64 | 226 | 192 |
| Arrive On Green | 0.06 | 0.40 | 0.40 | 0.01 | 0.35 | 0.35 | 0.07 | 0.15 | 0.15 | 0.04 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3385 | 222 | 1781 | 1766 | 88 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 65 | 335 | 346 | 11 | 0 | 526 | 75 | 22 | 4 | 32 | 38 | 39 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1830 | 1781 | 0 | 1854 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.7 | 6.8 | 6.8 | 0.3 | 0.0 | 12.4 | 2.0 | 0.5 | 0.1 | 0.9 | 0.9 | 1.1 |
| Cycle Q Clear(g_c), s | 1.7 | 6.8 | 6.8 | 0.3 | 0.0 | 12.4 | 2.0 | 0.5 | 0.1 | 0.9 | 0.9 | 1.1 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 0.05 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 107 | 710 | 731 | 25 | 0 | 656 | 117 | 281 | 238 | 64 | 226 | 192 |
| V/C Ratio(X) | 0.61 | 0.47 | 0.47 | 0.43 | 0.00 | 0.80 | 0.64 | 0.08 | 0.02 | 0.50 | 0.17 | 0.20 |
| Avail Cap(c_a), veh/h | 242 | 1120 | 1154 | 239 | 0 | 1166 | 242 | 655 | 555 | 239 | 651 | 552 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.2 | 10.8 | 10.8 | 23.7 | 0.0 | 14.1 | 22.1 | 17.7 | 17.6 | 23.0 | 19.1 | 19.2 |
| Incr Delay (d2), s/veh | 5.4 | 0.5 | 0.5 | 11.3 | 0.0 | 2.3 | 5.8 | 0.1 | 0.0 | 5.8 | 0.3 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 2.2 | 2.3 | 0.2 | 0.0 | 4.2 | 0.9 | 0.2 | 0.0 | 0.4 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.7 | 11.3 | 11.3 | 35.1 | 0.0 | 16.5 | 27.9 | 17.8 | 17.6 | 28.8 | 19.5 | 19.7 |
| LnGrp LOS | C | B | B | D | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 746 | | | 537 | | | 101 | | | 109 | |
| Approach Delay, s/veh | | 12.7 | | | 16.9 | | | 25.3 | | | 22.3 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 24.5 | 7.8 | 11.0 | 7.5 | 22.3 | 6.4 | 12.4 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Max Green Setting (Gmax), s | 6.5 | 30.6 | 6.6 | 16.9 | 6.6 | 30.5 | 6.5 | 17.0 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 8.8 | 4.0 | 3.1 | 3.7 | 14.4 | 2.9 | 2.5 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.2 | 0.0 | 2.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.8 |
| HCM 6th LOS | B |

Notes

User approved pedestrian interval to be less than phase max green.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 210 | 15 | 620 | 95 |
| Future Volume (veh/h) | 0 | 0 | 210 | 15 | 620 | 95 |
| Initial Q (Qb), veh | | | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | 1.00 | |
| Parking Bus, Adj | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | No | | | No |
| Adj Sat Flow, veh/h/ln | | | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | 221 | 11 | 653 | 100 |
| Peak Hour Factor | | | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | | | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | 405 | 20 | 793 | 1546 |
| Arrive On Green | | | 0.23 | 0.23 | 0.45 | 0.83 |
| Sat Flow, veh/h | | | 1767 | 88 | 1781 | 1870 |
| Grp Volume(v), veh/h | | | 0 | 232 | 653 | 100 |
| Grp Sat Flow(s),veh/h/ln | | | 0 | 1855 | 1781 | 1870 |
| Q Serve(g_s), s | | | 0.0 | 2.5 | 7.4 | 0.2 |
| Cycle Q Clear(g_c), s | | | 0.0 | 2.5 | 7.4 | 0.2 |
| Prop In Lane | | | | 0.05 | 1.00 | |
| Lane Grp Cap(c), veh/h | | | 0 | 425 | 793 | 1546 |
| V/C Ratio(X) | | | 0.00 | 0.55 | 0.82 | 0.06 |
| Avail Cap(c_a), veh/h | | | 0 | 3620 | 2473 | 3651 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | 0.0 | 7.8 | 5.6 | 0.4 |
| Incr Delay (d2), s/veh | | | 0.0 | 0.4 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.5 | 0.6 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.0 | 8.2 | 6.4 | 0.4 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 232 | | | 753 |
| Approach Delay, s/veh | | | 8.2 | | | 5.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 9.3 | | | | 23.1 |
| Change Period (Y+Rc), s | 3.5 | 4.0 | | | | * 4 |
| Max Green Setting (Gmax), s | 32.0 | 45.0 | | | | * 45 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 4.5 | | | | 2.2 |
| Green Ext Time (p_c), s | 1.0 | 0.8 | | | | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.2 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 45 | 153 | 5 | 6 | 50 | 5 | 5 | 5 | 7 | 0 | 5 | 50 |
| Future Vol, veh/h | 45 | 153 | 5 | 6 | 50 | 5 | 5 | 5 | 7 | 0 | 5 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | Yield |
| Storage Length | 80 | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 49 | 166 | 5 | 7 | 54 | 5 | 5 | 5 | 8 | 0 | 5 | 54 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 81 | 55 | 32 | 110 | 24 | 9 | 5 | 0 | 0 | - | - | 0 |
| Stage 1 | 32 | 32 | - | 19 | 19 | - | - | - | - | - | - | - |
| Stage 2 | 49 | 23 | - | 91 | 5 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 907 | 836 | 1042 | 868 | 869 | 1073 | 1616 | - | - | 0 | - | - |
| Stage 1 | 984 | 868 | - | 1000 | 880 | - | - | - | - | 0 | - | - |
| Stage 2 | 964 | 876 | - | 916 | 892 | - | - | - | - | 0 | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 857 | 833 | 1042 | 729 | 866 | 1073 | 1616 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 857 | 833 | - | 729 | 866 | - | - | - | - | - | - | - |
| Stage 1 | 981 | 868 | - | 997 | 877 | - | - | - | - | - | - | - |
| Stage 2 | 897 | 873 | - | 737 | 892 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.2 | 9.5 | 2.1 | 0 |
| HCM LOS | B | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | EBLn2 | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1616 | - | - | 857 | 838 | 864 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.057 | 0.205 | 0.077 | - | - |
| HCM Control Delay (s) | 7.2 | 0 | - | 9.5 | 10.4 | 9.5 | - | - |
| HCM Lane LOS | A | A | - | A | B | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.2 | 0.8 | 0.2 | - | - |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 185 | 603 | 5 | 341 | 526 | 10 | 5 | 15 | 85 | 20 | 17 | 213 |
| Future Volume (veh/h) | 185 | 603 | 5 | 341 | 526 | 10 | 5 | 15 | 85 | 20 | 17 | 213 |
| 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 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 201 | 655 | 4 | 371 | 572 | 10 | 5 | 16 | 5 | 22 | 18 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 258 | 1023 | 6 | 439 | 1336 | 23 | 54 | 57 | 48 | 101 | 106 | 90 |
| Arrive On Green | 0.14 | 0.28 | 0.28 | 0.25 | 0.37 | 0.37 | 0.03 | 0.03 | 0.03 | 0.06 | 0.06 | 0.06 |
| Sat Flow, veh/h | 1781 | 3621 | 22 | 1781 | 3574 | 62 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 201 | 321 | 338 | 371 | 284 | 298 | 5 | 16 | 5 | 22 | 18 | 21 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1866 | 1781 | 1777 | 1859 | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 5.5 | 8.0 | 8.0 | 10.0 | 6.0 | 6.0 | 0.1 | 0.4 | 0.2 | 0.6 | 0.5 | 0.6 |
| Cycle Q Clear(g_c), s | 5.5 | 8.0 | 8.0 | 10.0 | 6.0 | 6.0 | 0.1 | 0.4 | 0.2 | 0.6 | 0.5 | 0.6 |
| Prop In Lane | 1.00 | | 0.01 | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 258 | 502 | 527 | 439 | 664 | 695 | 54 | 57 | 48 | 101 | 106 | 90 |
| V/C Ratio(X) | 0.78 | 0.64 | 0.64 | 0.85 | 0.43 | 0.43 | 0.09 | 0.28 | 0.10 | 0.22 | 0.17 | 0.23 |
| Avail Cap(c_a), veh/h | 501 | 1534 | 1611 | 578 | 1611 | 1686 | 176 | 185 | 157 | 197 | 207 | 176 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.8 | 15.9 | 15.9 | 18.1 | 11.8 | 11.8 | 23.8 | 24.0 | 23.8 | 22.7 | 22.7 | 22.8 |
| Incr Delay (d2), s/veh | 5.0 | 1.4 | 1.3 | 8.7 | 0.4 | 0.4 | 0.7 | 2.7 | 0.9 | 1.1 | 0.7 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.9 | 3.1 | 4.6 | 2.0 | 2.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 25.9 | 17.2 | 17.2 | 26.9 | 12.2 | 12.2 | 24.6 | 26.6 | 24.8 | 23.8 | 23.4 | 24.1 |
| LnGrp LOS | C | B | B | C | B | B | C | C | C | C | C | C |
| Approach Vol, veh/h | | 860 | | | 953 | | | 26 | | | 61 | |
| Approach Delay, s/veh | | 19.2 | | | 17.9 | | | 25.9 | | | 23.8 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.0 | 19.4 | | 7.5 | 12.4 | 24.0 | | 6.6 |
| Change Period (Y+Rc), s | 4.6 | 5.1 | | 4.6 | 5.1 | * 5.1 | | 5.1 |
| Max Green Setting (Gmax), s | 16.4 | 43.6 | | 5.6 | 14.2 | * 46 | | 5.0 |
| Max Q Clear Time (g_c+I1), s | 12.0 | 10.0 | | 2.6 | 7.5 | 8.0 | | 2.4 |
| Green Ext Time (p_c), s | 0.5 | 4.3 | | 0.0 | 0.3 | 3.7 | | 0.0 |

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

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# Appendix C
# Sidra Reports

# LANE SUMMARY

## Site: 106 [AM 6 - Marengo Rd/Simmerhorn Rd]

Existing Plus Project - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 128 | 2.0 | 1119 | 0.114 | 100 | 5.5 | LOS A | 0.6 | 15.6 | Full | 800 | 0.0 | 0.0 |
| Approach | 128 | 2.0 | | 0.114 | | 5.5 | LOS A | 0.6 | 15.6 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 216 | 2.0 | 1100 | 0.197 | 100 | 5.4 | LOS A | 1.1 | 27.7 | Full | 1600 | 0.0 | 0.0 |
| Approach | 216 | 2.0 | | 0.197 | | 5.4 | LOS A | 1.1 | 27.7 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 295 | 2.0 | 1140 | 0.259 | 100 | 5.4 | LOS A | 1.6 | 40.4 | Full | 1600 | 0.0 | 0.0 |
| Approach | 295 | 2.0 | | 0.259 | | 5.4 | LOS A | 1.6 | 40.4 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 270 | 2.0 | 1144 | 0.236 | 100 | 7.6 | LOS A | 1.4 | 36.0 | Full | 1200 | 0.0 | 0.0 |
| Approach | 270 | 2.0 | | 0.236 | | 7.6 | LOS A | 1.4 | 36.0 | | | | |
| Intersection | 909 | 2.0 | | 0.259 | | 6.1 | LOS A | 1.6 | 40.4 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [AM 13 - Marengo Rd/Boessow Rd]

Existing Plus Project - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 81 | 2.0 | 1198 | 0.068 | 100 | 4.5 | LOS A | 0.3 | 8.3 | Full | 1600 | 0.0 | 0.0 |
| Approach | 81 | 2.0 | | 0.068 | | 4.5 | LOS A | 0.3 | 8.3 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 235 | 2.0 | 1265 | 0.185 | 100 | 4.5 | LOS A | 1.1 | 26.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 235 | 2.0 | | 0.185 | | 4.5 | LOS A | 1.1 | 26.8 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 190 | 2.0 | 1342 | 0.142 | 100 | 8.1 | LOS A | 0.8 | 19.5 | Full | 1300 | 0.0 | 0.0 |
| Approach | 190 | 2.0 | | 0.142 | | 8.1 | LOS A | 0.8 | 19.5 | | | | |
| Intersection | 506 | 2.0 | | 0.185 | | 5.8 | LOS A | 1.1 | 26.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [AM 18 - Marengo Rd/A St]

Existing Plus Project - AM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 137 | 2.0 | 1333 | 0.103 | 100 | 4.1 | LOS A | 0.6 | 14.1 | Full | 800 | 0.0 | 0.0 |
| Approach | 137 | 2.0 | | 0.103 | | 4.1 | LOS A | 0.6 | 14.1 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 222 | 2.0 | 1348 | 0.165 | 100 | 3.8 | LOS A | 0.9 | 22.2 | Full | 800 | 0.0 | 0.0 |
| Approach | 222 | 2.0 | | 0.165 | | 3.8 | LOS A | 0.9 | 22.2 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 22 | 2.0 | 1132 | 0.019 | 100 | 9.2 | LOS A | 0.1 | 2.3 | Full | 1300 | 0.0 | 0.0 |
| Approach | 22 | 2.0 | | 0.019 | | 9.2 | LOS A | 0.1 | 2.3 | | | | |
| Intersection | 380 | 2.0 | | 0.165 | | 4.2 | LOS A | 0.9 | 22.2 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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# LANE SUMMARY

## Site: 106 [PM 6 - Marengo Rd/Simmerhorn Rd]

Existing Plus Project - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 117 | 2.0 | 1169 | 0.100 | 100 | 5.4 | LOS A | 0.5 | 13.3 | Full | 800 | 0.0 | 0.0 |
| Approach | 117 | 2.0 | | 0.100 | | 5.4 | LOS A | 0.5 | 13.3 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 120 | 2.0 | 1194 | 0.100 | 100 | 5.3 | LOS A | 0.5 | 13.1 | Full | 1600 | 0.0 | 0.0 |
| Approach | 120 | 2.0 | | 0.100 | | 5.3 | LOS A | 0.5 | 13.1 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 190 | 2.0 | 1213 | 0.157 | 100 | 5.1 | LOS A | 0.9 | 21.7 | Full | 1600 | 0.0 | 0.0 |
| Approach | 190 | 2.0 | | 0.157 | | 5.1 | LOS A | 0.9 | 21.7 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 162 | 2.0 | 1197 | 0.135 | 100 | 5.8 | LOS A | 0.7 | 18.4 | Full | 1200 | 0.0 | 0.0 |
| Approach | 162 | 2.0 | | 0.135 | | 5.8 | LOS A | 0.7 | 18.4 | | | | |
| Intersection | 589 | 2.0 | | 0.157 | | 5.4 | LOS A | 0.9 | 21.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [PM 13 - Marengo Rd/Boessow Rd]

Existing Plus Project - PM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 80 | 2.0 | 1226 | 0.065 | 100 | 4.3 | LOS A | 0.3 | 7.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 80 | 2.0 | | 0.065 | | 4.3 | LOS A | 0.3 | 7.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 120 | 2.0 | 1259 | 0.095 | 100 | 4.3 | LOS A | 0.5 | 12.6 | Full | 1000 | 0.0 | 0.0 |
| Approach | 120 | 2.0 | | 0.095 | | 4.3 | LOS A | 0.5 | 12.6 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 182 | 2.0 | 1351 | 0.135 | 100 | 7.4 | LOS A | 0.7 | 18.3 | Full | 1300 | 0.0 | 0.0 |
| Approach | 182 | 2.0 | | 0.135 | | 7.4 | LOS A | 0.7 | 18.3 | | | | |
| Intersection | 382 | 2.0 | | 0.135 | | 5.8 | LOS A | 0.7 | 18.3 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [PM 18 - Marengo Rd/A St]

Existing Plus Project - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 111 | 2.0 | 1345 | 0.082 | 100 | 4.1 | LOS A | 0.4 | 10.8 | Full | 800 | 0.0 | 0.0 |
| Approach | 111 | 2.0 | | 0.082 | | 4.1 | LOS A | 0.4 | 10.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 124 | 2.0 | 1348 | 0.092 | 100 | 3.8 | LOS A | 0.4 | 11.4 | Full | 800 | 0.0 | 0.0 |
| Approach | 124 | 2.0 | | 0.092 | | 3.8 | LOS A | 0.4 | 11.4 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 13 | 2.0 | 1218 | 0.011 | 100 | 7.8 | LOS A | 0.0 | 1.2 | Full | 1300 | 0.0 | 0.0 |
| Approach | 13 | 2.0 | | 0.011 | | 7.8 | LOS A | 0.0 | 1.2 | | | | |
| Intersection | 248 | 2.0 | | 0.092 | | 4.2 | LOS A | 0.4 | 11.4 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [4 AM - Simmerhorn Rd/SR 99 NB Ramps]

2040 Conditions (No Project) - AM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 413 | 2.0 | 1212 | 0.341 | 100 | 9.6 | LOS A | 2.3 | 58.4 | Full | 1200 | 0.0 | 0.0 |
| Approach | 413 | 2.0 | | 0.341 | | 9.6 | LOS A | 2.3 | 58.4 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 277 | 2.0 | 1070 | 0.259 | 100 | 5.6 | LOS A | 1.6 | 41.0 | Full | 1370 | 0.0 | 0.0 |
| Approach | 277 | 2.0 | | 0.259 | | 5.6 | LOS A | 1.6 | 41.0 | | | | |
| West: SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 234 | 2.0 | 1178 | 0.198 | 100 | 9.3 | LOS A | 1.2 | 30.5 | Full | 350 | 0.0 | 0.0 |
| Approach | 234 | 2.0 | | 0.198 | | 9.3 | LOS A | 1.2 | 30.5 | | | | |
| Intersection | 924 | 2.0 | | 0.341 | | 8.3 | LOS A | 2.3 | 58.4 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [6 AM - Marengo Rd/Simmerhorn Rd]

2040 Conditions (No Project) - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 361 | 2.0 | 889 | 0.406 | 100 | 7.7 | LOS A | 2.9 | 74.9 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 460 | 2.0 | 1133 | 0.406 | 100 | 6.6 | LOS A | 3.2 | 82.0 | Short | 150 | 0.0 | NA |
| Approach | 821 | 2.0 | | 0.406 | | 7.1 | LOS A | 3.2 | 82.0 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 321 | 2.0 | 698 | 0.460 | 100 | 10.1 | LOS B | 2.6 | 65.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 321 | 2.0 | | 0.460 | | 10.1 | LOS B | 2.6 | 65.0 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 605 | 2.0 | 1314 | 0.460 | 100 | 6.3 | LOS A | 3.8 | 95.5 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 384 | 2.0 | 1042 | 0.368 | 80[7] | 6.0 | LOS A | 2.6 | 66.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 989 | 2.0 | | 0.460 | | 6.2 | LOS A | 3.8 | 95.5 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 440 | 2.0 | 915 | 0.481 | 100 | 11.1 | LOS B | 3.2 | 80.8 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 98 | 2.0 | 582 | 0.168 | 100 | 8.0 | LOS A | 0.7 | 18.6 | Short | 150 | 0.0 | NA |
| Approach | 538 | 2.0 | | 0.481 | | 10.6 | LOS B | 3.2 | 80.8 | | | | |
| Intersection | 2668 | 2.0 | | 0.481 | | 7.8 | LOS A | 3.8 | 95.5 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [13 AM - Marengo Rd/Boessow Rd]

2040 Conditions (No Project) - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 71 | 2.0 | 1289 | 0.055 | 100 | 4.3 | LOS A | 0.3 | 6.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 71 | 2.0 | | 0.055 | | 4.3 | LOS A | 0.3 | 6.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 239 | 2.0 | 1366 | 0.175 | 100 | 5.0 | LOS A | 1.0 | 25.0 | Full | 1000 | 0.0 | 0.0 |
| Approach | 239 | 2.0 | | 0.175 | | 5.0 | LOS A | 1.0 | 25.0 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 207 | 2.0 | 1373 | 0.150 | 100 | 7.3 | LOS A | 0.8 | 20.4 | Full | 1300 | 0.0 | 0.0 |
| Approach | 207 | 2.0 | | 0.150 | | 7.3 | LOS A | 0.8 | 20.4 | | | | |
| Intersection | 516 | 2.0 | | 0.175 | | 5.8 | LOS A | 1.0 | 25.0 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [18 AM - Marengo Rd/A St]

2040 Conditions (No Project) - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 141 | 2.0 | 769 | 0.184 | 100 | 8.4 | LOS A | 1.2 | 30.9 | Full | 1000 | 0.0 | 0.0 |
| Approach | 141 | 2.0 | | 0.184 | | 8.4 | LOS A | 1.2 | 30.9 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 929 | 2.0 | 1396 | 0.666 | 100 | 4.0 | LOS A | 9.4 | 237.8 | Full | 800 | 0.0 | 0.0 |
| Approach | 929 | 2.0 | | 0.666 | | 4.0 | LOS A | 9.4 | 237.8 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 690 | 2.0 | 1183 | 0.583 | 100 | 11.3 | LOS B | 4.9 | 124.7 | Full | 1300 | 0.0 | 0.0 |
| Approach | 690 | 2.0 | | 0.583 | | 11.3 | LOS B | 4.9 | 124.7 | | | | |
| Intersection | 1761 | 2.0 | | 0.666 | | 7.3 | LOS A | 9.4 | 237.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [PM 4 - Simmerhorn Rd/SR 99 NB Ramps]

2040 Conditions (No Project) - PM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 385 | 2.0 | 1199 | 0.322 | 100 | 9.7 | LOS A | 2.1 | 52.9 | Full | 1200 | 0.0 | 0.0 |
| Approach | 385 | 2.0 | | 0.322 | | 9.7 | LOS A | 2.1 | 52.9 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 182 | 2.0 | 1116 | 0.163 | 100 | 5.3 | LOS A | 1.0 | 24.4 | Full | 1370 | 0.0 | 0.0 |
| Approach | 182 | 2.0 | | 0.163 | | 5.3 | LOS A | 1.0 | 24.4 | | | | |
| West: SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 286 | 2.0 | 1286 | 0.223 | 100 | 9.0 | LOS A | 1.3 | 33.2 | Full | 350 | 0.0 | 0.0 |
| Approach | 286 | 2.0 | | 0.223 | | 9.0 | LOS A | 1.3 | 33.2 | | | | |
| Intersection | 854 | 2.0 | | 0.322 | | 8.5 | LOS A | 2.1 | 52.9 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [PM 6 - Marengo Rd/Simmerhorn Rd]

2040 Conditions (No Project) - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 383 | 2.0 | 963 | 0.398 | 100 | 7.6 | LOS A | 2.8 | 72.3 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 481 | 2.0 | 1210 | 0.398 | 100 | 6.1 | LOS A | 3.1 | 78.1 | Short | 150 | 0.0 | NA |
| Approach | 864 | 2.0 | | 0.398 | | 6.8 | LOS A | 3.1 | 78.1 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 424 | 2.0 | 720 | 0.589 | 100 | 11.6 | LOS B | 3.8 | 95.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 424 | 2.0 | | 0.589 | | 11.6 | LOS B | 3.8 | 95.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 559 | 2.0 | 1188 | 0.471 | 100 | 7.1 | LOS A | 3.9 | 99.2 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 348 | 2.0 | 925 | 0.377 | 80[7] | 6.9 | LOS A | 2.7 | 67.9 | Full | 1600 | 0.0 | 0.0 |
| Approach | 908 | 2.0 | | 0.471 | | 7.0 | LOS A | 3.9 | 99.2 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 364 | 2.0 | 892 | 0.408 | 100 | 10.4 | LOS B | 2.5 | 63.6 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 60 | 2.0 | 568 | 0.105 | 100 | 8.0 | LOS A | 0.5 | 11.6 | Short | 150 | 0.0 | NA |
| Approach | 424 | 2.0 | | 0.408 | | 10.1 | LOS B | 2.5 | 63.6 | | | | |
| Intersection | 2620 | 2.0 | | 0.589 | | 8.2 | LOS A | 3.9 | 99.2 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [PM 13 - Marengo Rd/Boessow Rd]

2040 Conditions (No Project) - PM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 125 | 2.0 | 1266 | 0.099 | 100 | 4.5 | LOS A | 0.5 | 12.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 125 | 2.0 | | 0.099 | | 4.5 | LOS A | 0.5 | 12.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 245 | 2.0 | 1339 | 0.183 | 100 | 5.2 | LOS A | 1.0 | 26.5 | Full | 1000 | 0.0 | 0.0 |
| Approach | 245 | 2.0 | | 0.183 | | 5.2 | LOS A | 1.0 | 26.5 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 228 | 2.0 | 1366 | 0.167 | 100 | 7.6 | LOS A | 0.9 | 23.4 | Full | 1300 | 0.0 | 0.0 |
| Approach | 228 | 2.0 | | 0.167 | | 7.6 | LOS A | 0.9 | 23.4 | | | | |
| Intersection | 598 | 2.0 | | 0.183 | | 6.0 | LOS A | 1.0 | 26.5 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [PM 18 - Marengo Rd/A St]

2040 Conditions (No Project) - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 196 | 2.0 | 744 | 0.263 | 100 | 8.6 | LOS A | 1.8 | 46.1 | Full | 1000 | 0.0 | 0.0 |
| Approach | 196 | 2.0 | | 0.263 | | 8.6 | LOS A | 1.8 | 46.1 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 897 | 2.0 | 1396 | 0.643 | 100 | 4.0 | LOS A | 8.6 | 219.6 | Full | 800 | 0.0 | 0.0 |
| Approach | 897 | 2.0 | | 0.643 | | 4.0 | LOS A | 8.6 | 219.6 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 712 | 2.0 | 1178 | 0.604 | 100 | 11.5 | LOS B | 5.2 | 132.1 | Full | 1300 | 0.0 | 0.0 |
| Approach | 712 | 2.0 | | 0.604 | | 11.5 | LOS B | 5.2 | 132.1 | | | | |
| Intersection | 1804 | 2.0 | | 0.643 | | 7.5 | LOS A | 8.6 | 219.6 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [AM 4 - Simmerhorn Rd/SR 99 NB Ramps]

2040 Plus Project Conditions - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 480 | 2.0 | 1211 | 0.397 | 100 | 9.5 | LOS A | 2.8 | 72.3 | Full | 1200 | 0.0 | 0.0 |
| Approach | 480 | 2.0 | | 0.397 | | 9.5 | LOS A | 2.8 | 72.3 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 288 | 2.0 | 1033 | 0.279 | 100 | 5.9 | LOS A | 1.8 | 45.2 | Full | 1370 | 0.0 | 0.0 |
| Approach | 288 | 2.0 | | 0.279 | | 5.9 | LOS A | 1.8 | 45.2 | | | | |
| West: EB SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 239 | 2.0 | 1165 | 0.205 | 100 | 9.2 | LOS A | 1.3 | 32.0 | Full | 350 | 0.0 | 0.0 |
| Approach | 239 | 2.0 | | 0.205 | | 9.2 | LOS A | 1.3 | 32.0 | | | | |
| Intersection | 1008 | 2.0 | | 0.397 | | 8.4 | LOS A | 2.8 | 72.3 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [AM 6 - Marengo Rd/Simmerhorn Rd]

2040 Plus Project Conditions - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 401 | 2.0 | 877 | 0.458 | 100 | 8.3 | LOS A | 3.5 | 89.7 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 513 | 2.0 | 1120 | 0.458 | 100 | 6.7 | LOS A | 3.8 | 96.6 | Short | 150 | 0.0 | NA |
| Approach | 914 | 2.0 | | 0.458 | | 7.4 | LOS A | 3.8 | 96.6 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 334 | 2.0 | 656 | 0.509 | 100 | 11.0 | LOS B | 3.0 | 76.2 | Full | 1600 | 0.0 | 0.0 |
| Approach | 334 | 2.0 | | 0.509 | | 11.0 | LOS B | 3.0 | 76.2 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 639 | 2.0 | 1284 | 0.498 | 100 | 6.5 | LOS A | 4.2 | 106.7 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 404 | 2.0 | 1014 | 0.398 | 80[7] | 6.3 | LOS A | 2.9 | 72.9 | Full | 1600 | 0.0 | 0.0 |
| Approach | 1042 | 2.0 | | 0.498 | | 6.4 | LOS A | 4.2 | 106.7 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 448 | 2.0 | 872 | 0.513 | 100 | 11.8 | LOS B | 3.6 | 91.4 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 98 | 2.0 | 558 | 0.175 | 100 | 8.3 | LOS A | 0.8 | 19.9 | Short | 150 | 0.0 | NA |
| Approach | 546 | 2.0 | | 0.513 | | 11.1 | LOS B | 3.6 | 91.4 | | | | |
| Intersection | 2836 | 2.0 | | 0.513 | | 8.2 | LOS A | 4.2 | 106.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [AM 13 - Marengo Rd/Boessow Rd]

2040 Plus Project Conditions - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 83 | 2.0 | 1288 | 0.064 | 100 | 4.3 | LOS A | 0.3 | 8.1 | Full | 1600 | 0.0 | 0.0 |
| Approach | 83 | 2.0 | | 0.064 | | 4.3 | LOS A | 0.3 | 8.1 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 249 | 2.0 | 1366 | 0.182 | 100 | 5.2 | LOS A | 1.0 | 26.3 | Full | 1000 | 0.0 | 0.0 |
| Approach | 249 | 2.0 | | 0.182 | | 5.2 | LOS A | 1.0 | 26.3 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 207 | 2.0 | 1361 | 0.152 | 100 | 7.3 | LOS A | 0.8 | 20.6 | Full | 1300 | 0.0 | 0.0 |
| Approach | 207 | 2.0 | | 0.152 | | 7.3 | LOS A | 0.8 | 20.6 | | | | |
| Intersection | 538 | 2.0 | | 0.182 | | 5.9 | LOS A | 1.0 | 26.3 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [AM 18 - Marengo Rd/A St]

2040 Plus Project Conditions - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 153 | 2.0 | 749 | 0.205 | 100 | 8.6 | LOS A | 1.4 | 34.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 153 | 2.0 | | 0.205 | | 8.6 | LOS A | 1.4 | 34.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 964 | 2.0 | 1396 | 0.691 | 100 | 4.1 | LOS A | 10.4 | 264.4 | Full | 800 | 0.0 | 0.0 |
| Approach | 964 | 2.0 | | 0.691 | | 4.1 | LOS A | 10.4 | 264.4 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 704 | 2.0 | 1172 | 0.601 | 100 | 11.5 | LOS B | 5.2 | 131.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 704 | 2.0 | | 0.601 | | 11.5 | LOS B | 5.2 | 131.0 | | | | |
| Intersection | 1822 | 2.0 | | 0.691 | | 7.3 | LOS A | 10.4 | 264.4 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [PM 4 - Simmerhorn Rd/SR 99 NB Ramps]

2040 Plus Project Conditions - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 434 | 2.0 | 1168 | 0.372 | 100 | 9.7 | LOS A | 2.6 | 65.2 | Full | 1200 | 0.0 | 0.0 |
| Approach | 434 | 2.0 | | 0.372 | | 9.7 | LOS A | 2.6 | 65.2 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 231 | 2.0 | 1062 | 0.218 | 100 | 5.6 | LOS A | 1.3 | 33.9 | Full | 1370 | 0.0 | 0.0 |
| Approach | 231 | 2.0 | | 0.218 | | 5.6 | LOS A | 1.3 | 33.9 | | | | |
| West: EB SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 309 | 2.0 | 1195 | 0.259 | 100 | 9.0 | LOS A | 1.7 | 42.0 | Full | 350 | 0.0 | 0.0 |
| Approach | 309 | 2.0 | | 0.259 | | 9.0 | LOS A | 1.7 | 42.0 | | | | |
| Intersection | 975 | 2.0 | | 0.372 | | 8.5 | LOS A | 2.6 | 65.2 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [PM 6 - Marengo Rd/Simmerhorn Rd]

2040 Plus Project Conditions - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 395 | 2.0 | 955 | 0.414 | 100 | 7.6 | LOS A | 3.0 | 76.4 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 497 | 2.0 | 1201 | 0.414 | 100 | 6.2 | LOS A | 3.3 | 82.7 | Short | 150 | 0.0 | NA |
| Approach | 892 | 2.0 | | 0.414 | | 6.8 | LOS A | 3.3 | 82.7 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 428 | 2.0 | 705 | 0.607 | 100 | 12.0 | LOS B | 4.0 | 101.2 | Full | 1600 | 0.0 | 0.0 |
| Approach | 428 | 2.0 | | 0.607 | | 12.0 | LOS B | 4.0 | 101.2 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 586 | 2.0 | 1182 | 0.496 | 100 | 7.2 | LOS A | 4.2 | 106.9 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 365 | 2.0 | 919 | 0.397 | 80[7] | 6.9 | LOS A | 2.9 | 72.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 951 | 2.0 | | 0.496 | | 7.1 | LOS A | 4.2 | 106.9 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 371 | 2.0 | 866 | 0.428 | 100 | 10.8 | LOS B | 2.7 | 69.4 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 60 | 2.0 | 554 | 0.108 | 100 | 8.2 | LOS A | 0.5 | 12.1 | Short | 150 | 0.0 | NA |
| Approach | 430 | 2.0 | | 0.428 | | 10.5 | LOS B | 2.7 | 69.4 | | | | |
| Intersection | 2702 | 2.0 | | 0.607 | | 8.3 | LOS A | 4.2 | 106.9 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

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# LANE SUMMARY

## Site: 113 [PM 13 - Marengo Rd/Boessow Rd]

2040 Plus Project Conditions - PM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 127 | 2.0 | 1266 | 0.100 | 100 | 4.5 | LOS A | 0.5 | 13.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 127 | 2.0 | | 0.100 | | 4.5 | LOS A | 0.5 | 13.0 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 247 | 2.0 | 1339 | 0.184 | 100 | 5.3 | LOS A | 1.1 | 26.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 247 | 2.0 | | 0.184 | | 5.3 | LOS A | 1.1 | 26.8 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 228 | 2.0 | 1364 | 0.167 | 100 | 7.6 | LOS A | 0.9 | 23.4 | Full | 1300 | 0.0 | 0.0 |
| Approach | 228 | 2.0 | | 0.167 | | 7.6 | LOS A | 0.9 | 23.4 | | | | |
| Intersection | 602 | 2.0 | | 0.184 | | 6.0 | LOS A | 1.1 | 26.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [PM 18 - Marengo Rd/A St]

2040 Plus Project Conditions - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 198 | 2.0 | 732 | 0.270 | 100 | 8.8 | LOS A | 1.9 | 47.7 | Full | 1000 | 0.0 | 0.0 |
| Approach | 198 | 2.0 | | 0.270 | | 8.8 | LOS A | 1.9 | 47.7 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 916 | 2.0 | 1396 | 0.657 | 100 | 4.0 | LOS A | 9.2 | 232.6 | Full | 800 | 0.0 | 0.0 |
| Approach | 916 | 2.0 | | 0.657 | | 4.0 | LOS A | 9.2 | 232.6 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 723 | 2.0 | 1174 | 0.615 | 100 | 11.5 | LOS B | 5.4 | 136.5 | Full | 1300 | 0.0 | 0.0 |
| Approach | 723 | 2.0 | | 0.615 | | 11.5 | LOS B | 5.4 | 136.5 | | | | |
| Intersection | 1837 | 2.0 | | 0.657 | | 7.5 | LOS A | 9.2 | 232.6 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 101 [AM 1 - Carillion Blvd/Walnut Ave]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 429 | 2.0 | 1063 | 0.404 | 100 | 8.3 | LOS A | 2.3 | 57.9 | Full | 1240 | 0.0 | 0.0 |
| Lane 2 | 370 | 2.0 | 906 | 0.408 | 100 | 6.5 | LOS A | 2.2 | 56.9 | Short | 150 | 0.0 | NA |
| Approach | 799 | 2.0 | | 0.408 | | 7.5 | LOS A | 2.3 | 57.9 | | | | |
| East: WB - Walnut Ave | | | | | | | | | | | | | |
| Lane 1 | 453 | 2.0 | 951 | 0.476 | 100 | 9.4 | LOS A | 3.7 | 93.2 | Full | 340 | 0.0 | 0.0 |
| Lane 2[d] | 571 | 2.0 | 1199 | 0.476 | 100 | 6.2 | LOS A | 3.9 | 99.2 | Full | 340 | 0.0 | 0.0 |
| Approach | 1024 | 2.0 | | 0.476 | | 7.7 | LOS A | 3.9 | 99.2 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 315 | 2.0 | 800 | 0.394 | 100 | 8.4 | LOS A | 2.3 | 57.4 | Full | 1580 | 0.0 | 0.0 |
| Lane 2 | 38 | 2.0 | 508 | 0.075 | 100 | 8.1 | LOS A | 0.3 | 8.0 | Short | 150 | 0.0 | NA |
| Approach | 353 | 2.0 | | 0.394 | | 8.3 | LOS A | 2.3 | 57.4 | | | | |
| West: EB - Walnut Ave | | | | | | | | | | | | | |
| Lane 1 | 331 | 2.0 | 931 | 0.355 | 100 | 7.6 | LOS A | 2.4 | 61.7 | Full | 1740 | 0.0 | 0.0 |
| Lane 2[d] | 420 | 2.0 | 1182 | 0.355 | 100 | 6.4 | LOS A | 2.6 | 67.0 | Full | 1740 | 0.0 | 0.0 |
| Approach | 751 | 2.0 | | 0.355 | | 6.9 | LOS A | 2.6 | 67.0 | | | | |
| Intersection | 2927 | 2.0 | | 0.476 | | 7.5 | LOS A | 3.9 | 99.2 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [AM 4 - Simmerhorn Rd/SR 99 NB Ramps]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 491 | 2.0 | 1193 | 0.412 | 100 | 9.9 | LOS A | 3.1 | 79.0 | Full | 1200 | 0.0 | 0.0 |
| Approach | 491 | 2.0 | | 0.412 | | 9.9 | LOS A | 3.1 | 79.0 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 478 | 2.0 | 995 | 0.481 | 100 | 6.7 | LOS A | 3.6 | 91.5 | Full | 1370 | 0.0 | 0.0 |
| Approach | 478 | 2.0 | | 0.481 | | 6.7 | LOS A | 3.6 | 91.5 | | | | |
| West: EB SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 250 | 2.0 | 976 | 0.256 | 100 | 10.3 | LOS B | 1.7 | 42.9 | Full | 350 | 0.0 | 0.0 |
| Approach | 250 | 2.0 | | 0.256 | | 10.3 | LOS B | 1.7 | 42.9 | | | | |
| Intersection | 1220 | 2.0 | | 0.481 | | 8.7 | LOS A | 3.6 | 91.5 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 105 [AM 5 - Carillion Blvd/Simmerhorn Rd]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 397 | 2.0 | 907 | 0.438 | 100 | 8.1 | LOS A | 3.2 | 80.6 | Full | 800 | 0.0 | 0.0 |
| Approach | 397 | 2.0 | | 0.438 | | 8.1 | LOS A | 3.2 | 80.6 | | | | |
| East: WB - Simmerhorn Rd | | | | | | | | | | | | | |
| Lane 1[d] | 512 | 2.0 | 1038 | 0.493 | 100 | 7.8 | LOS A | 3.8 | 96.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 512 | 2.0 | | 0.493 | | 7.8 | LOS A | 3.8 | 96.0 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 343 | 2.0 | 886 | 0.388 | 100 | 9.6 | LOS A | 2.8 | 70.6 | Full | 1600 | 0.0 | 0.0 |
| Approach | 343 | 2.0 | | 0.388 | | 9.6 | LOS A | 2.8 | 70.6 | | | | |
| West: EB - Simmerhorn Rd | | | | | | | | | | | | | |
| Lane 1[d] | 391 | 2.0 | 960 | 0.408 | 100 | 7.6 | LOS A | 2.9 | 73.7 | Full | 265 | 0.0 | 0.0 |
| Approach | 391 | 2.0 | | 0.408 | | 7.6 | LOS A | 2.9 | 73.7 | | | | |
| Intersection | 1643 | 2.0 | | 0.493 | | 8.2 | LOS A | 3.8 | 96.0 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [AM 6 - Marengo Rd/Simmerhorn Rd]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 535 | 2.0 | 805 | 0.665 | 100 | 12.4 | LOS B | 7.6 | 192.0 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 691 | 2.0 | 1039 | 0.665 | 100 | 9.9 | LOS A | 8.2 | 209.4 | Short | 150 | 0.0 | NA |
| Approach | 1226 | 2.0 | | 0.665 | | 11.0 | LOS B | 8.2 | 209.4 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 453 | 2.0 | 495 | 0.915 | 100 | 26.9 | LOS C | 9.9 | 250.4 | Full | 2300 | 0.0 | 0.0 |
| Approach | 453 | 2.0 | | 0.915 | | 26.9 | LOS C | 9.9 | 250.4 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 853 | 2.0 | 1141 | 0.747 | 100 | 10.8 | LOS B | 10.9 | 275.7 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 565 | 2.0 | 889 | 0.635 | 85[7] | 9.6 | LOS A | 6.8 | 172.4 | Full | 1600 | 0.0 | 0.0 |
| Approach | 1418 | 2.0 | | 0.747 | | 10.3 | LOS B | 10.9 | 275.7 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 478 | 2.0 | 620 | 0.771 | 100 | 19.9 | LOS B | 7.8 | 198.5 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 163 | 2.0 | 434 | 0.374 | 100 | 10.7 | LOS B | 2.1 | 53.4 | Short | 150 | 0.0 | NA |
| Approach | 640 | 2.0 | | 0.771 | | 17.6 | LOS B | 7.8 | 198.5 | | | | |
| Intersection | 3736 | 2.0 | | 0.915 | | 13.8 | LOS B | 10.9 | 275.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [AM 13 - Marengo Rd/Boessow Rd]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 83 | 2.0 | 1244 | 0.066 | 100 | 4.5 | LOS A | 0.3 | 8.4 | Full | 1600 | 0.0 | 0.0 |
| Approach | 83 | 2.0 | | 0.066 | | 4.5 | LOS A | 0.3 | 8.4 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 358 | 2.0 | 1365 | 0.262 | 100 | 5.0 | LOS A | 1.6 | 41.7 | Full | 1000 | 0.0 | 0.0 |
| Approach | 358 | 2.0 | | 0.262 | | 5.0 | LOS A | 1.6 | 41.7 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 250 | 2.0 | 1355 | 0.185 | 100 | 7.8 | LOS A | 1.0 | 26.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 250 | 2.0 | | 0.185 | | 7.8 | LOS A | 1.0 | 26.0 | | | | |
| Intersection | 690 | 2.0 | | 0.262 | | 6.0 | LOS A | 1.6 | 41.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 115 [AM 15 - Carillion Blvd/Boessow Rd]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 233 | 2.0 | 827 | 0.281 | 100 | 12.0 | LOS B | 1.8 | 46.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 233 | 2.0 | | 0.281 | | 12.0 | LOS B | 1.8 | 46.5 | | | | |
| East: EB - Boessow Rd | | | | | | | | | | | | | |
| Lane 1[d] | 348 | 2.0 | 855 | 0.407 | 100 | 8.7 | LOS A | 2.8 | 70.5 | Full | 1300 | 0.0 | 0.0 |
| Approach | 348 | 2.0 | | 0.407 | | 8.7 | LOS A | 2.8 | 70.5 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 271 | 2.0 | 914 | 0.296 | 100 | 7.6 | LOS A | 2.0 | 49.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 271 | 2.0 | | 0.296 | | 7.6 | LOS A | 2.0 | 49.8 | | | | |
| West: EB - Boessow Rd | | | | | | | | | | | | | |
| Lane 1[d] | 626 | 2.0 | 1316 | 0.476 | 100 | 8.4 | LOS A | 4.0 | 100.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 626 | 2.0 | | 0.476 | | 8.4 | LOS A | 4.0 | 100.8 | | | | |
| Intersection | 1477 | 2.0 | | 0.476 | | 8.9 | LOS A | 4.0 | 100.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 117 [AM 17 - Carillion Blvd/A St]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 479 | 2.0 | 683 | 0.702 | 100 | 16.1 | LOS B | 8.5 | 216.5 | Full | 1000 | 0.0 | 0.0 |
| Approach | 479 | 2.0 | | 0.702 | | 16.1 | LOS B | 8.5 | 216.5 | | | | |
| East: EB - A St | | | | | | | | | | | | | |
| Lane 1[d] | 860 | 2.0 | 1005 | 0.856 | 100 | 15.2 | LOS B | 16.2 | 411.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 860 | 2.0 | | 0.856 | | 15.2 | LOS B | 16.2 | 411.0 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 322 | 2.0 | 519 | 0.620 | 100 | 16.5 | LOS B | 6.5 | 166.2 | Full | 800 | 0.0 | 0.0 |
| Approach | 322 | 2.0 | | 0.620 | | 16.5 | LOS B | 6.5 | 166.2 | | | | |
| West: EB - A St | | | | | | | | | | | | | |
| Lane 1[d] | 738 | 2.0 | 1122 | 0.658 | 100 | 7.7 | LOS A | 6.9 | 174.8 | Full | 1200 | 0.0 | 0.0 |
| Approach | 738 | 2.0 | | 0.658 | | 7.7 | LOS A | 6.9 | 174.8 | | | | |
| Intersection | 2399 | 2.0 | | 0.856 | | 13.3 | LOS B | 16.2 | 411.0 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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# LANE SUMMARY

## Site: 118 [AM 18 - Marengo Rd/A St]

2040 Plus Project Conditiions with Road Diet - AM Peak Hour
Site Category: (None)
Roundabout

| Lane Use and Performance | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 197 | 2.0 | 565 | 0.348 | 100 | 10.2 | LOS B | 2.7 | 68.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 197 | 2.0 | | 0.348 | | 10.2 | LOS B | 2.7 | 68.8 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 1165 | 2.0 | 1394 | 0.836 | 100 | 4.2 | LOS A | 22.3 | 566.2 | Full | 800 | 0.0 | 0.0 |
| Approach | 1165 | 2.0 | | 0.836 | | 4.2 | LOS A | 22.3 | 566.2 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 846 | 2.0 | 1061 | 0.797 | 100 | 16.8 | LOS B | 12.4 | 315.4 | Full | 1300 | 0.0 | 0.0 |
| Approach | 846 | 2.0 | | 0.797 | | 16.8 | LOS B | 12.4 | 315.4 | | | | |
| Intersection | 2208 | 2.0 | | 0.836 | | 9.6 | LOS A | 22.3 | 566.2 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 101 [PM 1 - Carillion Blvd/Walnut Ave]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 323 | 2.0 | 1124 | 0.287 | 100 | 7.9 | LOS A | 1.5 | 38.1 | Full | 1240 | 0.0 | 0.0 |
| Lane 2 | 260 | 2.0 | 963 | 0.270 | 100 | 5.9 | LOS A | 1.3 | 34.0 | Short | 150 | 0.0 | NA |
| Approach | 583 | 2.0 | | 0.287 | | 7.0 | LOS A | 1.5 | 38.1 | | | | |
| East: WB - Walnut Ave | | | | | | | | | | | | | |
| Lane 1 | 328 | 2.0 | 1024 | 0.320 | 100 | 7.5 | LOS A | 2.1 | 53.3 | Full | 340 | 0.0 | 0.0 |
| Lane 2[d] | 408 | 2.0 | 1276 | 0.320 | 100 | 5.6 | LOS A | 2.2 | 56.8 | Full | 340 | 0.0 | 0.0 |
| Approach | 736 | 2.0 | | 0.320 | | 6.4 | LOS A | 2.2 | 56.8 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 380 | 2.0 | 969 | 0.393 | 100 | 7.5 | LOS A | 2.1 | 53.9 | Full | 1580 | 0.0 | 0.0 |
| Lane 2 | 54 | 2.0 | 598 | 0.091 | 100 | 7.5 | LOS A | 0.4 | 9.2 | Short | 150 | 0.0 | NA |
| Approach | 435 | 2.0 | | 0.393 | | 7.5 | LOS A | 2.1 | 53.9 | | | | |
| West: EB - Walnut Ave | | | | | | | | | | | | | |
| Lane 1 | 286 | 2.0 | 964 | 0.297 | 100 | 8.3 | LOS A | 2.0 | 50.3 | Full | 1740 | 0.0 | 0.0 |
| Lane 2[d] | 360 | 2.0 | 1213 | 0.297 | 100 | 6.0 | LOS A | 2.1 | 54.3 | Full | 1740 | 0.0 | 0.0 |
| Approach | 647 | 2.0 | | 0.297 | | 7.0 | LOS A | 2.1 | 54.3 | | | | |
| Intersection | 2400 | 2.0 | | 0.393 | | 6.9 | LOS A | 2.2 | 56.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 104 [PM 4 - Simmerhorn Rd/SR 99 NB Ramps]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 424 | 2.0 | 1152 | 0.368 | 100 | 10.4 | LOS B | 2.6 | 66.7 | Full | 1200 | 0.0 | 0.0 |
| Approach | 424 | 2.0 | | 0.368 | | 10.4 | LOS B | 2.6 | 66.7 | | | | |
| North: SB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 408 | 2.0 | 1025 | 0.399 | 100 | 6.2 | LOS A | 2.8 | 71.7 | Full | 1370 | 0.0 | 0.0 |
| Approach | 408 | 2.0 | | 0.399 | | 6.2 | LOS A | 2.8 | 71.7 | | | | |
| West: EB SR 99 Northbound Ramps | | | | | | | | | | | | | |
| Lane 1[d] | 315 | 2.0 | 1022 | 0.308 | 100 | 10.1 | LOS B | 2.1 | 52.9 | Full | 350 | 0.0 | 0.0 |
| Approach | 315 | 2.0 | | 0.308 | | 10.1 | LOS B | 2.1 | 52.9 | | | | |
| Intersection | 1147 | 2.0 | | 0.399 | | 8.9 | LOS A | 2.8 | 71.7 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 105 [PM 5 - Carillion Blvd/Simmerhorn Rd]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 398 | 2.0 | 1008 | 0.395 | 100 | 7.1 | LOS A | 2.8 | 70.4 | Full | 800 | 0.0 | 0.0 |
| Approach | 398 | 2.0 | | 0.395 | | 7.1 | LOS A | 2.8 | 70.4 | | | | |
| East: WB - Simmerhorn Rd | | | | | | | | | | | | | |
| Lane 1[d] | 579 | 2.0 | 1054 | 0.550 | 100 | 8.0 | LOS A | 4.6 | 117.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 579 | 2.0 | | 0.550 | | 8.0 | LOS A | 4.6 | 117.0 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 274 | 2.0 | 829 | 0.330 | 100 | 8.9 | LOS A | 2.3 | 59.1 | Full | 1600 | 0.0 | 0.0 |
| Approach | 274 | 2.0 | | 0.330 | | 8.9 | LOS A | 2.3 | 59.1 | | | | |
| West: EB - Simmerhorn Rd | | | | | | | | | | | | | |
| Lane 1[d] | 375 | 2.0 | 1019 | 0.368 | 100 | 6.8 | LOS A | 2.5 | 64.0 | Full | 265 | 0.0 | 0.0 |
| Approach | 375 | 2.0 | | 0.368 | | 6.8 | LOS A | 2.5 | 64.0 | | | | |
| Intersection | 1626 | 2.0 | | 0.550 | | 7.6 | LOS A | 4.6 | 117.0 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 106 [PM 6 - Marengo Rd/Simmerhorn Rd]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Road | | | | | | | | | | | | | |
| Lane 1 | 447 | 2.0 | 930 | 0.481 | 100 | 8.0 | LOS A | 3.8 | 96.0 | Full | 800 | 0.0 | 0.0 |
| Lane 2[d] | 565 | 2.0 | 1174 | 0.481 | 100 | 6.4 | LOS A | 4.0 | 102.1 | Short | 150 | 0.0 | NA |
| Approach | 1012 | 2.0 | | 0.481 | | 7.1 | LOS A | 4.0 | 102.1 | | | | |
| East: WB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 439 | 2.0 | 638 | 0.688 | 100 | 12.6 | LOS B | 4.9 | 124.5 | Full | 2300 | 0.0 | 0.0 |
| Approach | 439 | 2.0 | | 0.688 | | 12.6 | LOS B | 4.9 | 124.5 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 734 | 2.0 | 1178 | 0.623 | 100 | 8.3 | LOS A | 6.8 | 171.9 | Full | 1600 | 0.0 | 0.0 |
| Lane 2 | 457 | 2.0 | 916 | 0.498 | 80[7] | 7.5 | LOS A | 4.1 | 103.0 | Full | 1600 | 0.0 | 0.0 |
| Approach | 1190 | 2.0 | | 0.623 | | 8.0 | LOS A | 6.8 | 171.9 | | | | |
| West: EB Simmerhorn Road | | | | | | | | | | | | | |
| Lane 1[d] | 382 | 2.0 | 774 | 0.493 | 100 | 12.0 | LOS B | 3.5 | 88.6 | Full | 1300 | 0.0 | 0.0 |
| Lane 2 | 60 | 2.0 | 500 | 0.119 | 100 | 8.6 | LOS A | 0.6 | 14.0 | Short | 150 | 0.0 | NA |
| Approach | 441 | 2.0 | | 0.493 | | 11.6 | LOS B | 3.5 | 88.6 | | | | |
| Intersection | 3083 | 2.0 | | 0.688 | | 8.9 | LOS A | 6.8 | 171.9 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

7 Lane under-utilisation specified by the user
d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 113 [PM 13 - Marengo Rd/Boessow Rd]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East: WB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 84 | 2.0 | 1255 | 0.067 | 100 | 4.5 | LOS A | 0.3 | 8.5 | Full | 1600 | 0.0 | 0.0 |
| Approach | 84 | 2.0 | | 0.067 | | 4.5 | LOS A | 0.3 | 8.5 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 268 | 2.0 | 1365 | 0.197 | 100 | 5.2 | LOS A | 1.1 | 29.1 | Full | 1000 | 0.0 | 0.0 |
| Approach | 268 | 2.0 | | 0.197 | | 5.2 | LOS A | 1.1 | 29.1 | | | | |
| West: EB Boessow Road | | | | | | | | | | | | | |
| Lane 1[d] | 239 | 2.0 | 1358 | 0.176 | 100 | 7.7 | LOS A | 1.0 | 24.5 | Full | 1300 | 0.0 | 0.0 |
| Approach | 239 | 2.0 | | 0.176 | | 7.7 | LOS A | 1.0 | 24.5 | | | | |
| Intersection | 591 | 2.0 | | 0.197 | | 6.1 | LOS A | 1.1 | 29.1 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 115 [PM 15 - Carillion Blvd/Boessow Rd]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 207 | 2.0 | 782 | 0.264 | 100 | 11.5 | LOS B | 1.7 | 43.8 | Full | 1600 | 0.0 | 0.0 |
| Approach | 207 | 2.0 | | 0.264 | | 11.5 | LOS B | 1.7 | 43.8 | | | | |
| East: EB - Boessow Rd | | | | | | | | | | | | | |
| Lane 1[d] | 261 | 2.0 | 819 | 0.319 | 100 | 8.5 | LOS A | 2.1 | 53.0 | Full | 1300 | 0.0 | 0.0 |
| Approach | 261 | 2.0 | | 0.319 | | 8.5 | LOS A | 2.1 | 53.0 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 241 | 2.0 | 1031 | 0.234 | 100 | 6.6 | LOS A | 1.5 | 37.0 | Full | 1000 | 0.0 | 0.0 |
| Approach | 241 | 2.0 | | 0.234 | | 6.6 | LOS A | 1.5 | 37.0 | | | | |
| West: EB - Boessow Rd | | | | | | | | | | | | | |
| Lane 1[d] | 700 | 2.0 | 1343 | 0.521 | 100 | 8.5 | LOS A | 4.8 | 122.8 | Full | 1000 | 0.0 | 0.0 |
| Approach | 700 | 2.0 | | 0.521 | | 8.5 | LOS A | 4.8 | 122.8 | | | | |
| Intersection | 1409 | 2.0 | | 0.521 | | 8.6 | LOS A | 4.8 | 122.8 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 117 [PM 17 - Carillion Blvd/A St]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 573 | 2.0 | 640 | 0.895 | 100 | 31.9 | LOS C | 17.2 | 437.5 | Full | 1000 | 0.0 | 0.0 |
| Approach | 573 | 2.0 | | 0.895 | | 31.9 | LOS C | 17.2 | 437.5 | | | | |
| East: EB - A St | | | | | | | | | | | | | |
| Lane 1[d] | 807 | 2.0 | 918 | 0.878 | 100 | 19.0 | LOS B | 17.6 | 446.1 | Full | 1300 | 0.0 | 0.0 |
| Approach | 807 | 2.0 | | 0.878 | | 19.0 | LOS B | 17.6 | 446.1 | | | | |
| North: SB - Carillion Blvd | | | | | | | | | | | | | |
| Lane 1[d] | 345 | 2.0 | 530 | 0.650 | 100 | 18.1 | LOS B | 7.2 | 181.7 | Full | 800 | 0.0 | 0.0 |
| Approach | 345 | 2.0 | | 0.650 | | 18.1 | LOS B | 7.2 | 181.7 | | | | |
| West: EB - A St | | | | | | | | | | | | | |
| Lane 1[d] | 770 | 2.0 | 1116 | 0.690 | 100 | 8.3 | LOS A | 7.9 | 200.6 | Full | 1200 | 0.0 | 0.0 |
| Approach | 770 | 2.0 | | 0.690 | | 8.3 | LOS A | 7.9 | 200.6 | | | | |
| Intersection | 2493 | 2.0 | | 0.895 | | 18.5 | LOS B | 17.6 | 446.1 | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# LANE SUMMARY

## Site: 118 [PM 18 - Marengo Rd/A St]

2040 Plus Project Conditiions with Road Diet - PM Peak Hour
Site Category: (None)
Roundabout

**Lane Use and Performance**

| | Demand Flows Total veh/h | HV % | Cap. veh/h | Deg. Satn v/c | Lane Util. % | Average Delay sec | Level of Service | 95% Back of Queue Veh | Dist ft | Lane Config | Lane Length ft | Cap. Adj. % | Prob. Block. % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: NB Marengo Rd | | | | | | | | | | | | | |
| Lane 1[d] | 187 | 2.0 | 589 | 0.317 | 100 | 10.2 | LOS B | 2.4 | 60.5 | Full | 1000 | 0.0 | 0.0 |
| Approach | 187 | 2.0 | | 0.317 | | 10.2 | LOS B | 2.4 | 60.5 | | | | |
| North: SB Marengo Road | | | | | | | | | | | | | |
| Lane 1[d] | 1025 | 2.0 | 1395 | 0.735 | 100 | 4.1 | LOS A | 13.0 | 331.2 | Full | 800 | 0.0 | 0.0 |
| Approach | 1025 | 2.0 | | 0.735 | | 4.1 | LOS A | 13.0 | 331.2 | | | | |
| West: EB A Street | | | | | | | | | | | | | |
| Lane 1[d] | 853 | 2.0 | 1150 | 0.742 | 100 | 13.6 | LOS B | 9.5 | 241.6 | Full | 1300 | 0.0 | 0.0 |
| Approach | 853 | 2.0 | | 0.742 | | 13.6 | LOS B | 9.5 | 241.6 | | | | |
| Intersection | 2065 | 2.0 | | 0.742 | | 8.6 | LOS A | 13.0 | 331.2 | | | | |

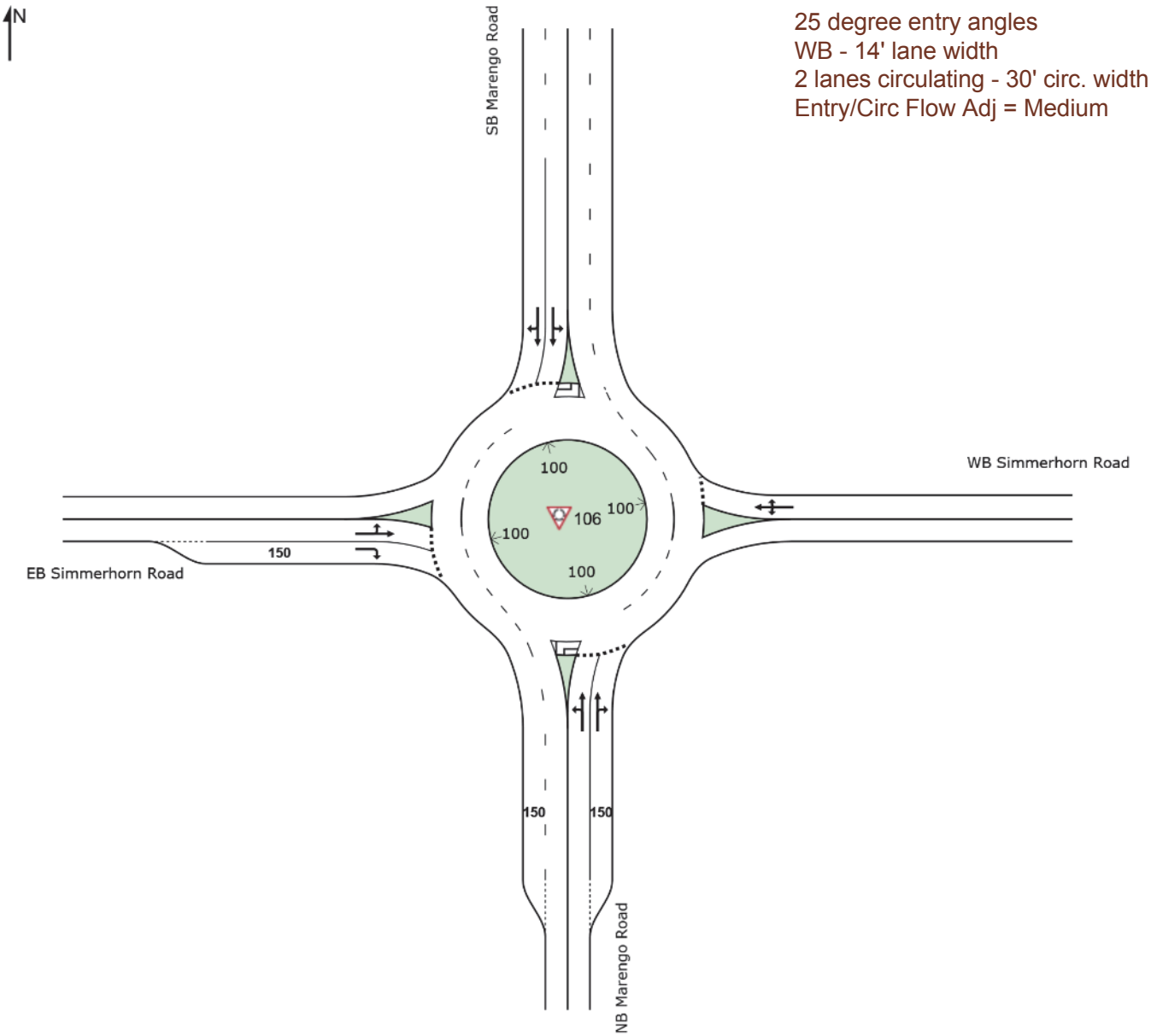
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

# SITE LAYOUT

## Site: 106 [6 AM - Marengo Rd/Simmerhorn Rd]

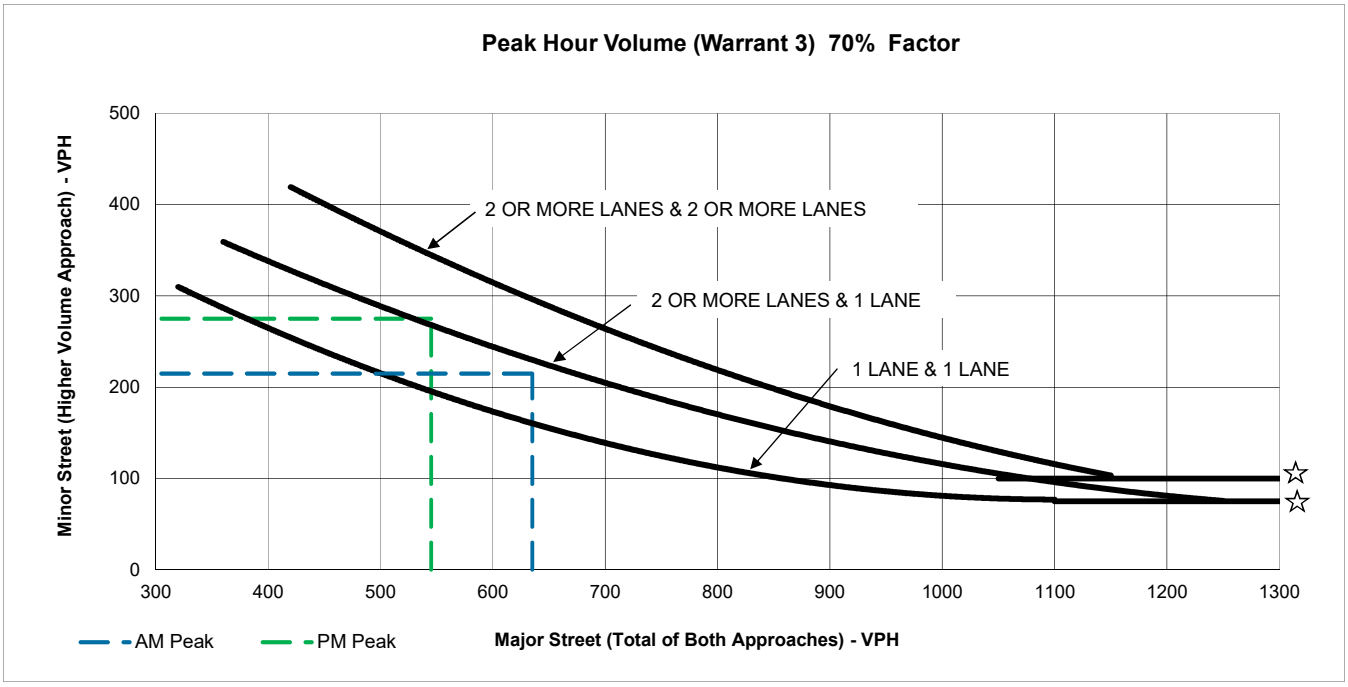
2040 Conditions (No Project) - AM Peak Hour
Site Category: (None)
Roundabout



# Appendix D
# Traffic Signal Warrant Worksheets

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 400 | 265 | 400 | 340 | 400 | N/A |
| 500 | 210 | 500 | 290 | 500 | 375 |
| 600 | 180 | 600 | 240 | 600 | 310 |
| 700 | 150 | 700 | 200 | 700 | 260 |
| 800 | 90 | 800 | 175 | 800 | 220 |
| 900 | 100 | 900 | 140 | 900 | 180 |
| 1000 | 85 | 1000 | 120 | 1000 | 150 |
| 1100 | 75 | 1100 | 95 | 1150 | 100 |
| 1200 | 75 | 1200 | 80 | 1200 | 100 |
| 1300 | 75 | 1250 | 75 | 1300 | 100 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

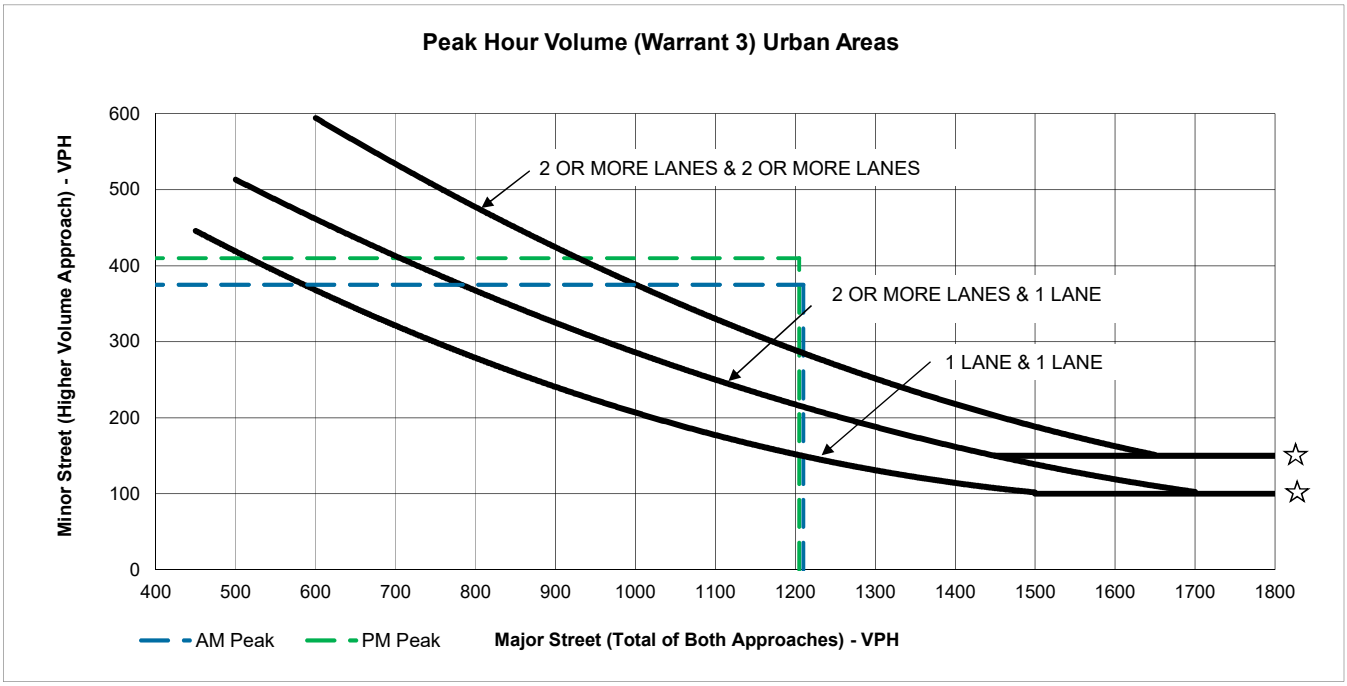



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #4 | Number of Lanes |
| Major Approach | Simmerhorn Road | 1 |
| Minor Approach | SR 99 NB Ramps | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 635 | 545 |
| Minor St. Volume: | 215 | 275 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

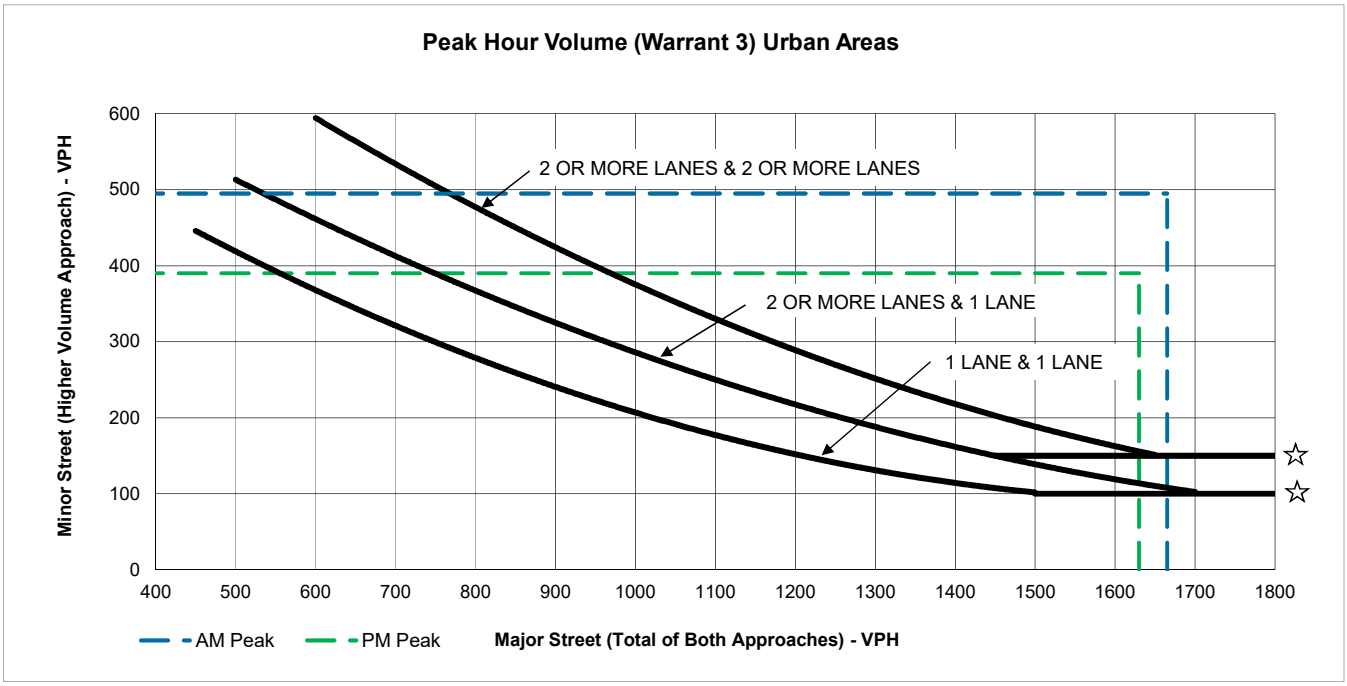



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| | | |
|---|---|---|
| SCENARIO (AM/PM) | 2040 No Project Conditions | |
| INTERSECTION | #5 | Number of Lanes |
| Major Approach | Carillion Boulevard | 2 |
| Minor Approach | Simmerhorn Road | 1 |
| | AM | PM |
| Major St. Volume: | 1,210 | 1,205 |
| Minor St. Volume: | 375 | 410 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

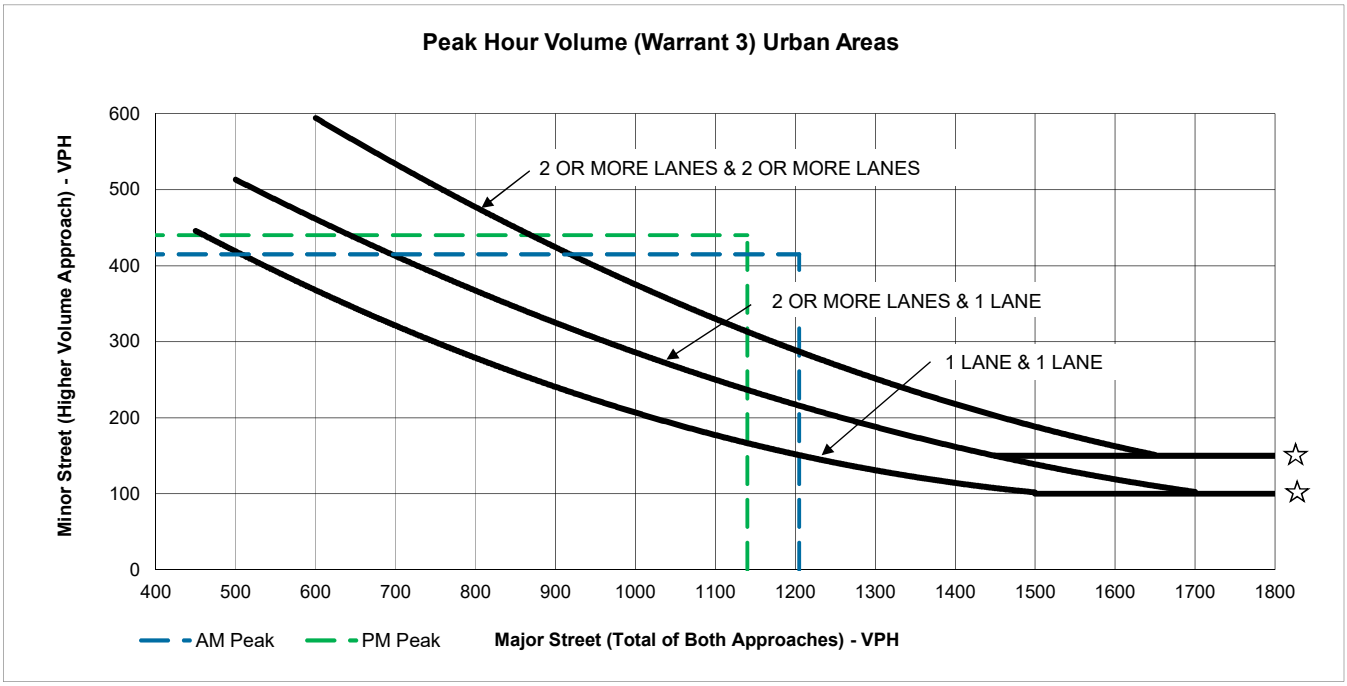



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| | | |
|---|---|---|
| SCENARIO (AM/PM) | 2040 No Project Conditions | |
| INTERSECTION | #6 | Number of Lanes |
| Major Approach | Marengo Road | 2 |
| Minor Approach | Simmerhorn Road | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 1,665 | 1,630 |
| Minor St. Volume: | 495 | 390 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

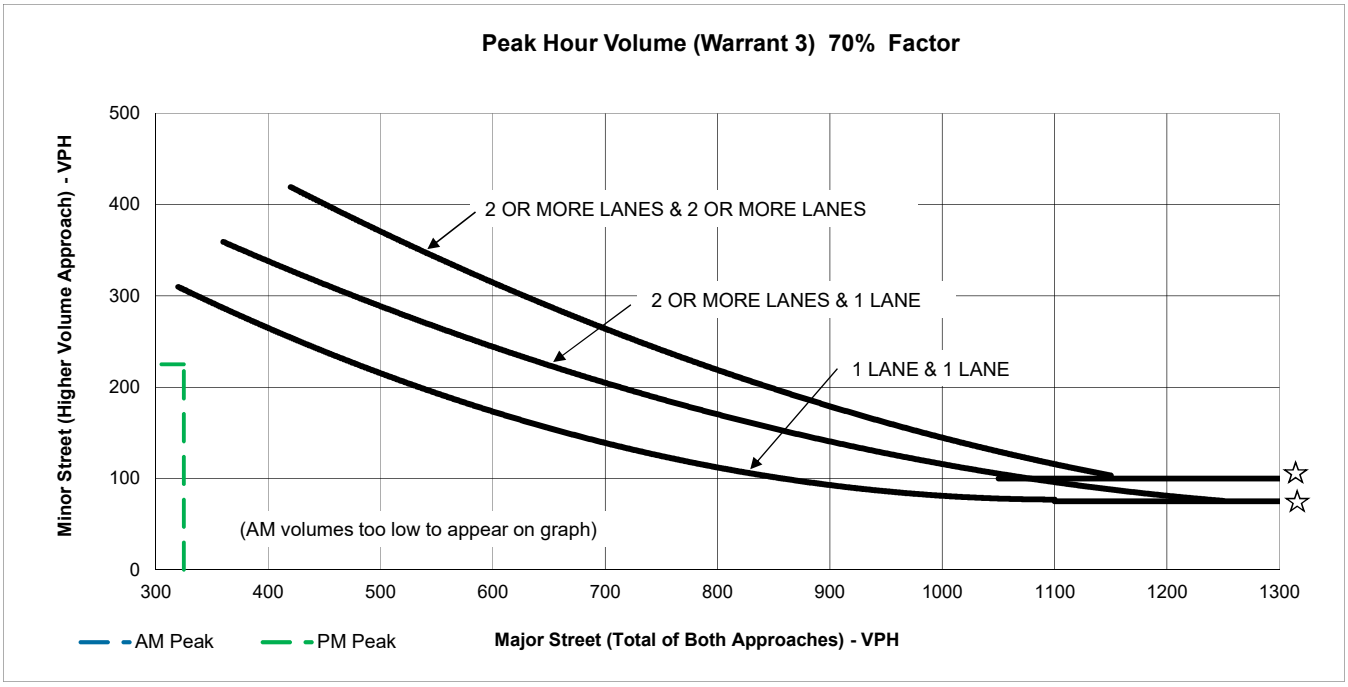



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #11 | Number of Lanes |
| Major Approach | Boessow Road | 2 |
| Minor Approach | Crystal Way | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 1,205 | 1,140 |
| Minor St. Volume: | 415 | 440 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 400 | 265 | 400 | 340 | 400 | N/A |
| 500 | 210 | 500 | 290 | 500 | 375 |
| 600 | 180 | 600 | 240 | 600 | 310 |
| 700 | 150 | 700 | 200 | 700 | 260 |
| 800 | 90 | 800 | 175 | 800 | 220 |
| 900 | 100 | 900 | 140 | 900 | 180 |
| 1000 | 85 | 1000 | 120 | 1000 | 150 |
| 1100 | 75 | 1100 | 95 | 1150 | 100 |
| 1200 | 75 | 1200 | 80 | 1200 | 100 |
| 1300 | 75 | 1250 | 75 | 1300 | 100 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

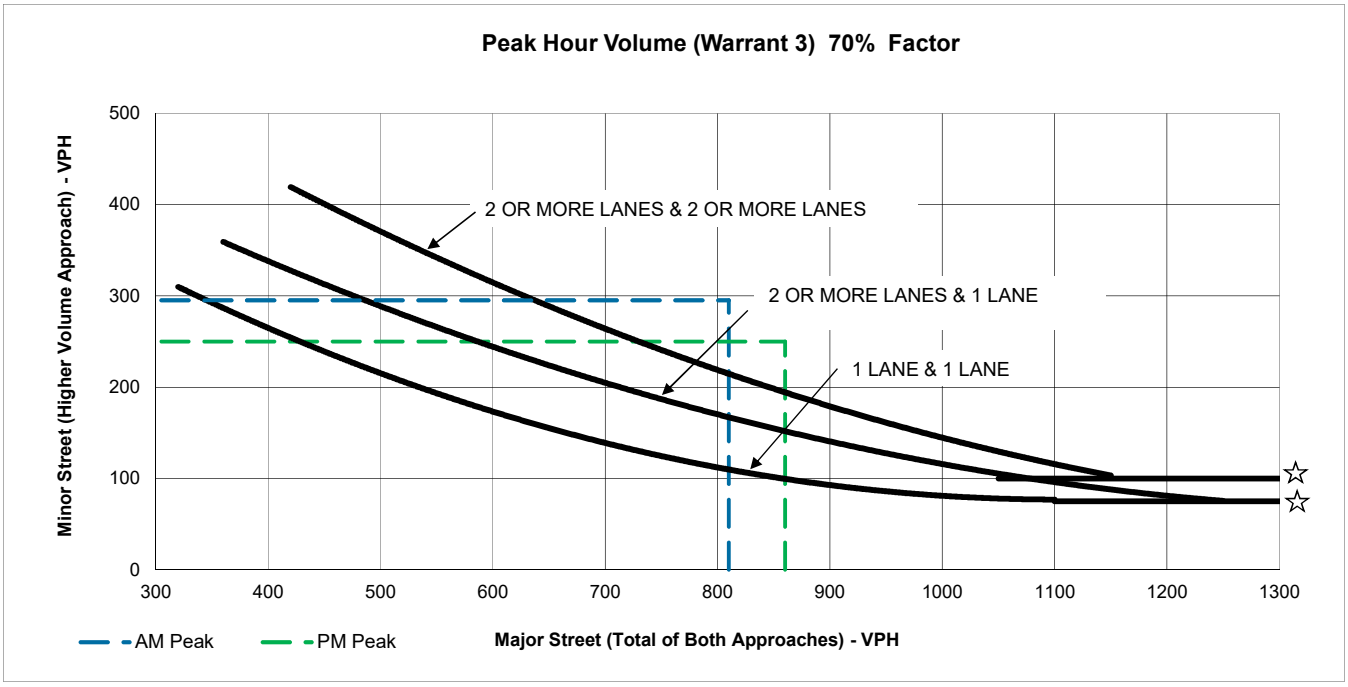



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #13 | Number of Lanes |
| Major Approach | Boessow Road | 1 |
| Minor Approach | Marengo Road | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 255 | 325 |
| Minor St. Volume: | 220 | 225 |
| Warrant Met?: | No | No |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 400 | 265 | 400 | 340 | 400 | N/A |
| 500 | 210 | 500 | 290 | 500 | 375 |
| 600 | 180 | 600 | 240 | 600 | 310 |
| 700 | 150 | 700 | 200 | 700 | 260 |
| 800 | 90 | 800 | 175 | 800 | 220 |
| 900 | 100 | 900 | 140 | 900 | 180 |
| 1000 | 85 | 1000 | 120 | 1000 | 150 |
| 1100 | 75 | 1100 | 95 | 1150 | 100 |
| 1200 | 75 | 1200 | 80 | 1200 | 100 |
| 1300 | 75 | 1250 | 75 | 1300 | 100 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

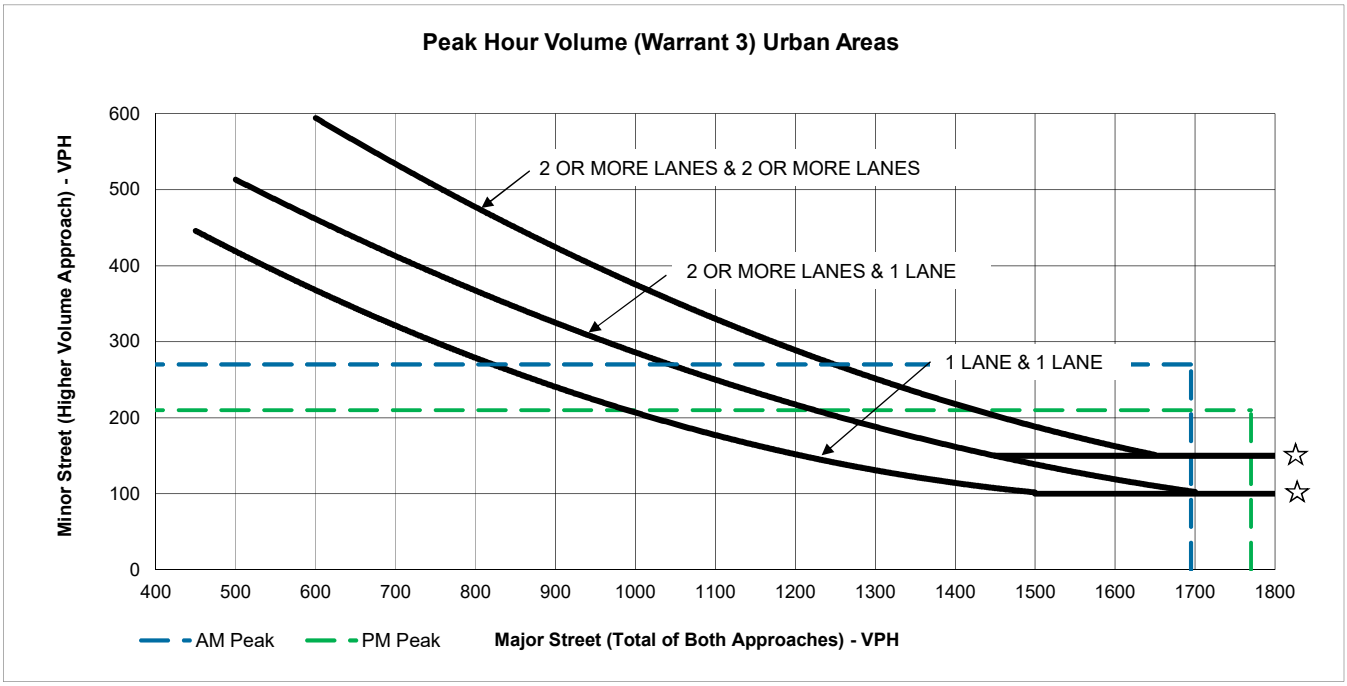



☆ NOTE:
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #15 | Number of Lanes |
| Major Approach | Boessow Road | 1 |
| Minor Approach | Carillion Boulevard | 2 |
| | AM Peak | PM Peak |
| Major St. Volume: | 810 | 860 |
| Minor St. Volume: | 295 | 250 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

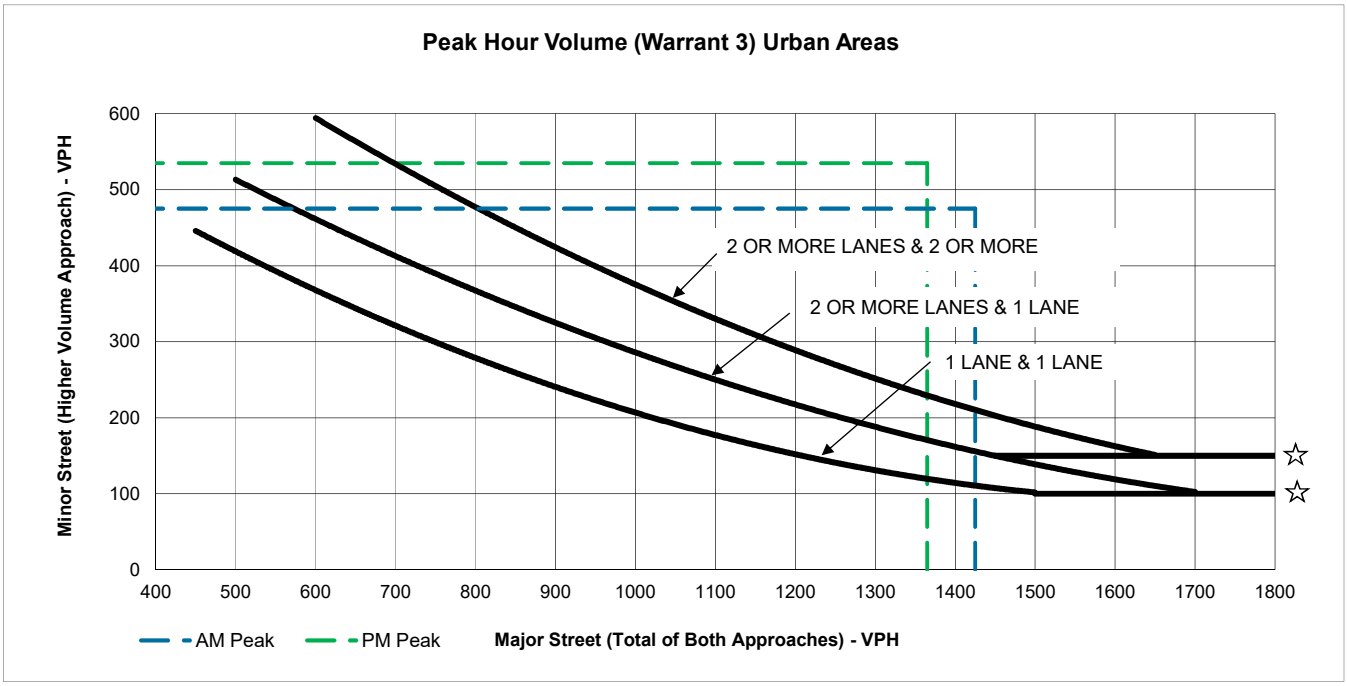



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #16 | Number of Lanes |
| Major Approach | A Street | 2 |
| Minor Approach | Crystal Way | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 1,695 | 1,770 |
| Minor St. Volume: | 270 | 210 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

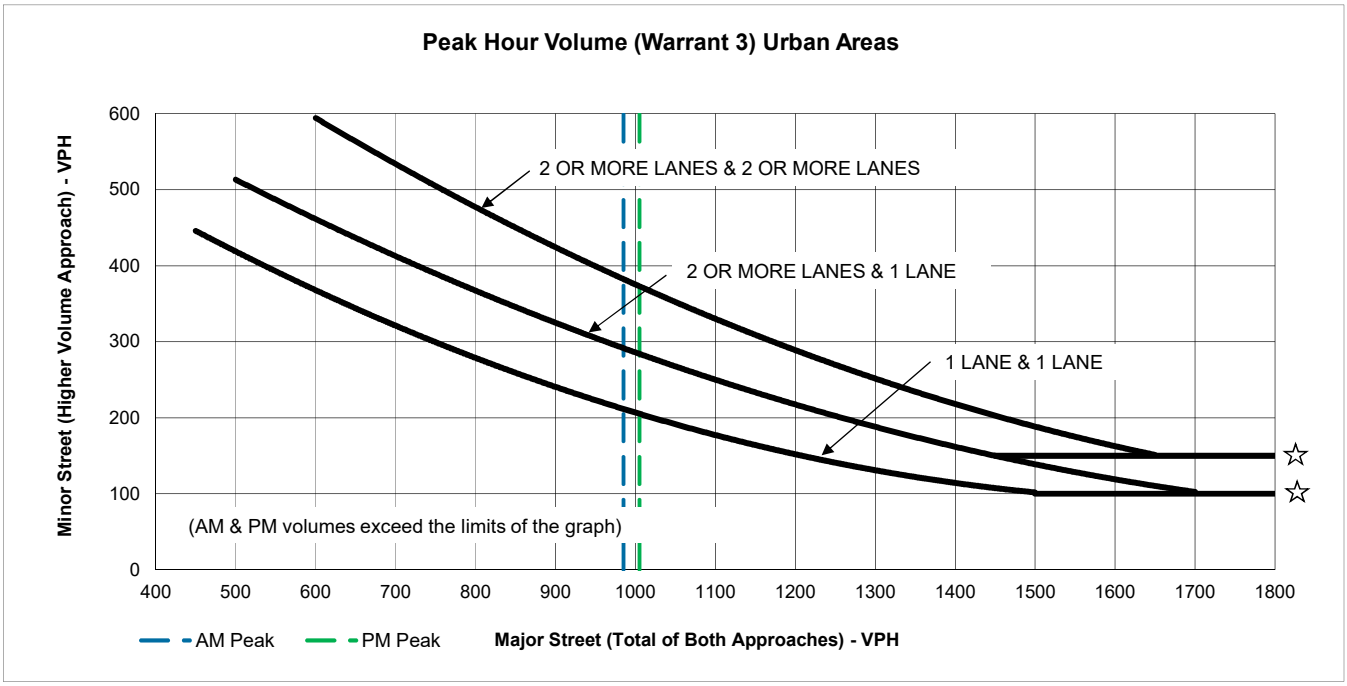



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| | | |
|---|---|---|
| SCENARIO (AM/PM) | 2040 No Project Conditions | |
| INTERSECTION | #17 | Number of Lanes |
| Major Approach | A Street | 1 |
| Minor Approach | Carillion Boulevard | 2 |
| | AM Peak | PM Peak |
| Major St. Volume: | 1,425 | 1,365 |
| Minor St. Volume: | 475 | 535 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

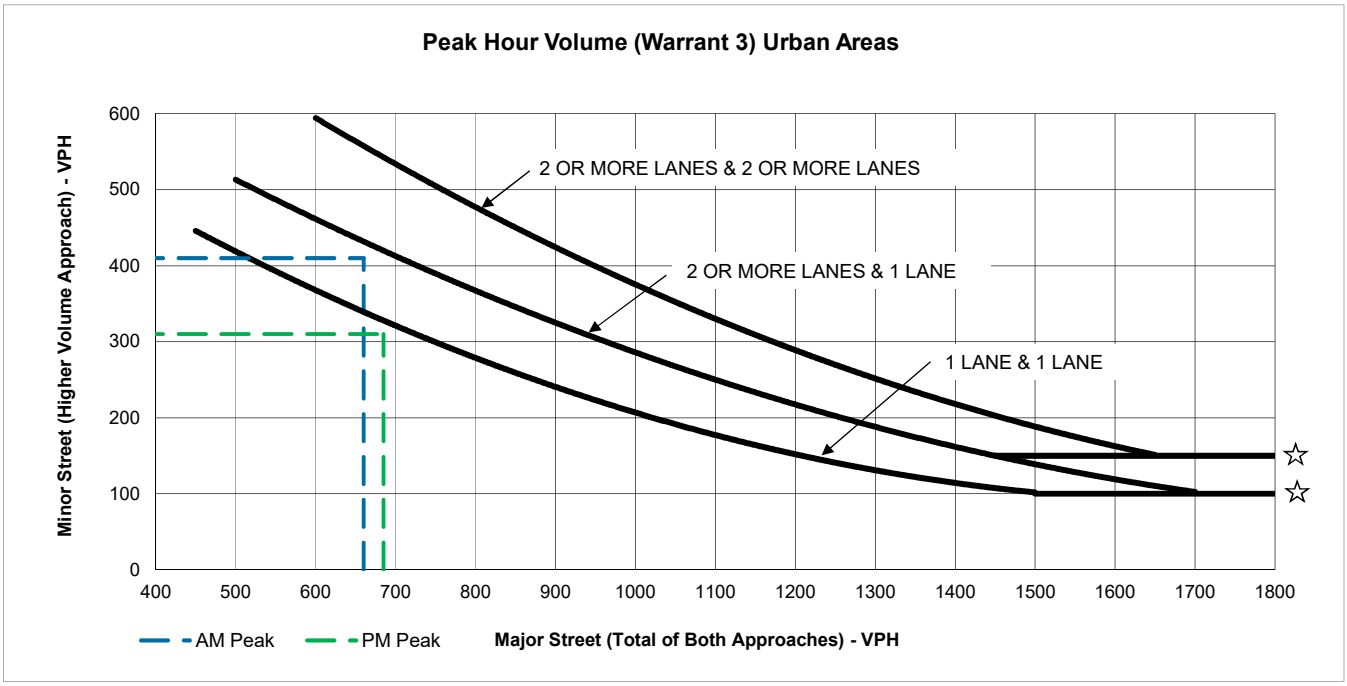



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 No Project Conditions | |
|---|---|---|
| INTERSECTION | #18 | Number of Lanes |
| Major Approach | Marengo Road | 1 |
| Minor Approach | A Street | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 985 | 1,005 |
| Minor St. Volume: | 665 | 655 |
| Warrant Met?: | Yes | Yes |

| Both 1 Lane Approaches | | 2 or more Lane and One Lane Approaches | | Both 2 or more Lane Approaches | |
|---|---|---|---|---|---|
| Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach | Major Street Total of Both Approaches | Minor Street High Volume Approach |
| 500 | 420 | 500 | 505 | 500 | N/A |
| 600 | 360 | 600 | 460 | 600 | 590 |
| 700 | 325 | 700 | 420 | 700 | 540 |
| 800 | 285 | 800 | 360 | 800 | 475 |
| 900 | 245 | 900 | 325 | 900 | 425 |
| 1000 | 200 | 1000 | 285 | 1000 | 370 |
| 1100 | 175 | 1100 | 250 | 1100 | 340 |
| 1200 | 150 | 1200 | 220 | 1200 | 285 |
| 1300 | 130 | 1300 | 190 | 1300 | 250 |
| 1400 | 120 | 1400 | 155 | 1400 | 220 |
| 1500 | 100 | 1500 | 145 | 1500 | 180 |
| 1600 | 100 | 1600 | 120 | 1600 | 170 |
| 1700 | 100 | 1700 | 100 | 1650 | 150 |
| 1800 | 100 | 1800 | 100 | 1800 | 150 |

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*




☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

| SCENARIO (AM/PM) | 2040 Plus Project (Road Diet) Conditions | |
|---|---|---|
| INTERSECTION | #3 | Number of Lanes |
| Major Approach | Lincoln Way | 1 |
| Minor Approach | Elm Avenue | 1 |
| | AM Peak | PM Peak |
| Major St. Volume: | 660 | 685 |
| Minor St. Volume: | 410 | 310 |
| Warrant Met?: | Yes | No |

# Appendix E
# VMT – CalEEMod Outputs

# Simmerhorn Ranch - VMT Analysis - Existing

**Sacramento County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Elementary School | 200.00 | Student | 0.38 | 16,720.67 | 0 |
| City Park | 5.70 | Acre | 5.70 | 248,292.00 | 0 |
| Single Family Housing | 438.00 | Dwelling Unit | 142.21 | 788,400.00 | 1169 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2021 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information found in Draft Memo of Assumptions for Simmerhorn Ranch TIAR.

Construction Phase - Operational runs only.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Trips - Proj specific trip rate with internal capture; no trip rate estimation for park site according to assumptions memo. 8.59 Res, 0.47 Elem.
Sat & Sun Rate from ITE Trip Gen Manual 9th Ed.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Woodstoves - Default

Consumer Products - Default

Area Coating - Default

Landscape Equipment - Default

Energy Use - Default

Water And Wastewater - Default

Solid Waste - Default

Mobile Land Use Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblVehicleTrips | CC_TL | 5.00 | 0.00 |
| tblVehicleTrips | CC_TTP | 48.00 | 0.00 |
| tblVehicleTrips | CNW_TL | 6.50 | 0.00 |
| tblVehicleTrips | CNW_TTP | 19.00 | 0.00 |
| tblVehicleTrips | CW_TL | 10.00 | 0.00 |
| tblVehicleTrips | CW_TTP | 33.00 | 0.00 |
| tblVehicleTrips | DV_TP | 28.00 | 0.00 |
| tblVehicleTrips | PB_TP | 6.00 | 0.00 |
| tblVehicleTrips | PR_TP | 66.00 | 0.00 |
| tblVehicleTrips | ST_TR | 22.75 | 0.00 |
| tblVehicleTrips | ST_TR | 9.91 | 9.54 |
| tblVehicleTrips | SU_TR | 16.74 | 0.00 |
| tblVehicleTrips | SU_TR | 8.62 | 8.55 |
| tblVehicleTrips | WD_TR | 1.89 | 0.00 |
| tblVehicleTrips | WD_TR | 1.29 | 0.47 |
| tblVehicleTrips | WD_TR | 9.52 | 8.59 |

## 2.0 Emissions Summary

## 4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

Implement NEV Network

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 1.1593 | 4.8140 | 12.8421 | 0.0377 | 3.1522 | 0.0344 | 3.1866 | 0.8453 | 0.0322 | 0.8774 | 0.0000 | 3,467.3727 | 3,467.3727 | 0.1748 | 0.0000 | 3,471.7430 |
| Unmitigated | 1.2242 | 5.2740 | 14.4891 | 0.0439 | 3.7085 | 0.0395 | 3.7480 | 0.9944 | 0.0370 | 1.0314 | 0.0000 | 4,037.2099 | 4,037.2099 | 0.1983 | 0.0000 | 4,042.1675 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| City Park | 0.00 | 0.00 | 0.00 | | |
| Elementary School | 94.00 | 0.00 | 0.00 | 141,191 | 120,013 |
| Single Family Housing | 3,762.42 | 4,178.52 | 3744.90 | 9,800,894 | 8,330,760 |
| Total | 3,856.42 | 4,178.52 | 3,744.90 | 9,942,085 | 8,450,773 |

### 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| City Park | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |
| Elementary School | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |
| Single Family Housing | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

# Simmerhorn Ranch - VMT Analysis - Cummulative

**Sacramento County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Elementary School | 600.00 | Student | 1.15 | 50,162.02 | 0 |
| City Park | 5.70 | Acre | 5.70 | 248,292.00 | 0 |
| Single Family Housing | 438.00 | Dwelling Unit | 142.21 | 788,400.00 | 1169 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 3.5 | **Precipitation Freq (Days)** | 58 |
| **Climate Zone** | 6 | | | **Operational Year** | 2021 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Information found in Draft Memo of Assumptions for Simmerhorn Ranch TIAR.

Construction Phase - Operational run only.

Off-road Equipment -

Trips and VMT -

On-road Fugitive Dust -

Demolition -

Grading -

Architectural Coating -

Vehicle Trips - Proj specific trip rate with internal capture; no trip rate estimation for park site according to assumptions memo. 9.24 Res, 0.47 Elem.
Sat & Sun Rates from ITE Trip Gen 9th Ed.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust -

Woodstoves - Default

Consumer Products - Default

Area Coating - Default

Landscape Equipment - Default

Energy Use - Default

Water And Wastewater - Default

Solid Waste - Default

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblVehicleTrips | ST_TR | 22.75 | 0.00 |
| tblVehicleTrips | ST_TR | 9.91 | 9.54 |
| tblVehicleTrips | SU_TR | 16.74 | 0.00 |
| tblVehicleTrips | SU_TR | 8.62 | 8.55 |
| tblVehicleTrips | WD_TR | 1.89 | 0.00 |
| tblVehicleTrips | WD_TR | 1.29 | 1.32 |
| tblVehicleTrips | WD_TR | 9.52 | 8.46 |

## 2.0 Emissions Summary

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| City Park | 0.00 | 0.00 | 0.00 | | |
| Elementary School | 792.00 | 0.00 | 0.00 | 1,189,613 | 942,754 |
| Single Family Housing | 3,705.48 | 4,178.52 | 3744.90 | 9,696,527 | 8,242,048 |
| Total | 4,497.48 | 4,178.52 | 3,744.90 | 10,886,139 | 9,184,802 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| City Park | 10.00 | 5.00 | 6.50 | 33.00 | 48.00 | 19.00 | 66 | 28 | 6 |
| Elementary School | 10.00 | 5.00 | 6.50 | 65.00 | 30.00 | 5.00 | 63 | 25 | 12 |
| Single Family Housing | 10.00 | 5.00 | 6.50 | 46.50 | 12.50 | 41.00 | 86 | 11 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |
| Elementary School | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |
| Single Family Housing | 0.555851 | 0.039752 | 0.205040 | 0.120748 | 0.020349 | 0.005402 | 0.018507 | 0.022668 | 0.002052 | 0.002157 | 0.005939 | 0.000618 | 0.000915 |

# 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy