2013 TRAFFIC MONITORING PROGRAM FOR THE CITY OF LATHROP

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Prepared for: **City of Lathrop**

Prepared by: **Mark D. Crane, P.E.**
California Registered Traffic Engineer (#1381)
CRANE TRANSPORTATION GROUP
2621 E. Windrim Court
Elk Grove, CA 95758
(916) 647-3406

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I. INTRODUCTION & SUMMARY OF FINDINGS

A. INTRODUCTION

This report has been prepared at the request of the City of Lathrop to determine surface street circulation system operating conditions and needed improvements for existing, year 2015 and year 2017 conditions. AM and PM peak period traffic counts have been conducted in 2013 at all major intersections within the City when schools were open and existing commute period operating conditions determined (see **Figure 1**). Year 2015 and 2017 operating conditions have then been determined based upon expected increased traffic from new development projected for the City of Lathrop as well as those sections of the City of Manteca and San Joaquin County that would add a significant amount of traffic to the City of Lathrop circulation system. Finally, improvements have been recommended for each analysis horizon year for locations projected to be experiencing unacceptable operation.

B. SUMMARY OF FINDINGS

1. Existing Condition Circulation System Operation

a. Intersection Level of Service

All intersections evaluated for this study are currently operating acceptably.

b. 95th Percentile Vehicle Queuing at I-5 Interchanges

There is acceptable queuing between all intersections within the I-5 interchanges with the following exception.

- Eastbound Roth Road at Harlan Road: PM peak hour
  Roth Road eastbound queues now extend from the all way stop Harlan Road intersection back through the I-5 Northbound Ramps intersection.

c. Signalization Needs

No unsignalized intersections evaluated for this study currently have volumes meeting peak hour signal warrant criteria levels.

2. Anticipated City of Lathrop Development by 2015 & 2017

a. 2014-2015

925 new single family units
1,900,000 square feet of new employment
62,000 square feet of new commercial

b. 2016-2017

1,525 new single family units
2,450,000 square feet of new employment
185,000 square feet of new commercial

3. Year 2015 Circulation System Operation

a. Intersection Level of Service

All intersections would be operating acceptably with the following three exceptions.

- **Yosemite Avenue/SR 120 Eastbound Ramps** (side street stop sign control): PM peak hour
  - SR 120 eastbound off-ramp stop sign controlled approach will operate with unacceptable delay.

- **Yosemite Avenue/McKinley Avenue** (all way stop): PM peak hour
  - All way stop operation will have unacceptable delay.

- **Lathrop Road/Golden Valley Parkway** (all way stop): AM peak hour
  - All way stop operation will have unacceptable delay.

b. 95th Percentile Vehicle Queuing at I-5 Interchanges

There would be acceptable queuing between all intersections within the I-5 interchanges with the following exception.

- Roth Road eastbound backups will extend from the Harlan Road intersection through the I-5 Northbound Ramps intersection: PM peak hour

c. Signalization Needs

All unsignalized intersections would have peak hour volumes lower than signal warrant criteria levels with the following two exceptions.

- **Lathrop Road/Golden Valley Parkway**: AM peak hour (volumes approaching warrant criteria level)
- **Yosemite Avenue/McKinley Avenue**: PM peak hour (volumes exceeding warrant criteria levels)

4. Year 2017 Circulation System Operation

a. Intersection Level of Service

All intersections would be operating acceptably with the following 10 exceptions.

- **Roth Road/Harlan Road** (all way stop): PM Peak hour
  - All way stop operation will operate with unacceptable delay.

- **Lathrop Road/Golden Valley Parkway** (all way stop): AM peak hour
  - All way stop control will operate with unacceptable delay.

- **Lathrop Road/Harlan Road** (signal): AM peak hour
  - Signalized operation will have unacceptable delay.

- **River Islands Parkway/Golden Valley Parkway** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay.

- **River Islands Parkway/Manthey Road** (side street stop sign control): AM & PM peak hours
  - Manthey Road stop sign controlled left turn will operate with unacceptable delay.

- **River Islands Parkway/I-5 Southbound Ramps** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay.

- **Louise Avenue/McKinley Avenue** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay.

- **Yosemite Avenue/SR 120 Eastbound Ramps** (side street stop sign control): AM & PM peak hours
  - SR 120 eastbound off-ramp stop sign controlled approach will operate with unacceptable delay.

- **Yosemite Avenue/SR 120 Westbound Ramps** (side street stop sign control): AM & PM peak hours
  - SR 120 westbound off-ramp stop sign controlled approach will operate with unacceptable delay.

- **Yosemite Avenue/McKinley Avenue** (all way stop): AM & PM peak hours
  - All way stop operation will operate with unacceptable delay.

b. 95th Percentile Vehicle Queuing at I-5 Interchanges

There would be acceptable queuing between all intersections within the I-5 interchanges with the following two exceptions.

- Roth Road eastbound backups will extend from the Harlan Road intersection through the I-5 Northbound Ramps intersection: PM peak hour

- River Islands Parkway westbound through lane backups will extend from the I-5 Southbound Ramps intersection through the I-5 Northbound Ramps intersection: PM peak hour

c. Signalization Needs

All unsignalized intersections would have peak hour volumes lower than signal warrant criteria levels with the following five exceptions.

- **Roth Road/Harlan Road**: PM peak hour (volumes meeting warrant criteria levels)
- **Lathrop Road/Golden Valley Parkway**: AM peak hour (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/SR 120 Eastbound Ramps**: AM & PM peak hours (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/SR 120 Westbound Ramps**: AM & PM peak hours (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/McKinley Avenue**: AM & PM peak hours (volumes exceeding warrant criteria levels)

5. Required Improvements for Existing Conditions

- Roth Road Eastbound Queuing from Harlan Road all way stop intersection
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east.
  - Option 2: Provide all way stop control at the Roth Road/I-5 Northbound Ramps intersection.

6. Required Improvements for 2015 Conditions

- **Yosemite Avenue/SR 120 Eastbound Ramps** intersection level of service
  - Provide all way stop control.

- **Yosemite Avenue/McKinley Avenue** intersection level of service
  - Signalize the intersection.
  - Widen the McKinley Avenue north and southbound approaches and provide exclusive left turn lanes.
  - Eliminate the Vierra Road connection to McKinley Avenue adjacent to the Yosemite intersection. Connect Vierra Road to D'Arcy Parkway, Yosemite Avenue or McKinley Avenue (farther north) at a location to be selected by the City.

- **Lathrop Road/Golden Valley Parkway** intersection level of service
  - Signalize the intersection.

- **Roth Road Eastbound Queuing from Harlan Road intersection**
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east.
  - Option 2: Provide all way stop control at the Roth Road/I-5 Northbound Ramps intersection.

7. Required Improvements for 2017 Conditions

- **Roth Road/Harlan Road** intersection level of service
  - Signalize the intersection and move the intersection at least 625 feet to the east.

- **Lathrop Road/Harlan Road** intersection level of service
  - Option 1: Restripe the northbound Harlan Road approach to provide 2 left turn lanes and a combined through/right turn lane and restripe the westbound approach to provide a left turn lane, a through lane and a shared through/right turn lane.
  - Option 2: Restripe the northbound Harlan Road approach to provide 1 left turn lane, a combined through/left turn lane and a combined through/right turn lane and restripe the westbound approach to provide a left turn lane, a through lane and a shared through/right turn lane.

- **Lathrop Road/Golden Valley Parkway** intersection level of service
  - Signalize the intersection.

- **River Islands Parkway/Golden Valley Parkway** intersection level of service
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection.

- **River Islands Parkway/Manthey Road** intersection level of service
  - Prohibit left turns from the Manthey Road southbound approach.

- **River Islands Parkway/I-5 Southbound Ramps** intersection level of service
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection and extending westerly to Golden Valley Parkway.

- **Louise Avenue/McKinley Avenue** intersection level of service
  - Widen the Louise Avenue eastbound and westbound approaches and provide exclusive left turn lanes.
  - Eliminate split phase signal operation eastbound/westbound.

- **Yosemite Avenue/SR 120 Eastbound Ramps** intersection level of service
  - Signalize the intersection.
  - Provide a left turn lane on the Yosemite Avenue southbound approach.
  - Widen the I-5 off-ramp to three lanes. Stripe as two left turn lanes and one combined through/right turn lane.
  - Widen the Yosemite Avenue northbound approach and stripe as a through lane and a combined through/ right turn lane.
  - Provide a second departure lane on northbound Yosemite Avenue. Continue through the westbound ramps intersection.

- **Yosemite Avenue/SR 120 Westbound Ramps** intersection level of service
  - Signalize the intersection.
  - Widen the Yosemite Avenue northbound approach and provide an exclusive left turn lane and two through lanes.
  - Widen the I-5 off-ramp to provide two lanes.
  - Provide a second northbound departure lane.

- **Yosemite Avenue/McKinley Avenue** intersection level of service
  - Signalize the intersection.
  - Widen the McKinley Avenue northbound and southbound approaches and provide exclusive left turn lanes.
  - Eliminate the Vierra Road connection to McKinley Avenue in close proximity to the new signal. Connect Vierra Road to D'Arcy Parkway, Yosemite Avenue or McKinley Avenue (farther north) at a location selected by the City.

- **Roth Road eastbound queuing from Harlan Road intersection**
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east.
  - Option 2: Provide signal control at the Roth Road/I-5 Northbound Ramps intersection and coordinate operation with the new Roth Road/Harlan Road signal.

- **River Islands Parkway westbound through lane queuing from I-5 southbound ramps intersection**
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection and extending westerly to Golden Valley Parkway.

II. EXISTING CONDITIONS

A. ROADWAY SYSTEM

Major roadways serving the study area are presented in **Figure 1**.

I-5 is a major north-south interstate freeway with three lanes in each direction and diamond interchanges at Roth Road, Lathrop Road and Louise Avenue. The north and southbound ramp intersections at Lathrop Road and Louise Avenue are signalized. Two hook ramps are located

along I-5 in the southern section of the City of Lathrop at Manthey Road (southbound ramps) and Mossdale Road (northbound ramps) and have their off ramps stop sign controlled.

I-205 is an east-west freeway with three lanes in each direction. It lies to the south of the City of Lathrop and provides connections to Tracy and the San Francisco Bay Area. I-205 connects to I-5 in a system level interchange with some directional ramps. However, there are no eastbound to southbound or northbound to westbound ramps at the freeway-to-freeway interchange.

Louise Avenue is an east-west arterial roadway with four lanes extending east of I-5 into the City of Manteca. West of I-5 the roadway is designated ***River Islands Parkway*** and has two to six lanes. Most major intersections along Louise Avenue and River Islands Parkway are signalized.

Lathrop Road is an east-west arterial roadway that provides access to I-5 and connects the City of Lathrop and Manteca. To the west, Lathrop Road extends to the San Joaquin River and the new Lathrop High School campus.

Roth Road is an east-west two-lane arterial roadway located at the north end of the City of Lathrop. The I-5 northbound and southbound off-ramps to Roth Road are each controlled by a stop sign. Roth Road has been widened to six lanes through its I-5 interchange. There are no signalized intersections along Roth Road in Lathrop.

Manthey Road is a two-lane north-south roadway running just west of and parallel to the I-5 freeway. It is closed between River Islands Parkway and Towne Centre Drive.

Towne Centre Drive is an east-west two-lane roadway providing access to City Hall. A stop sign is currently located on the Towne Centre Drive eastbound approach to Manthey Road, and the Towne Center Drive intersection with Golden Valley Parkway is signalized.

Mossdale Road is a two-lane north-south freeway frontage roadway located east of I-5 in the southern section of the City of Lathrop.

Golden Valley Parkway is a four- to six-lane arterial west of I-5 extending south from Lathrop Road to Brookhurst Boulevard.

B. TRAFFIC VOLUMES, INTERSECTION GEOMETRICS & CONTROL

Weekday AM peak period (6:00-9:00) and PM peak period (3:00-6:00) turn movement counts were conducted in mid May 2013 at 28 major intersections in or adjacent to the City of Lathrop. See **Figure 1** for locations that were selected in consultation with City staff. In addition, a new AM and PM peak period turn movement count was conducted at the Manthey Road/Stewart Road intersection in September 2013 in order to record the increased traffic due to a 400-student charter school within the River Islands development that opened in August. Nearby intersection counts from May were adjusted to reflect the increased traffic during the AM commute period due to the school. In addition to the intersection counts, AM and PM peak period volumes were also counted in May 2013 on the I-5, I-205 and SR 120 freeways within or near the City of Lathrop.

Resultant AM peak hour intersection turn movement volumes are presented in **Figures 2** and **3** (for north and south Lathrop, respectively), PM peak hour volumes are presented in **Figures 4** and **5**, and hourly summaries of freeway counts are presented in **Figures 6** and **7**. In addition, a schematic presentation of approach lanes and signal or stop sign control at each analysis intersection is presented in **Figures 8** and **9** for north and south Lathrop, respectively. Traffic count data sheets are presented in **Appendix A**.

C. ANALYSIS METHODOLOGIES

1. Intersection Level of Service

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

Signalized Intersections. For signalized intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for signalized intersections.

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements, although overall delay is also typically reported for intersections along state highways. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

2. 95th Percentile Vehicle Queuing at I-5 Interchanges

The Synchro software program was also utilized to obtain 95th percentile peak hour vehicle queuing results on the approaches to each intersection within the I-5 interchanges at Roth Road, Lathrop Road and Louise Avenue. The Roth Road/Harlan Road intersection was also included in the evaluation for the Roth Road intersection. Queuing results are compared to available storage for each off-ramp and for all through and turn lanes between ramp intersections.

3. Signal Warrant Evaluation

Traffic signals are used to provide an orderly flow of traffic through an intersection. Many times they are needed to offer side street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. They do not, however, increase the capacity of an intersection (i.e., increase the overall intersection's ability to accommodate additional vehicles) and, in fact, often slightly reduce the number of total vehicles that can pass through an intersection in a given period of time. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are 9 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. The intersection volume data together with the available collision histories were compared to warrants contained in the *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, 2009, and the *Manual on Unified Traffic Control Devices* Federal Highway Administration, 2003 California Supplement, which has been adopted by the State of California as a replacement for *Caltrans Traffic Manual*. Section 4C of the MUTCD provides guidelines, or warrants, which may indicate need for a traffic signal at an unsignalized intersection. As indicated in the MUTCD, satisfaction of one or more warrants does not necessarily require immediate installation of a traffic signal. It is merely an indication that the local jurisdiction should begin monitoring conditions at that location and that a signal may ultimately be required.

Warrant 3, the peak hour volume warrant, is often used as an initial check of signalization needs since peak hour volume data is typically available and this warrant is usually the first one to be met. Warrant 3 is based on a curve and takes only the hour with the highest volume of the day into account. Please see the **Appendix** for the warrant chart. To meet this warrant, a minimum of 100 vehicles per hour must approach the intersection on one of the side streets.

D. EXISTING CONDITIONS ANALYSIS FINDINGS

1. Intersection Level of Service

Table 3 shows that all intersections are currently operating at acceptable levels of service.

2. 95th Percentile Vehicle Queuing at I-5 Interchanges

Table 4 shows that there is acceptable queuing between all intersections in the I-5 interchanges with the following exception.

- There are backups of eastbound Roth Road traffic from the all way stop Harlan Road intersection through the I-5 Northbound Ramps intersection. Many of these vehicles are trucks. Eastbound vehicle queuing on Roth Road through the Northbound Ramps intersection also results in backups on the I-5 Northbound off-ramp during the PM peak hour.

- Congestion on Roth Road at its interchange with the I-5 freeway can vary on a daily and hourly basis depending upon the activity level of the Union Pacific Intermodal Facility farther to the east on Roth Road. Congestion recorded during the PM peak period with the May 2013 traffic counts has also been observed during the AM peak period during other days.

3. Signalization Needs

Table 5 shows that no unsignalized intersections evaluated for this study currently have volumes meeting peak hour signal warrant criteria levels.

III. ANTICIPATED DEVELOPMENT THAT WILL PRODUCE SIGNIFICANT TRAFFIC ON CITY OF LATHROP SURFACE STREETS

A. 2014-2015

1. City of Lathrop

City of Lathrop development projections in the years 2014 and 2015 were provided by the City of Lathrop Planning Department. Areas with development potential are provided in **Figure 10**, while details of the development increment in each section of the City are presented in **Table 6**. Overall, from 2014 to 2015 the City is expecting 925 new single family residences, 1,900,000 additional square feet of employment uses (warehousing, distribution, light industrial), and 62,000 additional square feet of commercial uses.

2. City of Manteca

City of Manteca development potential for 2014 and 2015 was obtained by the City of Lathrop Planning Department. Specific project information was obtained for all developments west of Union Road both north and south of the SR 120 freeway that would be likely to have a significant component of traffic using the City of Lathrop circulation system. Projects were then grouped by the expected corridor of travel that would be used into the City of Lathrop or to the SR 120 freeway (Roth Road, Lathrop Road, Louise Avenue, Yosemite Avenue, McKinley Road, Airport Way or Union Road). Development potential for each corridor is presented in **Table 7**. In addition to detail about specific Manteca projects in close proximity to the City of Lathrop, it was projected that traffic on the east-west corridors passing through the City of Lathrop between the City of Manteca and the I-5 freeway would also increase at a rate of three percent per year. This conservative estimate would therefore reflect growth in the remaining sections of the City of Manteca as well as regional growth.

3. San Joaquin County

San Joaquin County development potential for 2014 and 2015 that could add a significant amount of traffic to the Lathrop circulation system was obtained by the City of Lathrop Planning Department. There were only two potential projects, both along Roth Road: expansion of the

Union Pacific Railroad Intermodal Facility and a truck parking area about a quarter mile west of the Intermodal Facility, primarily to be associated with storage of intermodal facility trucks. Development potential for each project is presented in **Table 8**.

B. 2016-2017

1. City of Lathrop

Please see **Table 9** for City of Lathrop development potential for these two years. Overall, from 2016 to 2017 the City is expecting 1,525 new single family residences, 2,450,000 additional square feet of employment uses and 185,000 additional square feet of commercial uses.

2. City of Manteca

Please see **Table 10** for City of Manteca development potential for projects in close proximity to the City of Lathrop.

3. San Joaquin County

Please see **Table 11** for San Joaquin County development potential in close proximity to the City of Lathrop. This would be further expansion of the Union Pacific Intermodal Facility on the south side of Roth Road and the associated new truck parking area along the north side of Roth Road.

IV. FUTURE CONDITIONS ANALYSIS METHODOLOGY

A. TRIP GENERATION

Trip generation estimates were developed for each City of Lathrop project using trip rates from the traffic engineering profession's standard source of trip rate data, *Trip Generation Manual*, 9th Edition, by the Institute of Transportation Engineers, 2012. Trip generation projections for each City of Manteca and San Joaquin County development were also developed using the same source, unless data was available from project specific traffic studies.

Year 2014-2015 trip generation projections are presented in **Table 6** for City of Lathrop expected development, in **Table 7** for City of Manteca expected development and in **Table 8** for San Joaquin County expected development. Year 2016-2017 trip generation projections are presented in **Table 9** for City of Lathrop expected development, **Table 10** for City of Manteca expected development and in **Table 11** for San Joaquin County expected development.

B. TRIP DISTRIBUTION

Traffic from the various Lathrop developments was distributed to the local circulation system based upon existing traffic flow patterns. Existing peak hour traffic counts provided insight into AM and PM peak hour distribution associated with the residential areas west of I-5 served by River Islands Parkway and Manthey Road and east of I-5 north of Lathrop Road. Counts also

provided data regarding traffic flow patterns associated with the Crossroads employment area. Resultant existing development distribution patterns are shown in **Table 12**. It should be noted that residential patterns included a significant amount of internalization of trips during the AM peak hour to/from local schools and during the PM peak hour to/from local shopping.

Manteca development trip distribution was based upon input from specific project traffic studies or from assigning a representative amount of traffic from Manteca projects to the Lathrop I-5 interchanges knowing the amount of nearby Lathrop traffic that is using I-5 and SR 120 for regional travel.

San Joaquin County development trip distribution uses based upon input from the EIR circulation analysis for the Union Pacific Intermodal Facility Expansion and input from County staff indicating that 85 percent of the Roth Road truck parking area traffic would be traveling to/from the intermodal facility, with the remaining 15 percent accessing the I-5 freeway.

Resultant year 2015 AM peak hour volumes for north and south Lathrop are presented in **Figures 11** and **12**, respectively, while 2015 PM peak hour volumes for north and south Lathrop are presented in **Figures 13** and **14**, respectively. Resultant year 2017 AM peak hour volumes for north and south Lathrop are presented in **Figures 15** and **16**, respectively, while 2017 PM peak hour volumes for north and south Lathrop are presented in **Figures 17** and **18**, respectively.

C. PLANNED CIRCULATION SYSTEM CHANGES

1. 2014-2015

The only planned and funded improvement that would alter roadway or intersection capacity in the City of Lathrop by the year 2015 would be the grade separation of Lathrop Road over the Union Pacific Railroad between McKinley Avenue and 5th Street. As part of this project, Lathrop Road will be widened to provide two through lanes in each direction and the Lathrop Road/McKinley Avenue intersection will be signalized with turn lanes added on each intersection approach.[1]

2. 2016-2017

There are two major changes that will impact traffic flow by the year 2017.

- River Islands Parkway will be extended westerly across the San Joaquin River to serve the River Islands development.

- River Islands access to Manthey Road via Stewart Road will be eliminated. The connection will remain open only for emergency access only.

[1] Mr. Glenn Gebhardt, Lathrop City Engineer.

V. YEAR 2015 CIRCULATION SYSTEM OPERATION

1. Intersection Level of Service

Table 3 shows that all intersections would be operating acceptably with the following three exceptions.

- **Yosemite Avenue/SR 120 Eastbound Ramps** (side street stop sign control): PM peak hour
  - SR 120 eastbound off-ramp stop sign controlled approach will operate with unacceptable delay (LOS F).

- **Lathrop Road/Golden Valley Parkway**: AM peak hour
  - All way stop operation will have unacceptable delay (LOS E)

- **Yosemite Avenue/McKinley Avenue** (all way stop): PM peak hour
  - All way stop operation will have unacceptable delay (LOS F).

2. 95th Percentile Vehicle Queuing at I-5 Interchanges

Table 4 shows that there would be acceptable queuing between all intersections with the following exceptions.

- Roth Road eastbound backups will extend from the Harlan Road intersection through the I-5 Northbound Ramps intersection: PM peak hour

3. Signalization Needs

Table 5 shows that all unsignalized intersections would have peak hour volumes lower than signal warrant criteria levels with the following two exceptions.

- **Lathrop Road/Golden Valley Parkway**: AM peak hour (volumes approaching warrant criteria level)
- **Yosemite Avenue/McKinley Avenue**: PM peak hour (volumes exceeding warrant criteria levels)

VI. YEAR 2017 CIRCULATION SYSTEM OPERATION

1. Intersection Level of Service

Table 3 shows that all intersections would be operating acceptably with the following 10 exceptions.

- **Roth Road/Harlan Road** (all way stop): PM Peak hour
  - All way stop operation will operate with unacceptable delay (LOS E).

- **Lathrop Road/Golden Valley Parkway** (all way stop): AM peak hour
  - All way stop control will operate with unacceptable delay (LOS F).

- **Lathrop Road/Harlan Road** (signal): AM peak hour
  - Signalized operation will have unacceptable delay (LOS E).

- **River Islands Parkway/Golden Valley Parkway** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay (LOS F).

- **River Islands Parkway/Manthey Road** (side street stop sign control): AM & PM peak hours
  - Manthey Road stop sign controlled left turn will operate with unacceptable delay (LOS E/F).

- **River Islands Parkway/I-5 Southbound Ramps** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay (LOS F).

- **Louise Avenue/McKinley Avenue** (signal): AM & PM peak hours
  - Signalized operation will have unacceptable delay (LOS F).

- **Yosemite Avenue/SR 120 Eastbound Ramps** (side street stop sign control): AM & PM peak hours
  - SR 120 eastbound off-ramp stop sign controlled approach will operate with unacceptable delay (LOS F).

- **Yosemite Avenue/SR 120 Westbound Ramps** (side street stop sign control): AM & PM peak hours
  - SR 120 westbound off-ramp stop sign controlled approach will operate with unacceptable delay (LOS F).

- **Yosemite Avenue/McKinley Avenue** (all way stop): AM & PM peak hours
  - All way stop operation will operate with unacceptable delay (LOS F).

2. 95th Percentile Vehicle Queuing at I-5 Interchanges

Table 4 shows that there would be acceptable queuing between all intersections with the following two exceptions.

- Roth Road eastbound backups will extend from the Harlan Road intersection through the I-5 Northbound Ramps intersection: PM peak hour

- River Islands Parkway westbound through lane backups will extend from the I-5 Southbound Ramps intersection through the I-5 Northbound Ramps intersection: PM peak hour

3. Signalization Needs

Table 5 shows that all unsignalized intersections would have peak hour volumes lower than signal warrant criteria levels with the following five exceptions.

- **Roth Road/Harlan Road**: PM peak hour (volumes meeting warrant criteria levels)
- Lathrop Road/Golden Valley Parkway: AM peak hour (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/SR 120 Eastbound Ramps**: AM & PM peak hours (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/SR 120 Westbound Ramps**: AM & PM peak hours (volumes exceeding warrant criteria levels)
- **Yosemite Avenue/McKinley Avenue**: AM & PM peak hours (volumes exceeding warrant criteria levels)

VII. RECOMMENDED IMPROVEMENTS

A. EXISTING CONDITIONS (see Figure 19)

- **Roth Road eastbound queuing from Harlan Road all way stop intersection**
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east.
  - Option 2: Provide all way stop control at the Roth Road/I-5 Northbound Ramps intersection.

B. YEAR 2015 CONDITIONS (see Figures 20 & 21)

- **Yosemite Avenue/SR 120 Eastbound Ramps** intersection level of service
  - Provide all way stop control.

  Resultant operation:
  PM Peak Hour: LOS C-19.6 seconds control delay

- **Lathrop Road/Golden Valley Parkway** intersection level of service
  - Signalize the intersection.

  Resultant operation:
  AM Peak Hour: LOS B-10.9 seconds control delay

- **Yosemite Avenue/McKinley Avenue** intersection level of service
  - Signalize the intersection.
  - Widen the McKinley Avenue north and southbound approaches and provide exclusive left turn lanes (at least 150 feet long).
  - Eliminate the Vierra Road connection to McKinley Avenue adjacent to the Yosemite intersection. Connect Vierra Road to D'Arcy Parkway, Yosemite Avenue or McKinley Avenue (farther north) at a location to be selected by the City.

Resultant operation:
PM Peak Hour: LOS D-35.6 seconds control delay

- Roth Road eastbound queuing from Harlan Road intersection
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east.
  - Option 2: Provide all way stop control at the Roth Road/I-5 Northbound Ramps intersection.

C. YEAR 2017 CONDITIONS (see Figures 22-25)

- **Roth Road/Harlan Road** intersection level of service
  - Signalize the intersection.
  - Move the intersection at least 625 feet to the east.

Resultant operation:
AM Peak Hour: LOS B-17.6 seconds control delay
PM Peak Hour: LOS C-29.8 seconds control delay

- **Lathrop Road/Golden Valley Parkway** intersection level of service
  - Signalize the intersection.

Resultant operation:
AM Peak Hour: LOS C-21.7 seconds control delay

- **Lathrop Road/Harlan Road** intersection level of service
  - Option 1: Restripe the northbound Harlan Road approach to provide 2 left turn lanes (at least 150 feet long) and a combined through/right turn lane and restripe the westbound approach to provide a left turn lane, a through lane and a shared through/right turn lane.
  - Option 2: Restripe the northbound Harlan Road approach to provide 1 left turn lane (at least 200 feet long), a combined through/left turn lane and a combined through/right turn lane and restripe the westbound approach to provide a left turn lane, a through lane and a shared through/right turn lane.

Resultant operation – Option 1:
AM Peak Hour: LOS C-33.0 seconds control delay

Resultant operation – Option 2:
AM Peak Hour: LOS C-34.9 seconds control delay

- **River Islands Parkway/Golden Valley Parkway** intersection level of service
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection.

Resultant operation:
AM Peak Hour: LOS D-40.1 seconds control delay
PM Peak Hour: LOS C-31.0 seconds control delay

- **River Islands Parkway/Manthey Road** intersection level of service
  - Prohibit left turns from the Manthey Road southbound approach.

- **River Islands Parkway/I-5 Southbound Ramps** intersection level of service
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection and extending westerly to Golden Valley Parkway.

Resultant operation:
AM Peak Hour: LOS D-45.2 seconds control delay
PM Peak Hour: LOS D-51.8 seconds control delay

- **Louise Avenue/McKinley Avenue** intersection
  - Widen the Louise Avenue eastbound and westbound approaches and provide exclusive left turn lanes (at least 125 feet long).
  - Eliminate split phase signal operation eastbound/westbound.

Resultant operation:
AM Peak Hour: LOS C-27.4 seconds control delay
PM Peak Hour: LOS C-33.3 seconds control delay

- **Yosemite Avenue/SR 120 Eastbound Ramps** intersection
  - Signalize the intersection.
  - Provide a left turn lane on the Yosemite Avenue southbound approach (at least 275 feet long).
  - Widen the off-ramp to provide two left turn lanes and one combined/right turn lane.
  - Add one northbound through lane.
  - Add a second northbound departure lane.

Resultant operation:
AM Peak Hour: LOS B-17.2 seconds control delay
PM Peak Hour: LOS C-29.7 seconds control delay

- **Yosemite Avenue/SR 120 Westbound Ramps** intersection
  - Signalize the intersection.
  - Provide a left turn lane on the Yosemite Avenue northbound approach (at least 225 feet long).
  - Widen the I-5 off-ramp to provide one left turn lane and one combined through/right turn lane.
  - Add a second northbound approach through and northbound departure lane.
  - Add a southbound right turn lane.

Resultant operation:
AM Peak Hour: LOS B-13.1 seconds control delay
PM Peak Hour: LOS B-15.9 seconds control delay

- **Yosemite Avenue/McKinley Avenue** intersection.
  - Signalize the intersection.
  - Widen the McKinley Avenue northbound and southbound approaches and provide exclusive left turn lanes (at least 250 feet long).
  - Eliminate the Vierra Road connection to McKinley Avenue in close proximity to the signal. Connect Vierra Road to D'Arcy Parkway, Yosemite Avenue or McKinley Avenue (farther north) at a location selected by the City.

  Resultant operation:
  PM Peak Hour: LOS D-41.8 seconds control delay

- Roth Road eastbound queuing from Harlan Road intersection
  - Option 1: Move the Roth Road/Harlan Road intersection at least 625 feet to the east and signalize the intersection.
  - Option 2: Provide signal control at the Roth Road/I-5 Northbound Ramps intersection and coordinate operation with the new Roth Road/Harlan Road signal.

- River Islands Parkway westbound through lane queuing from I-5 southbound ramps intersection
  - Provide a second westbound through lane starting to the east of the I-5 Northbound Ramps intersection and extending westerly to Golden Valley Parkway.

VIII. STUDY PARTICIPANTS

City of Lathrop

Mr. Glenn Gebhardt, P.E., City Engineer
Mr. Charlie Simpson, City Planning Department

Crane Transportation Group

Mr. Mark Crane, T.E./C.E., Principal in Charge
Mr. Dave Reed, Engineer
Ms. Marcia Jacobs, Administration/Word Processing

Figures

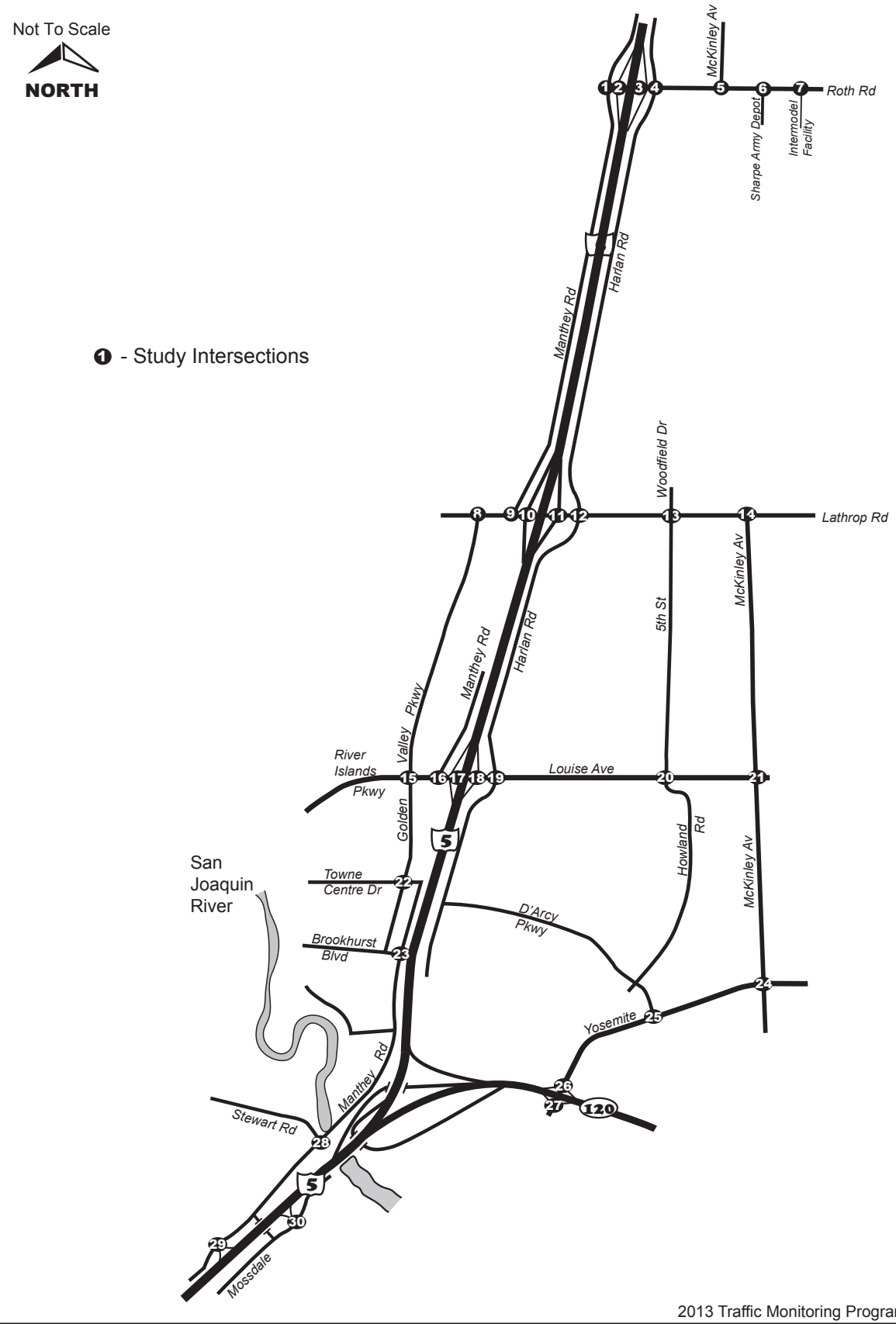

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Figure 1

Area Map

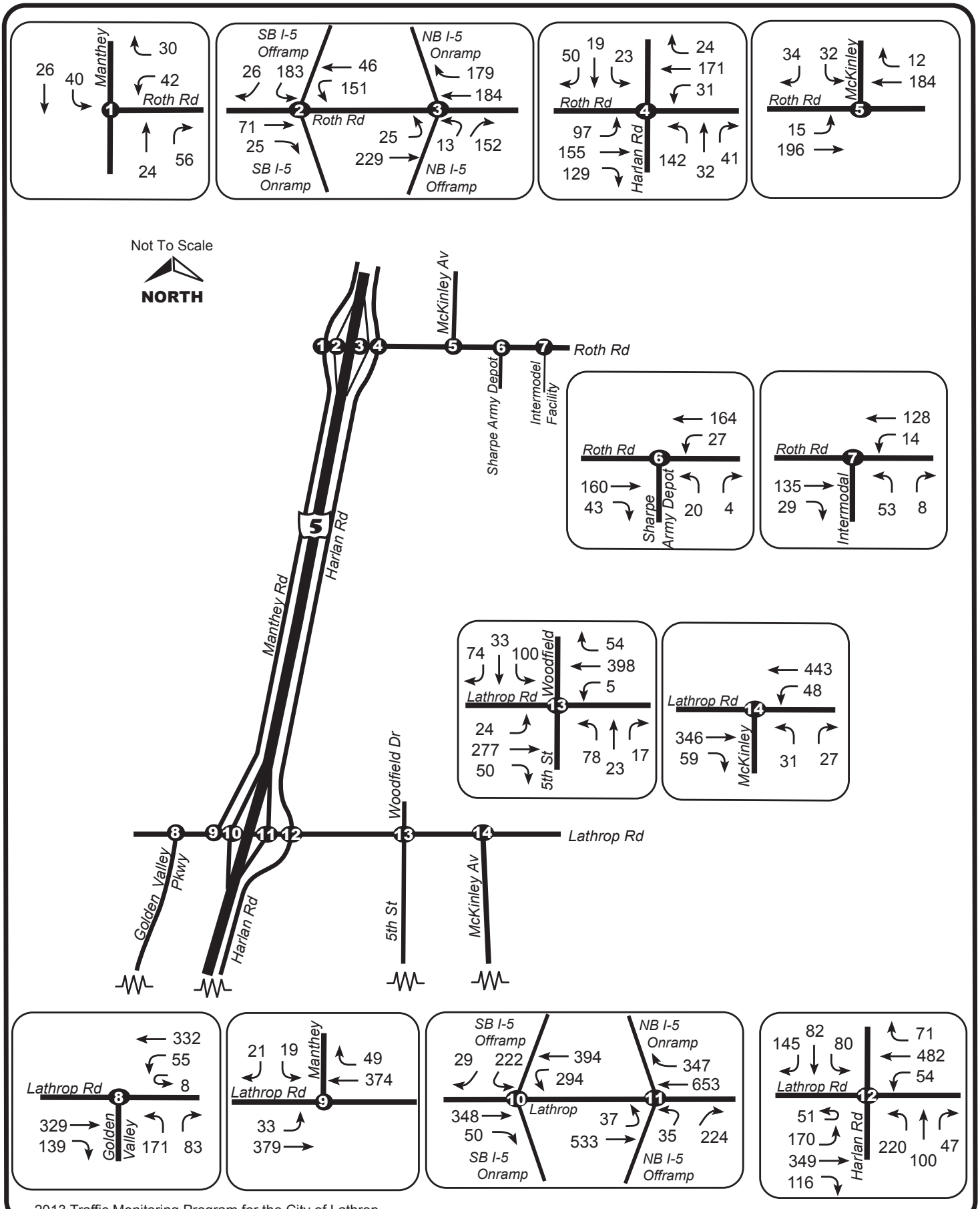

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Figure 2
Existing AM Peak Hour Volumes
North Lathrop Intersections

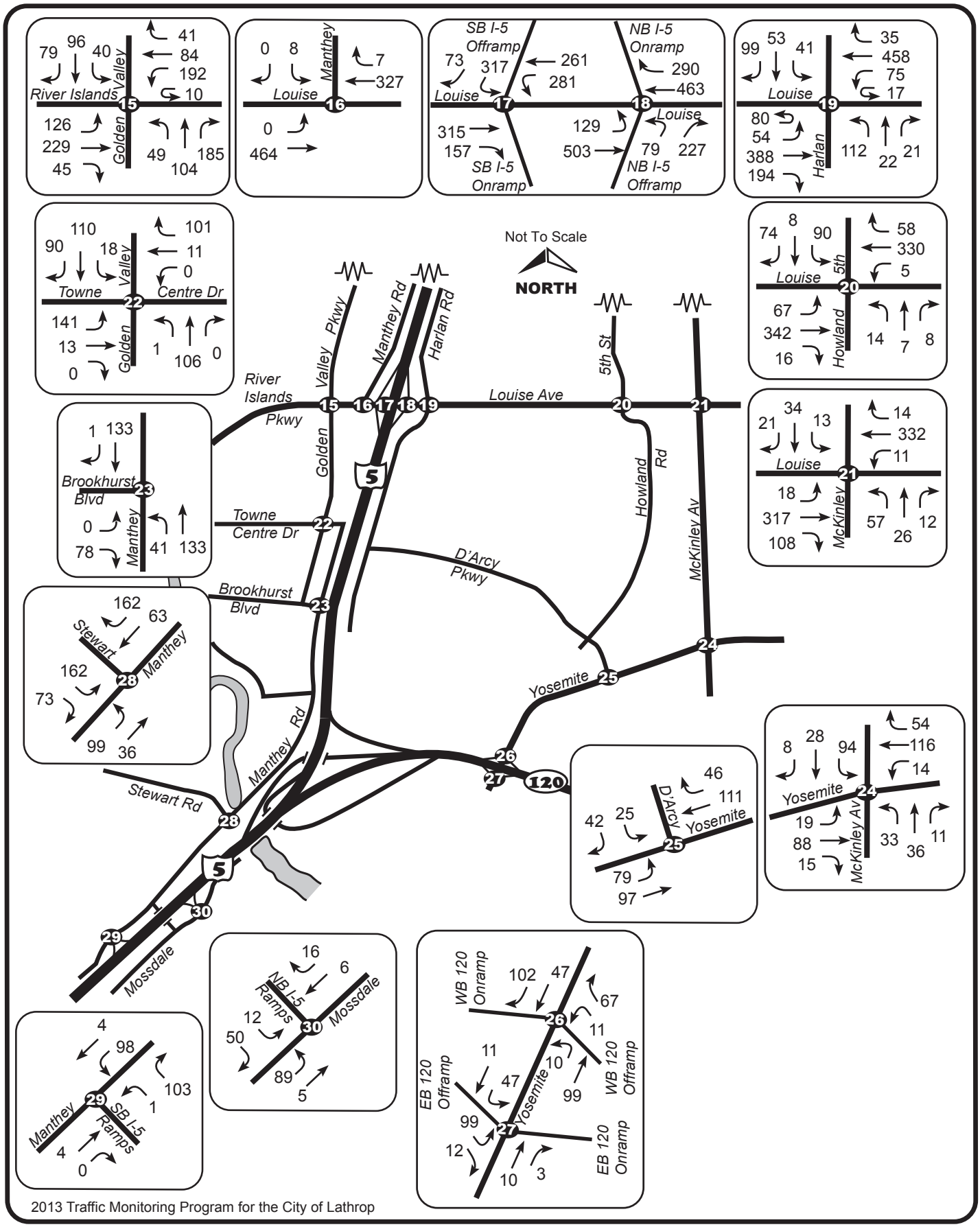

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Figure 3
Existing AM Peak Hour Volumes
South Lathrop Intersections

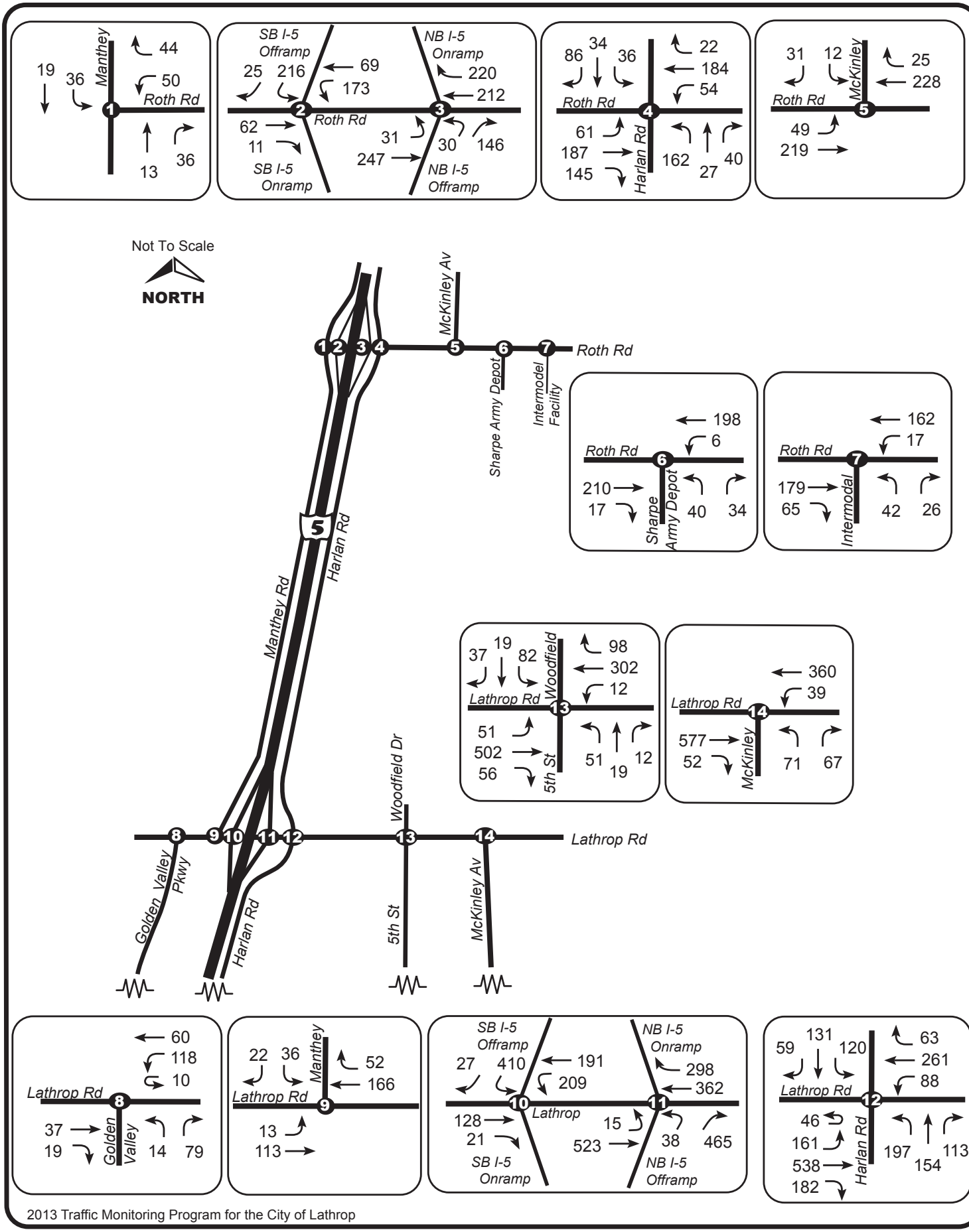

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Figure 4
Existing PM Peak Hour Volumes
North Lathrop Intersections

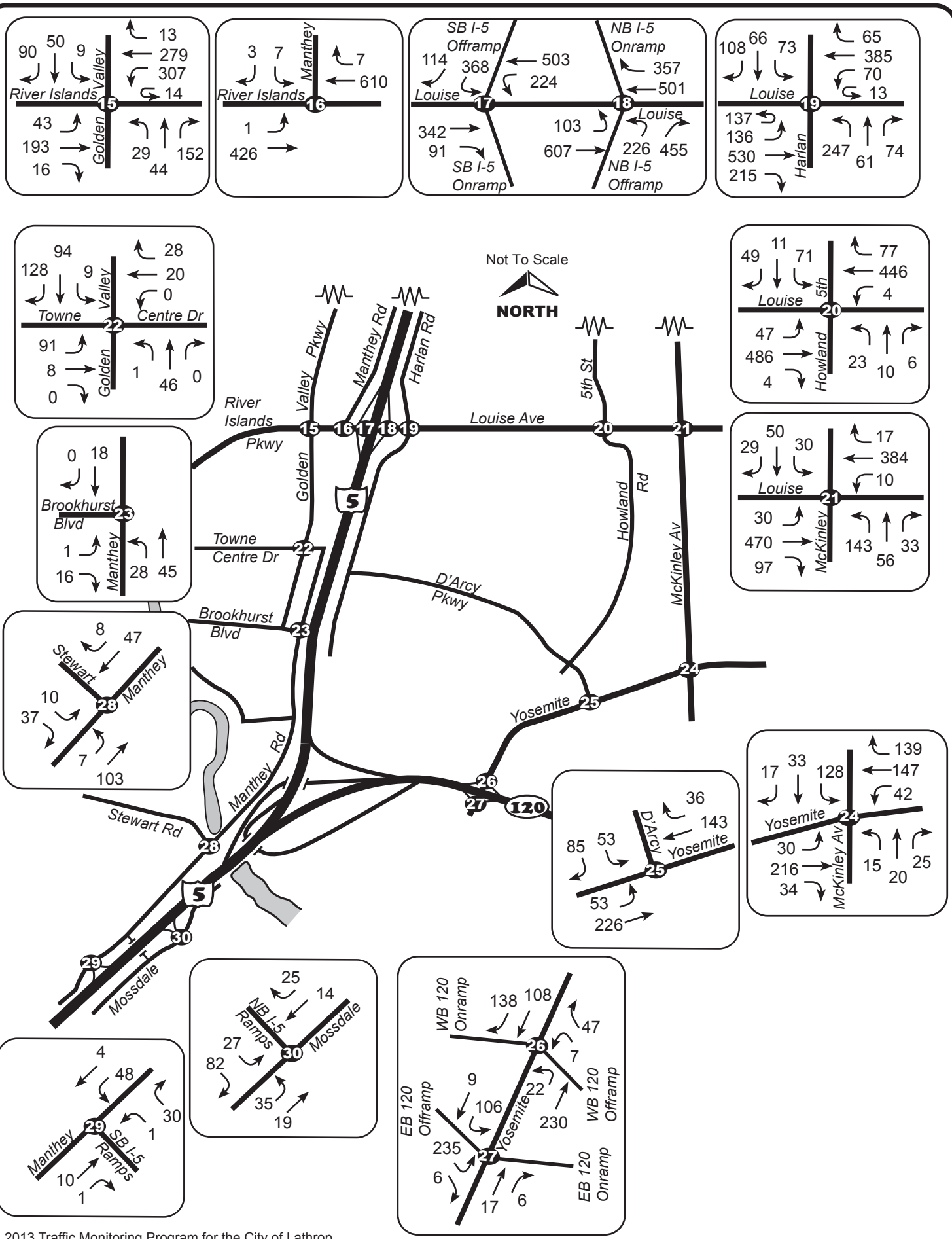

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Figure 5
Existing PM Peak Hour Volumes
South Lathrop Intersections

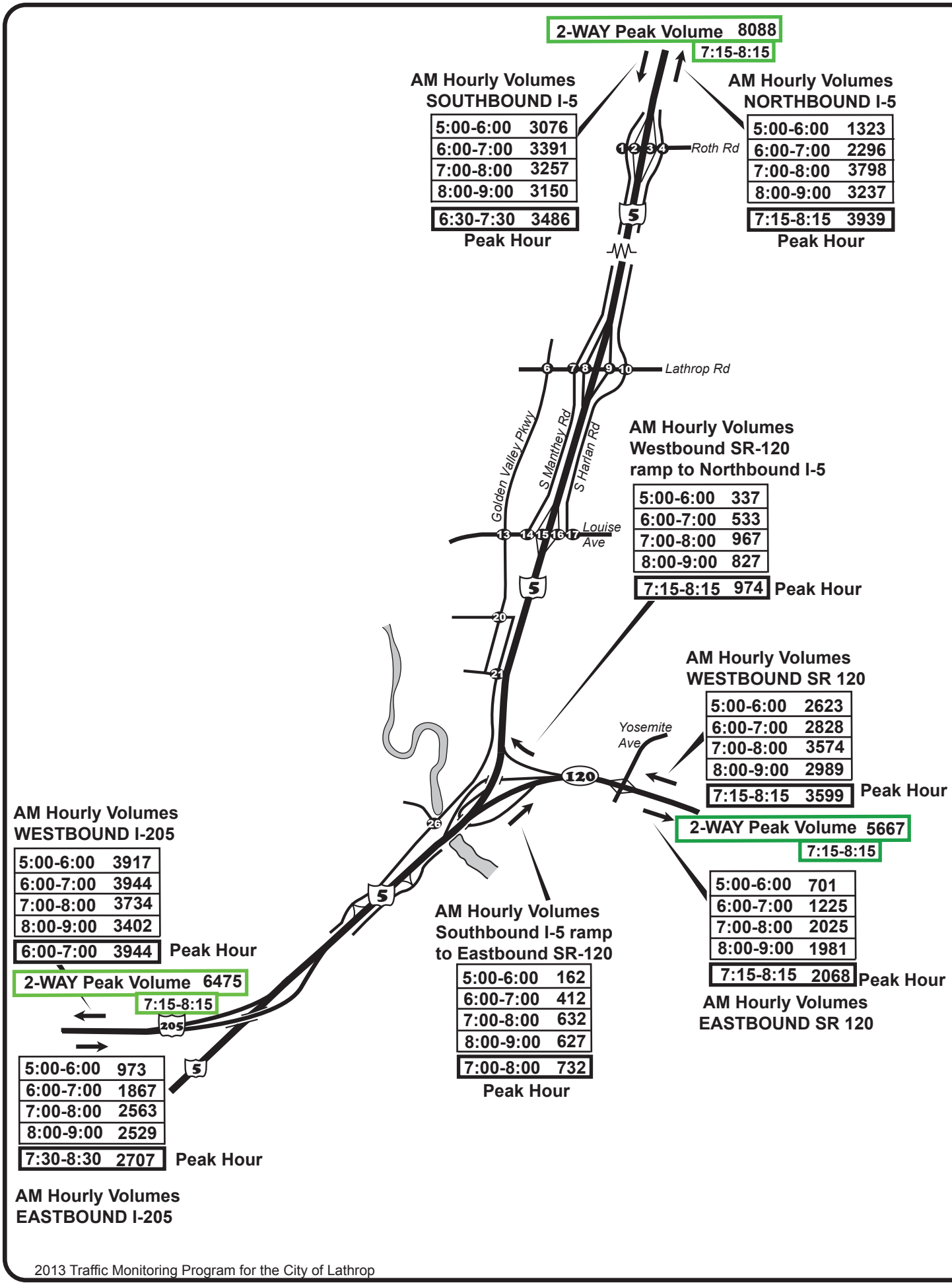

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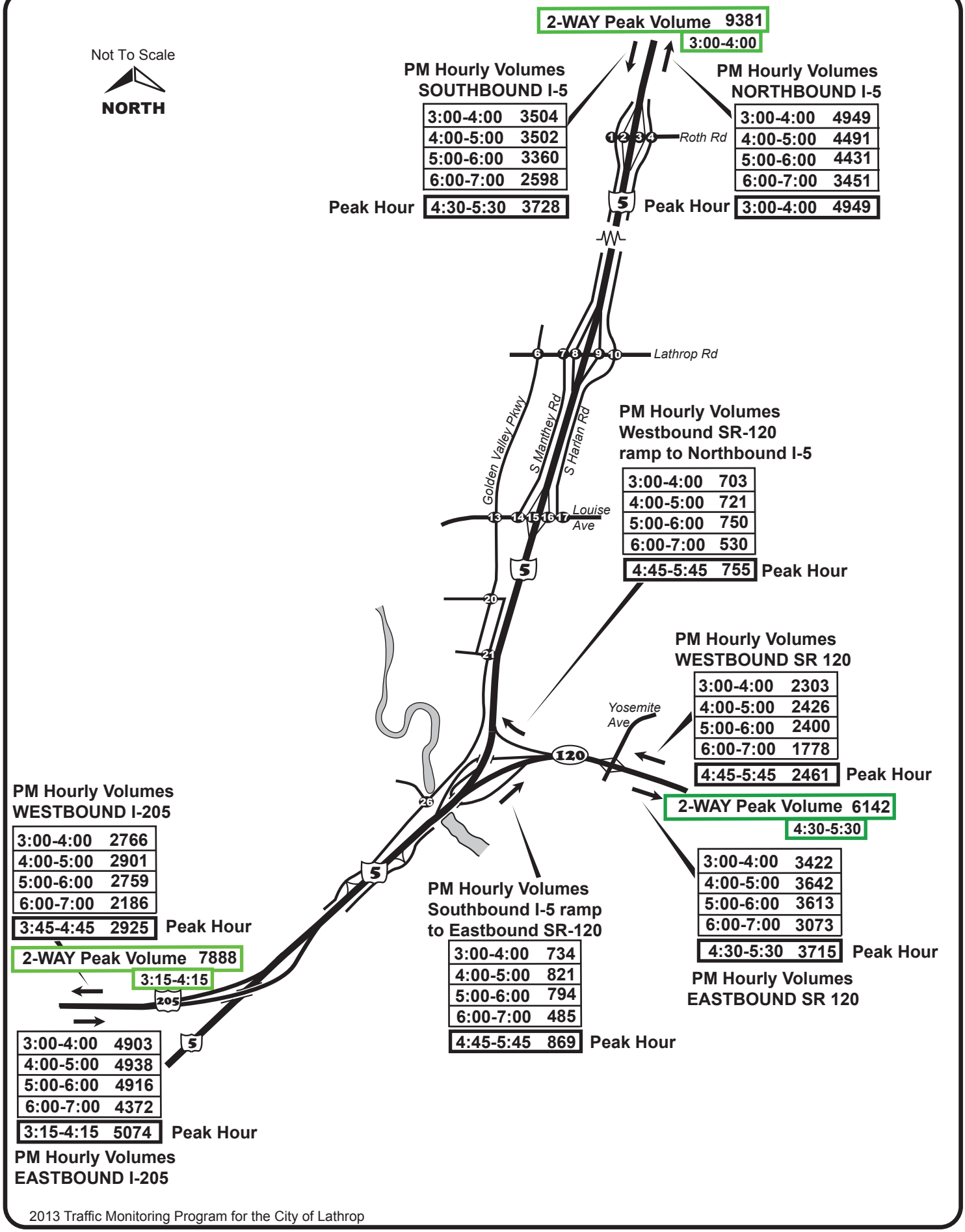
Figure 6
AM Peak Hour
Freeway and Ramp Volumes
May 7 & 8 (Tue & Wed), 2013



2013 Traffic Monitoring Program for the City of Lathrop

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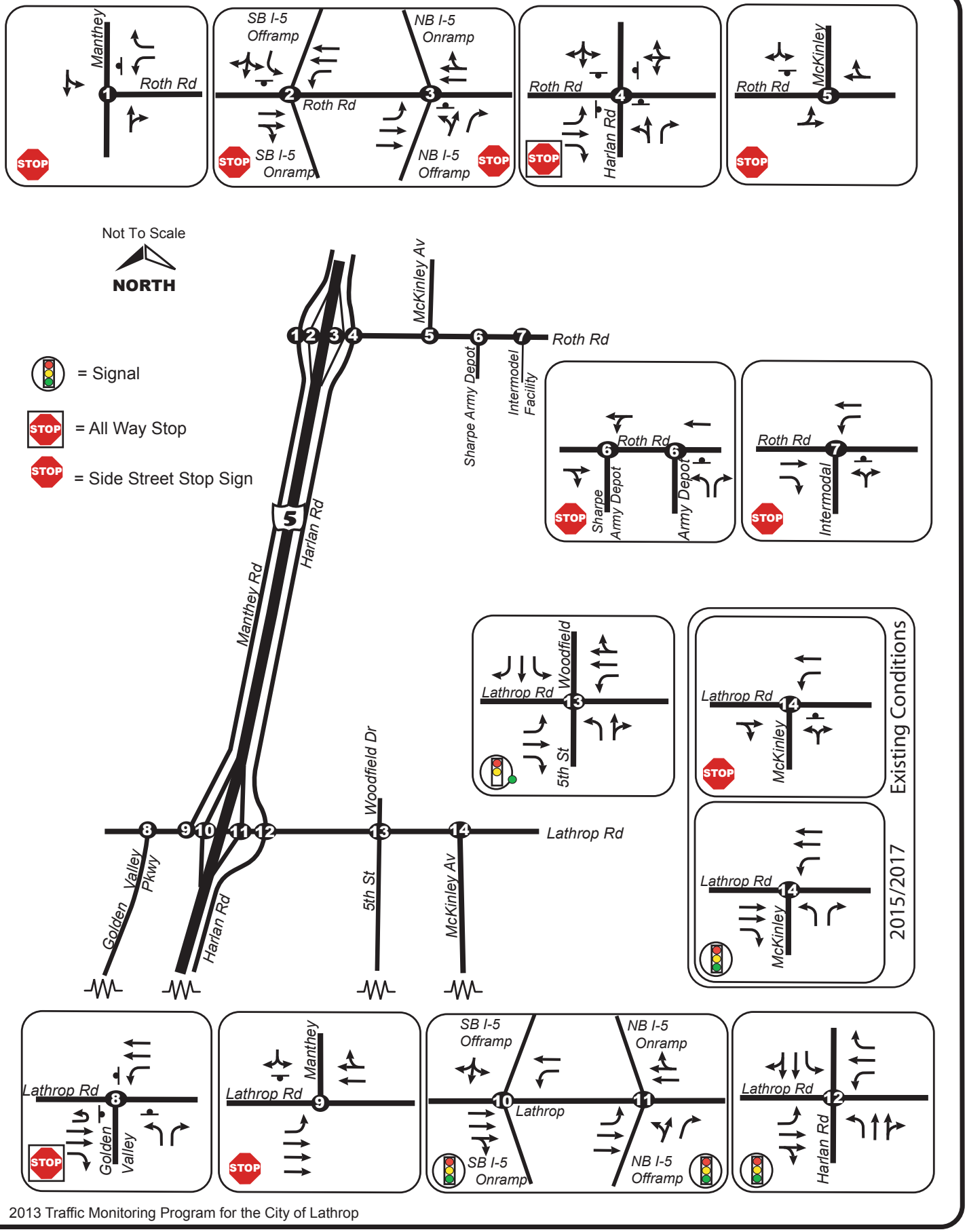
Figure 7
PM Peak Hour
Freeway and Ramp Volumes
May 7 & 8 (Tue & Wed), 2013



2013 Traffic Monitoring Program for the City of Lathrop

Figure 8
Existing Intersection Lane Geometrics and Control
North Lathrop Intersections

CRANE TRANSPORTATION GROUP

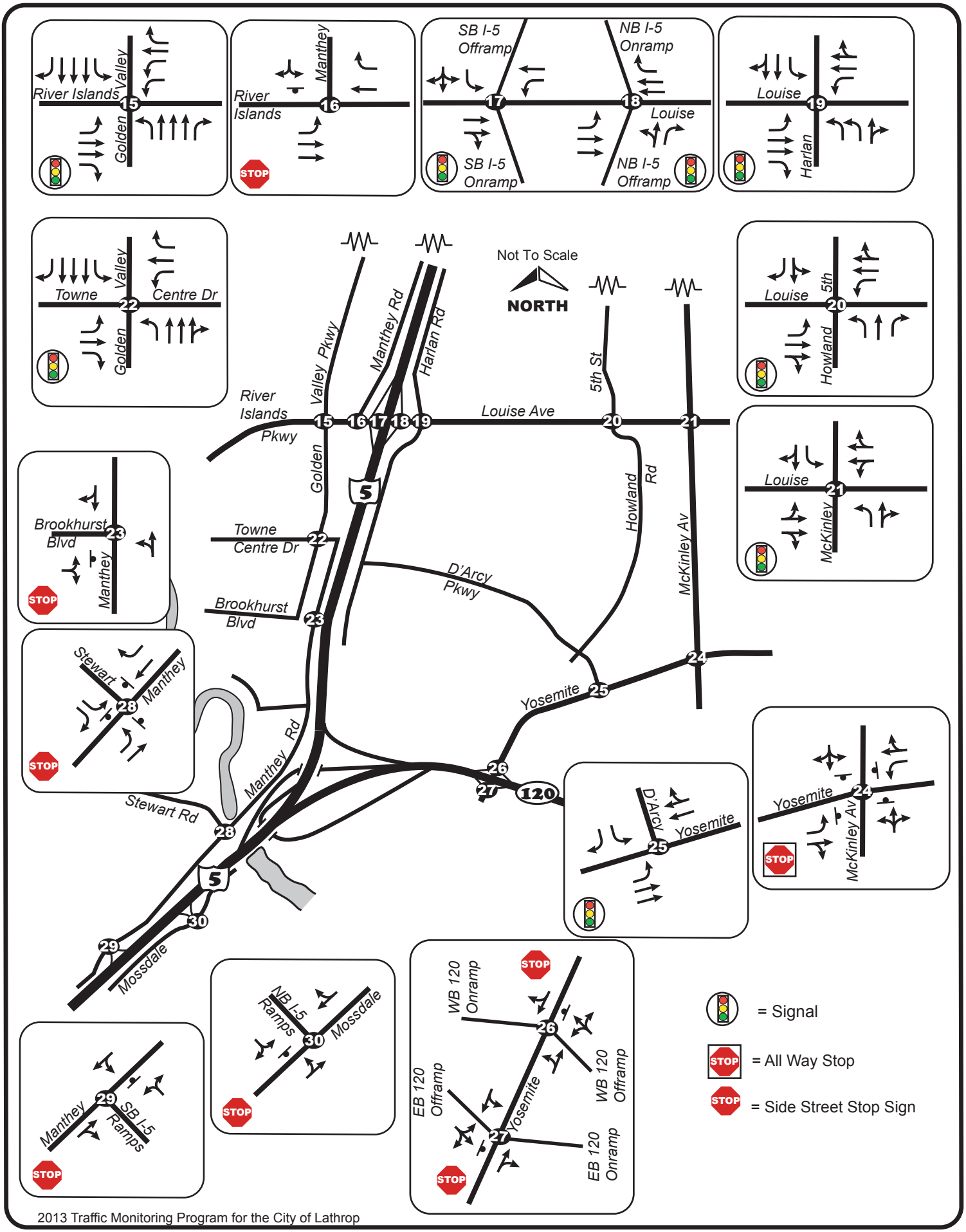


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Figure 9

Existing Intersection Lane Geometrics and Control
South Lathrop Intersections

CRANE TRANSPORTATION GROUP

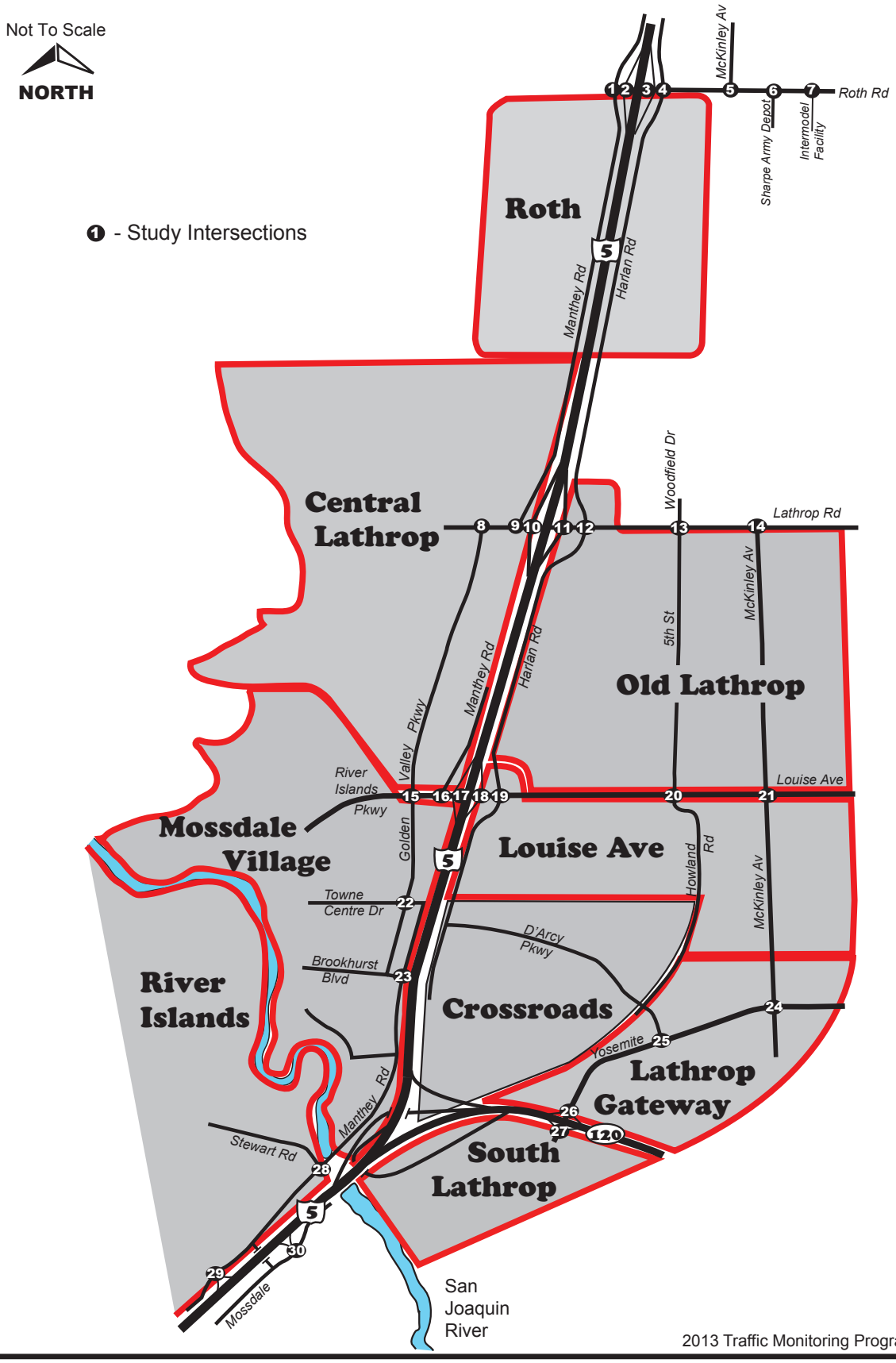

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Figure 10
Development Areas within City of Lathrop

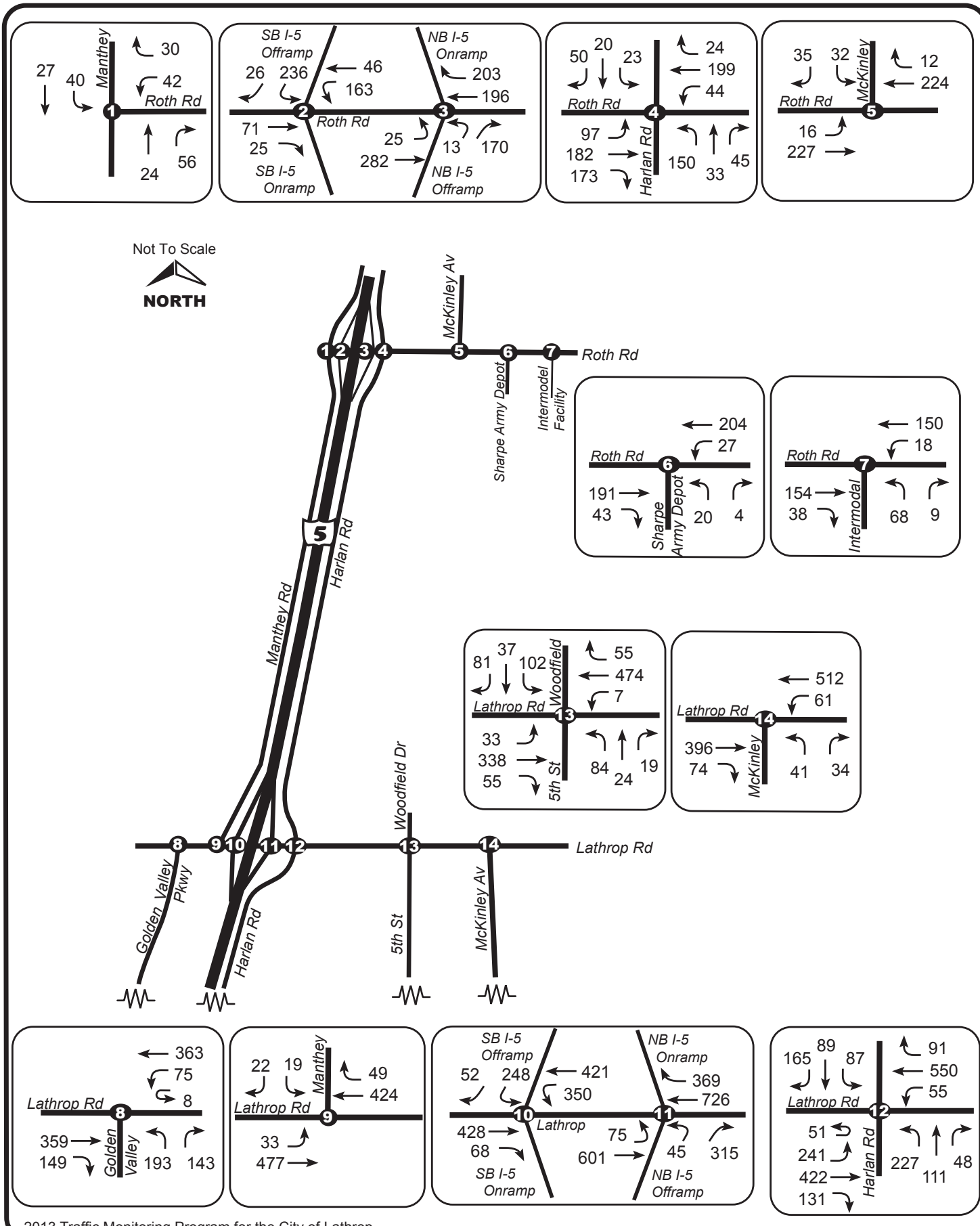

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Figure 11

Year 2015 AM Peak Hour Volumes
North Lathrop Intersections

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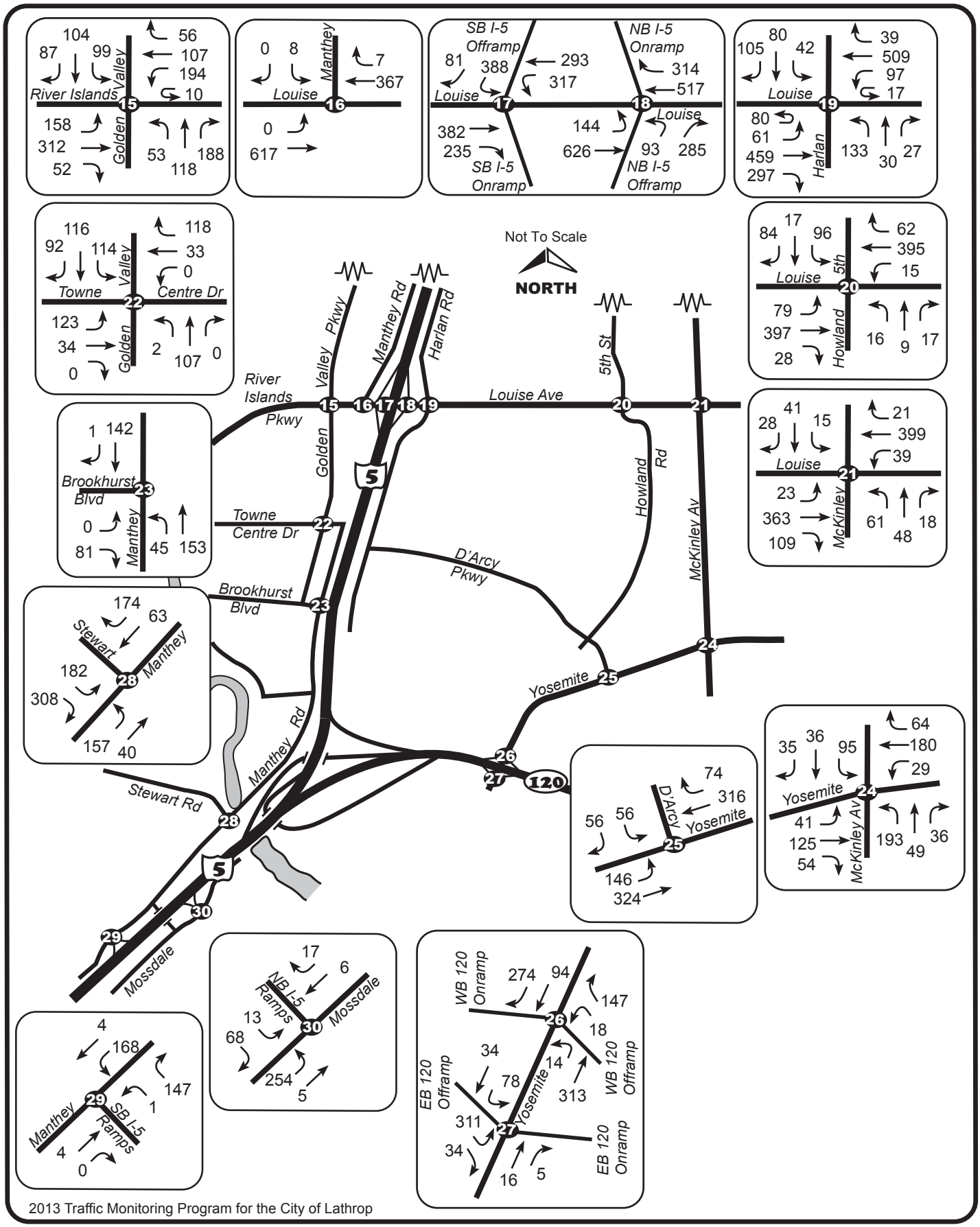

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Figure 12
Year 2015 AM Peak Hour Volumes
South Lathrop Intersections

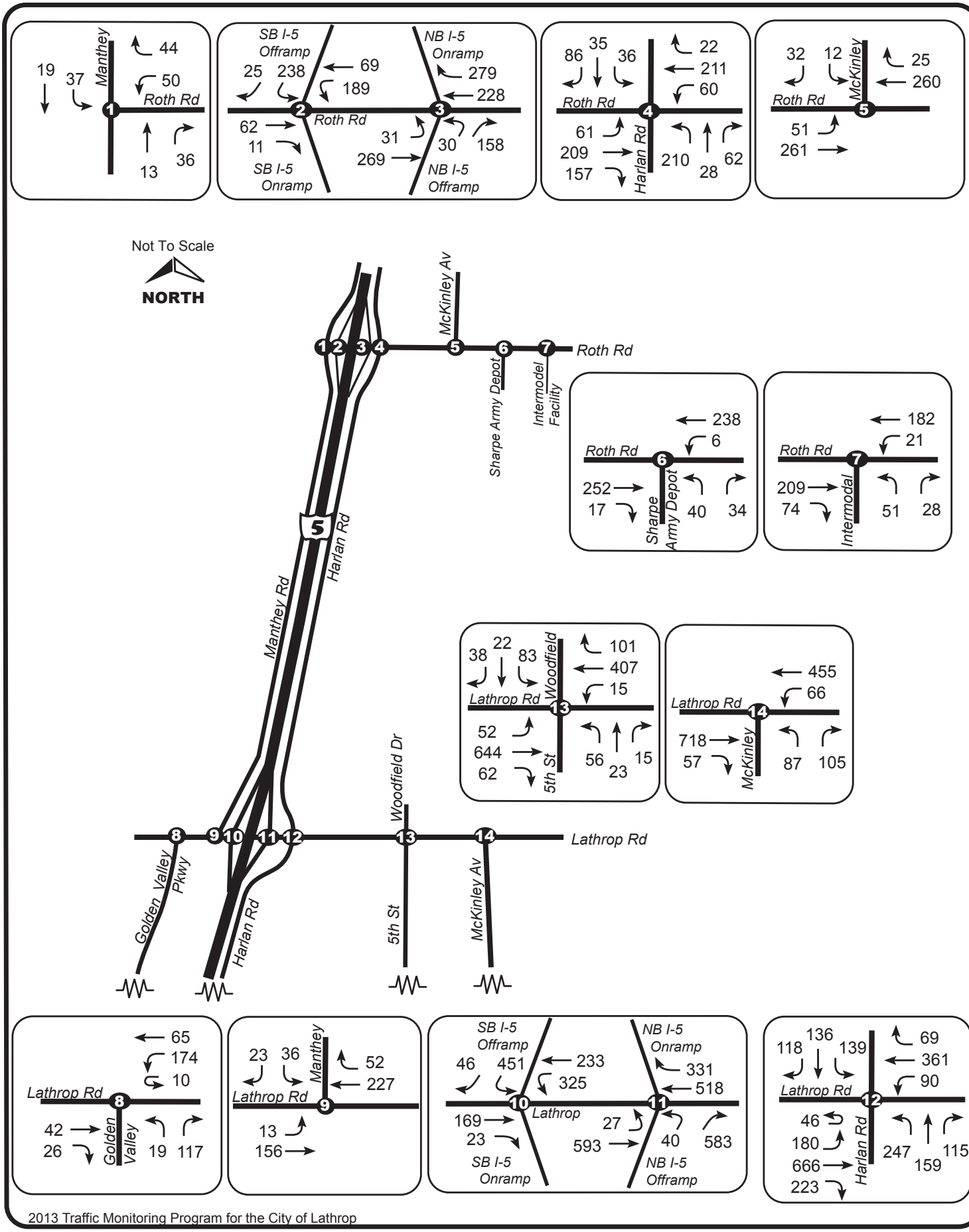

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Figure 13
Year 2015 PM Peak Hour Volumes
North Lathrop Intersections

CRANE TRANSPORTATION GROUP

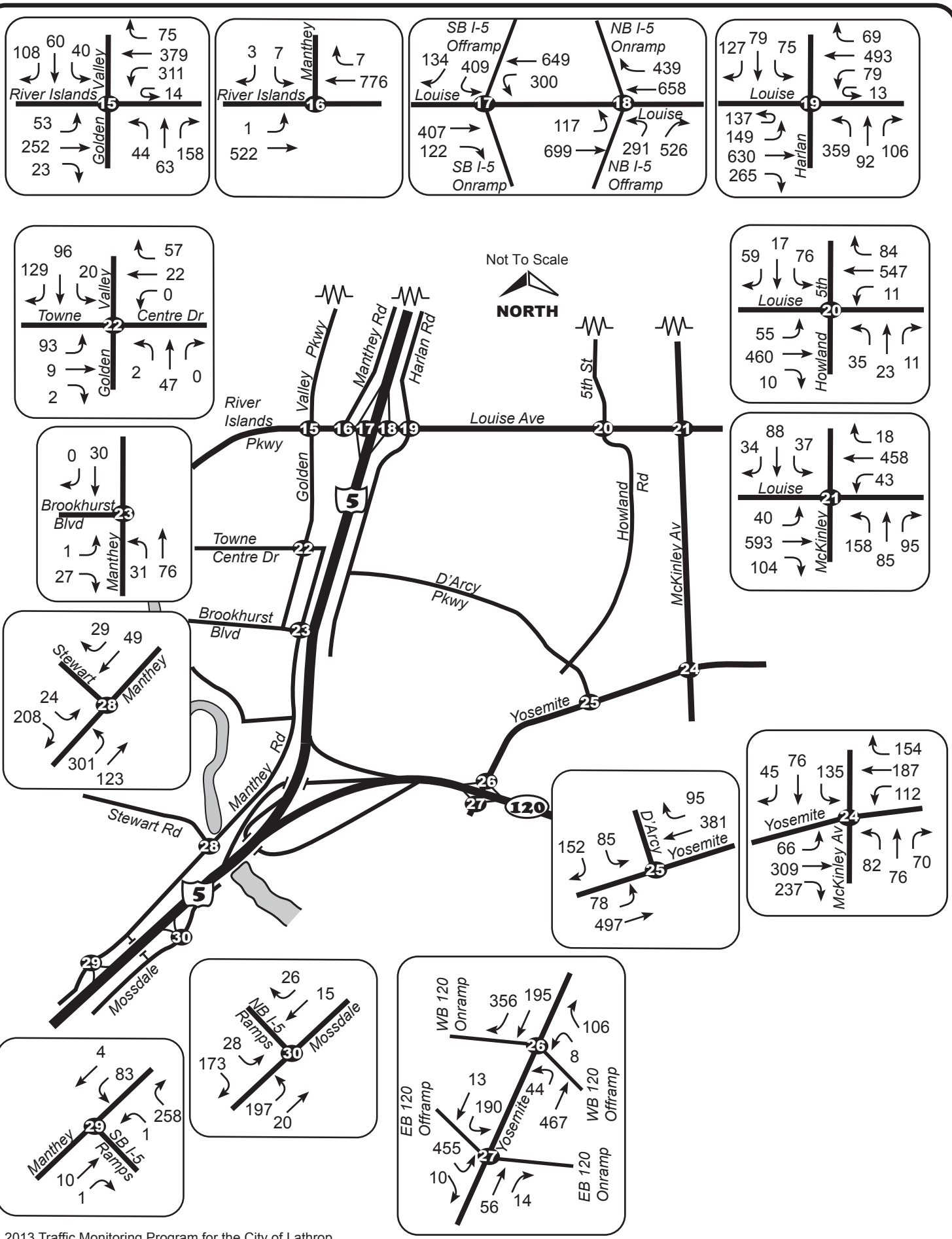

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Figure 14
Year 2015 PM Peak Hour Volumes
South Lathrop Intersections

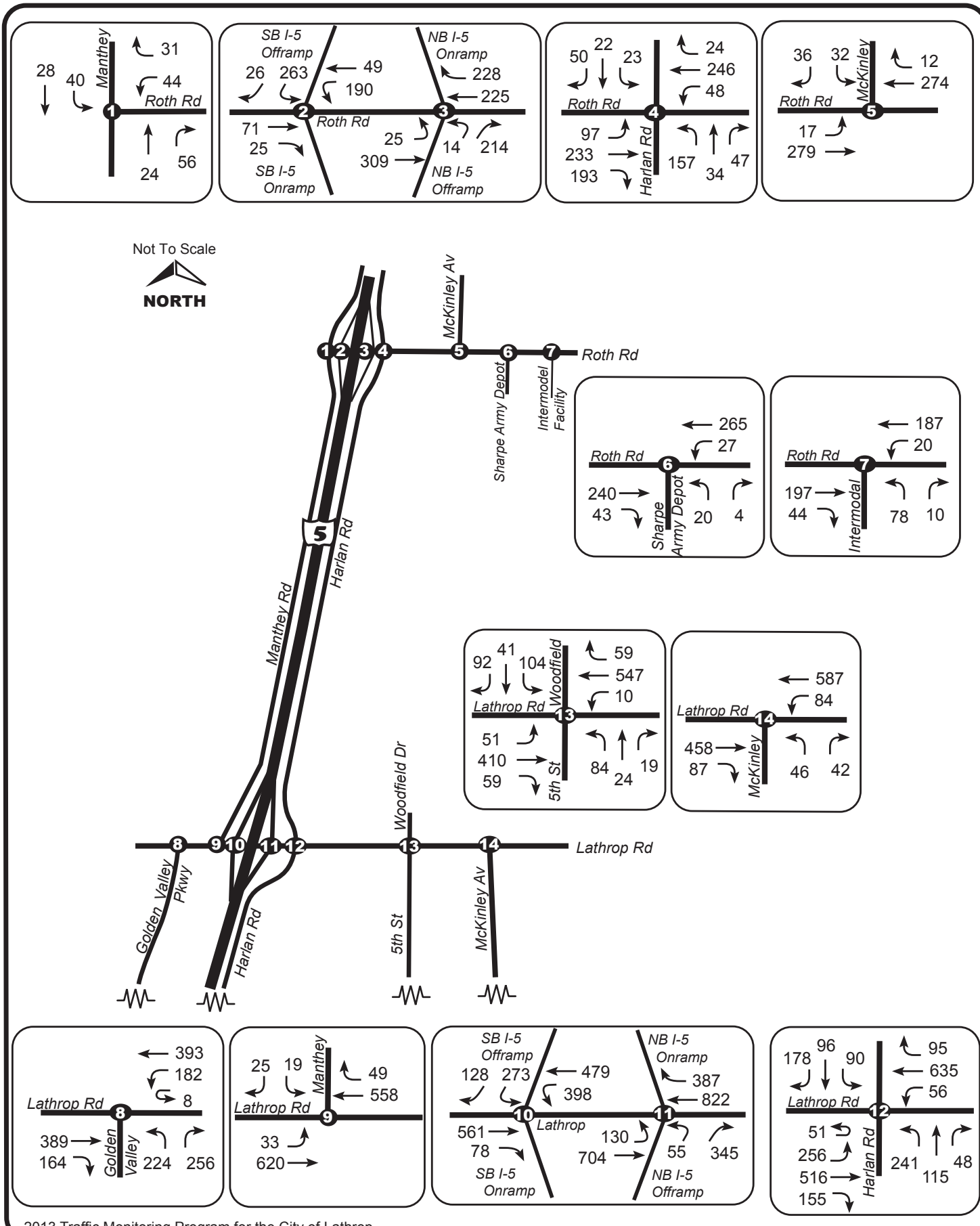

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Figure 15

Year 2017 AM Peak Hour Volumes
North Lathrop Intersections

CRANE TRANSPORTATION GROUP

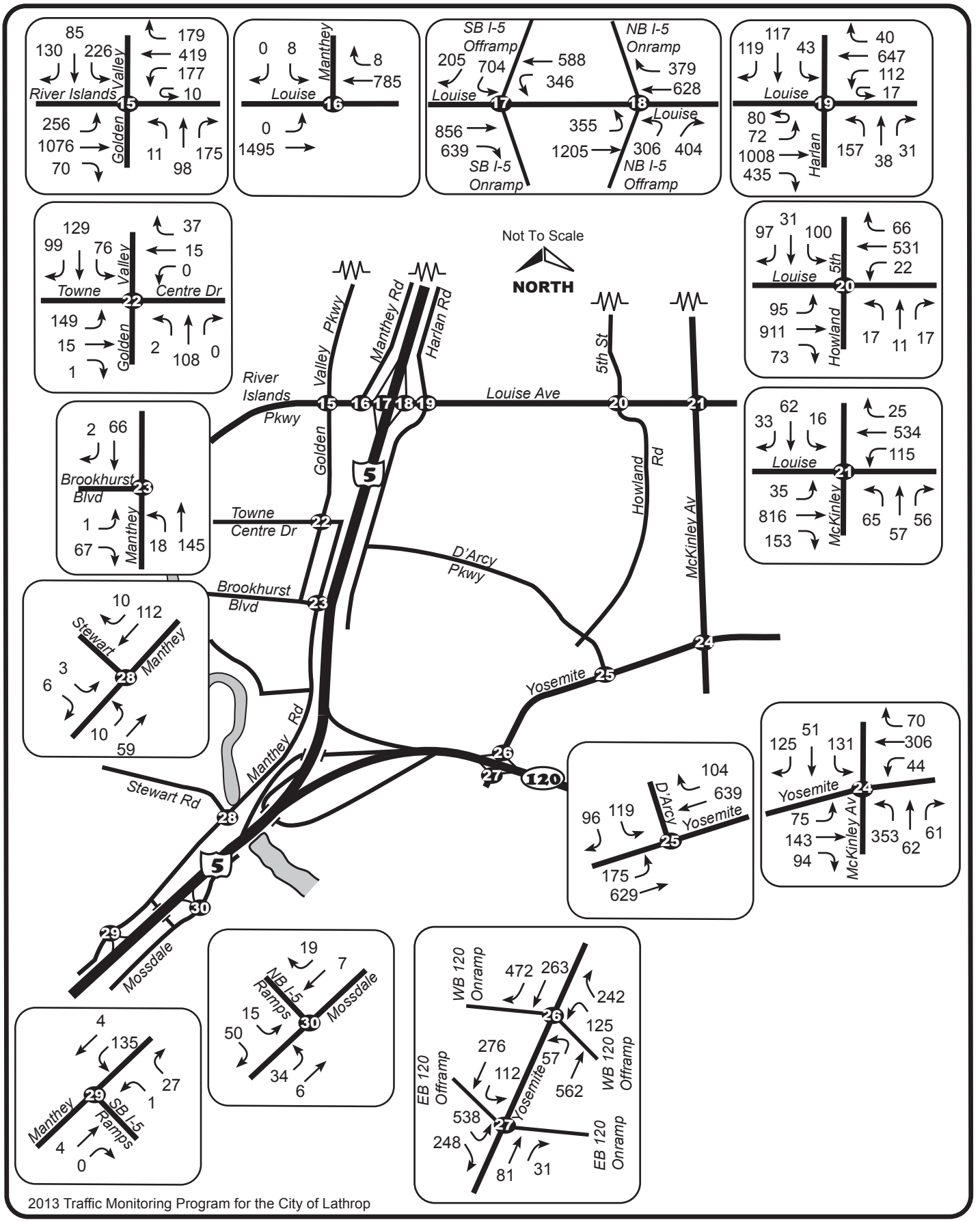

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Figure 16
Year 2017 AM Peak Hour Volumes
South Lathrop Intersections

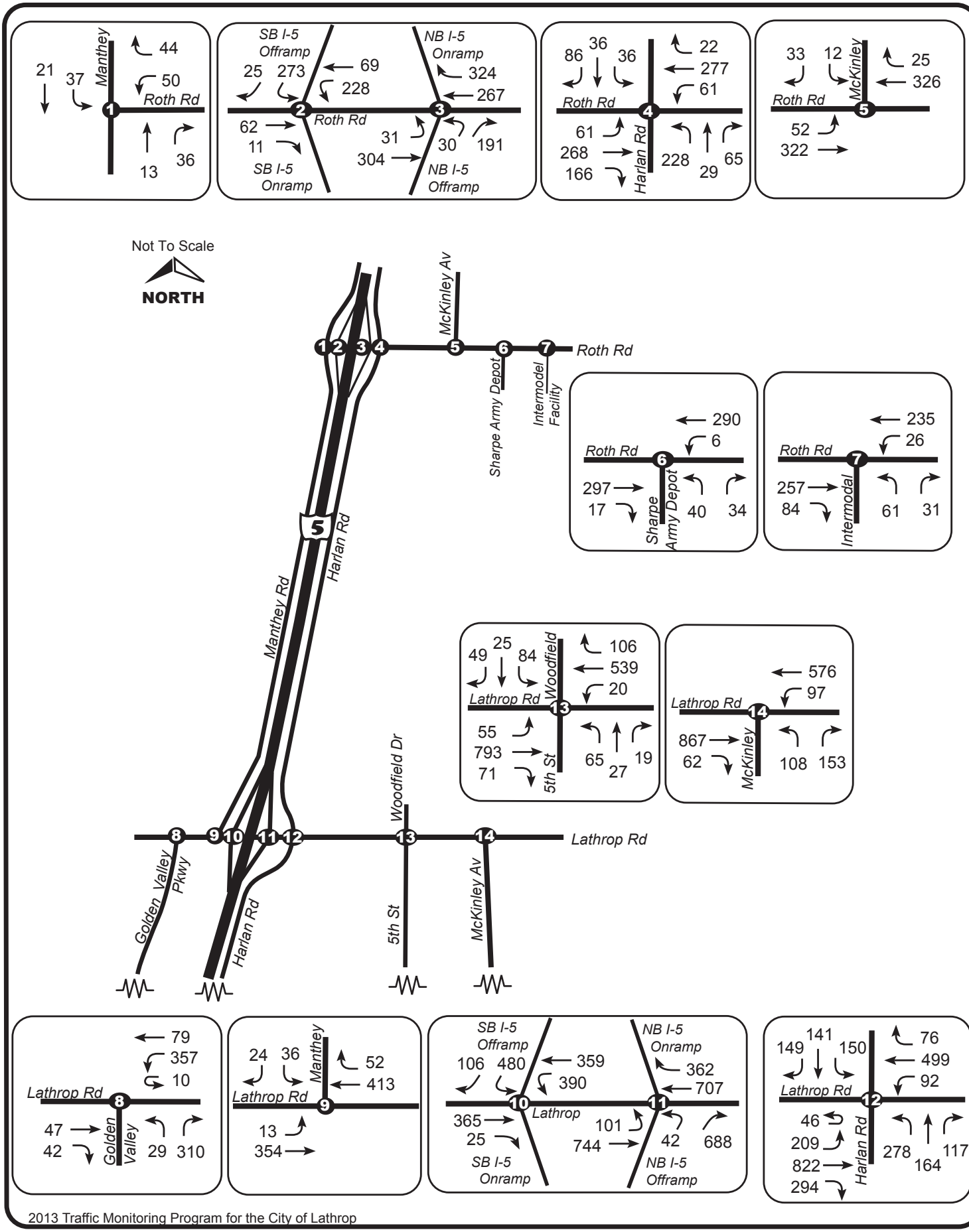

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Figure 17
Year 2017 PM Peak Hour Volumes
North Lathrop Intersections

CRANE TRANSPORTATION GROUP

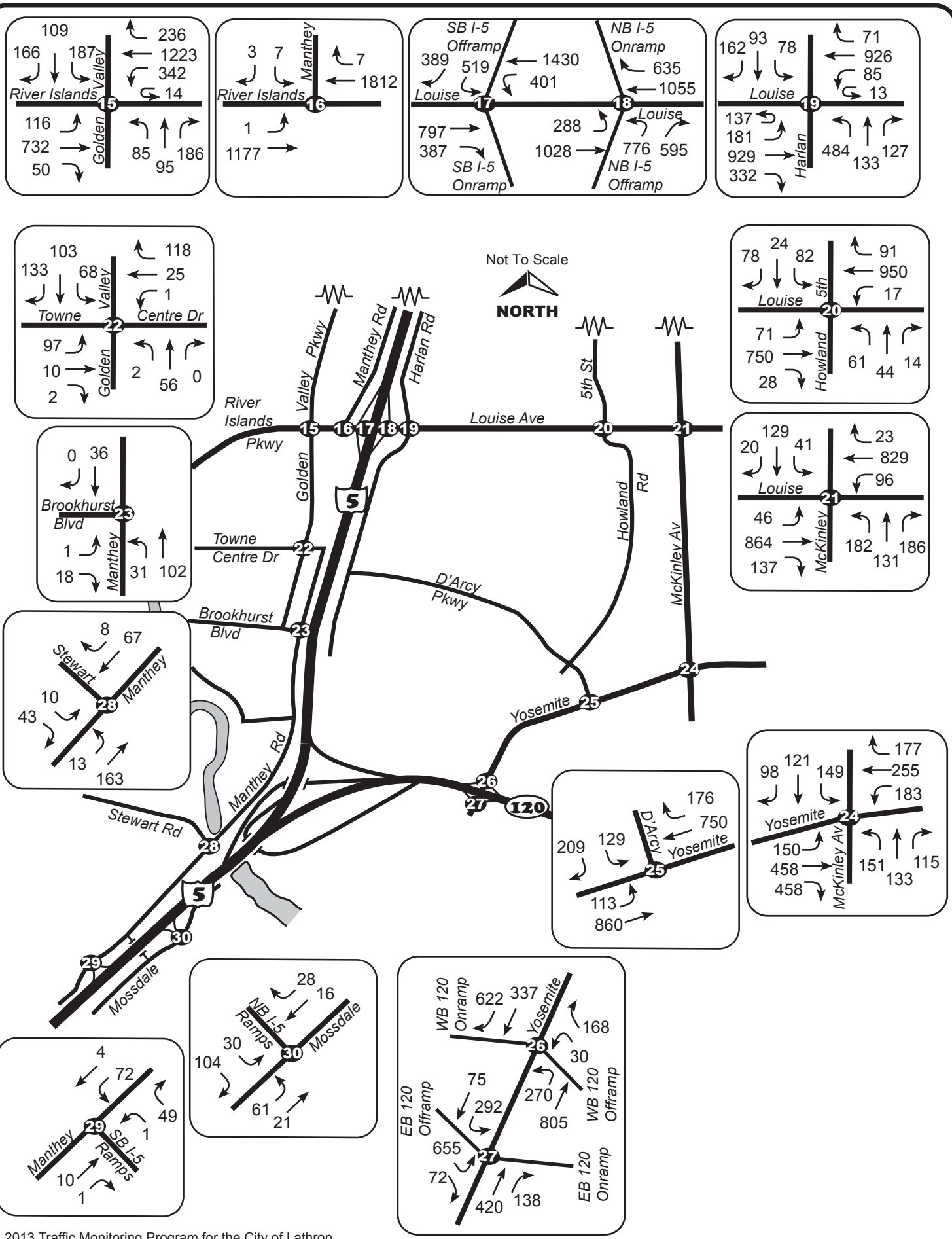

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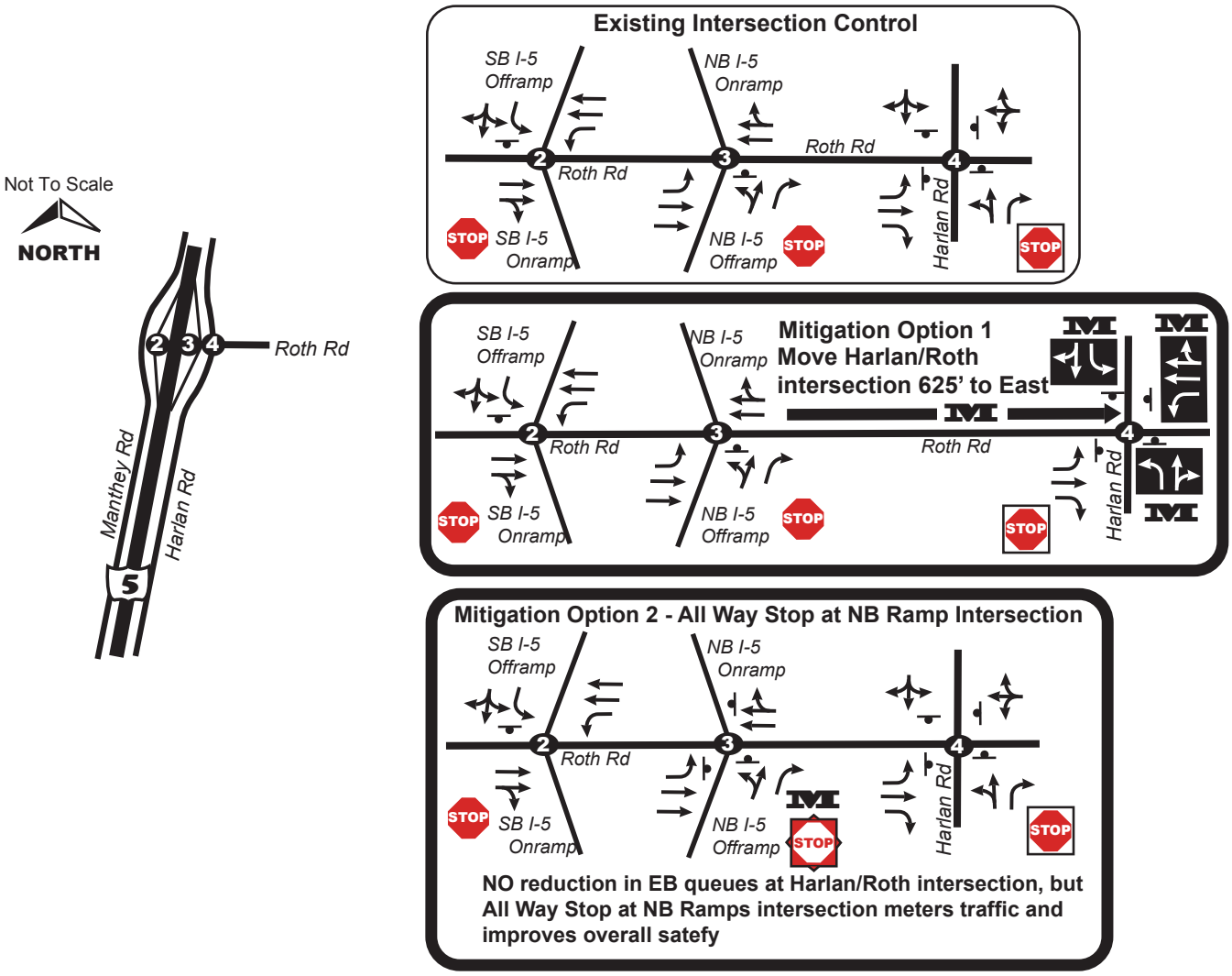
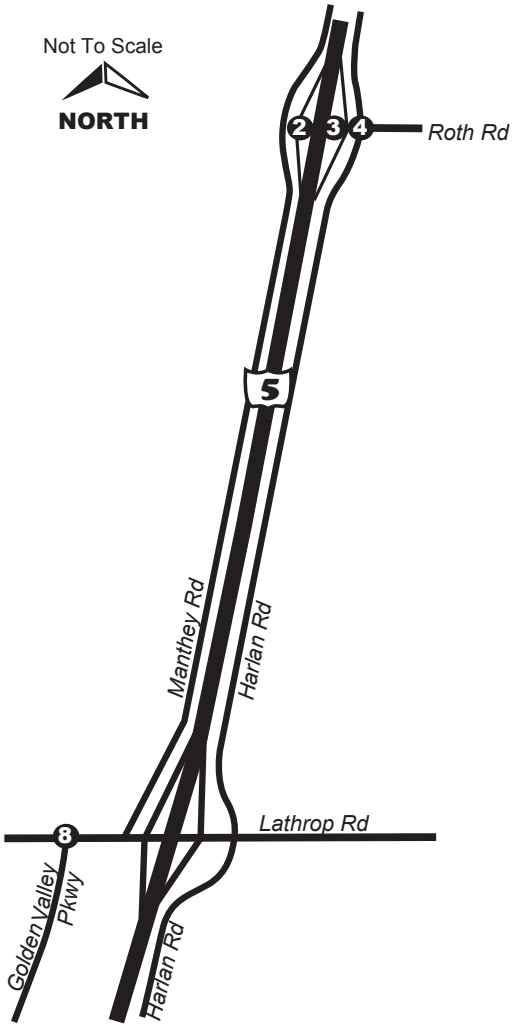
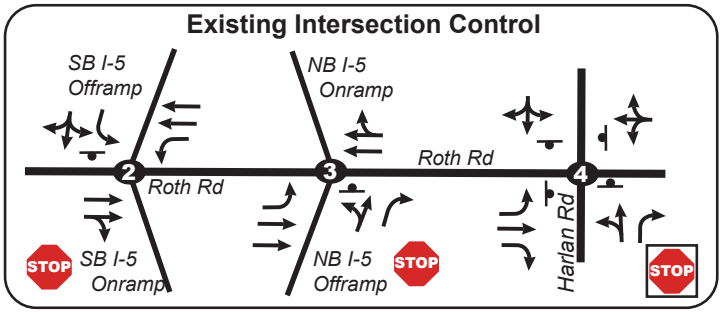
Figure 18
Year 2017 PM Peak Hour Volumes
South Lathrop Intersections

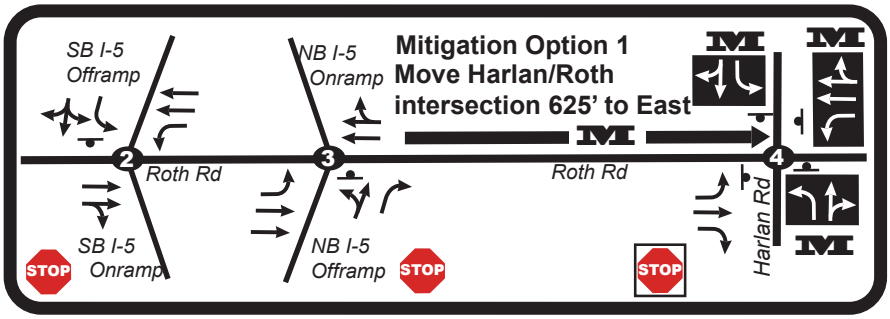


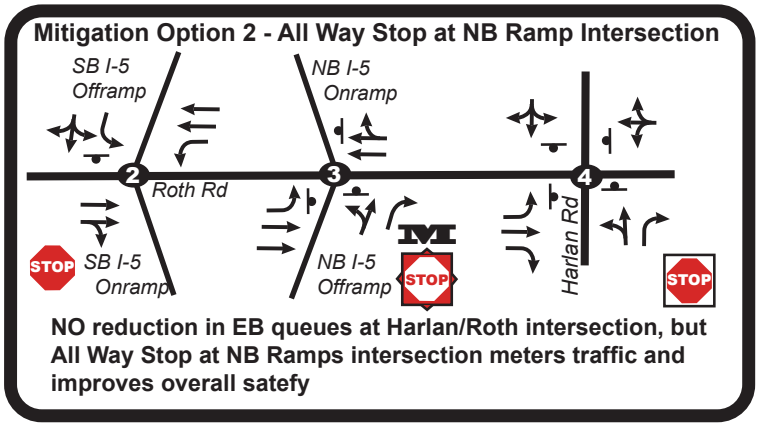
CRANE TRANSPORTATION GROUP

Figure 19
Existing Mitigations
Roth Road Corridor

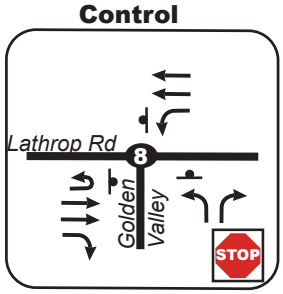




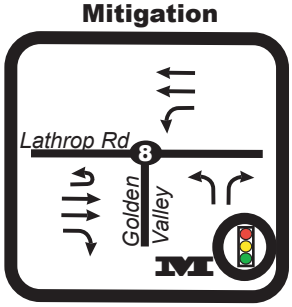




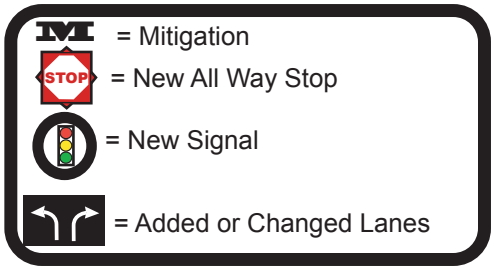
Existing Intersection Control



Mitigation



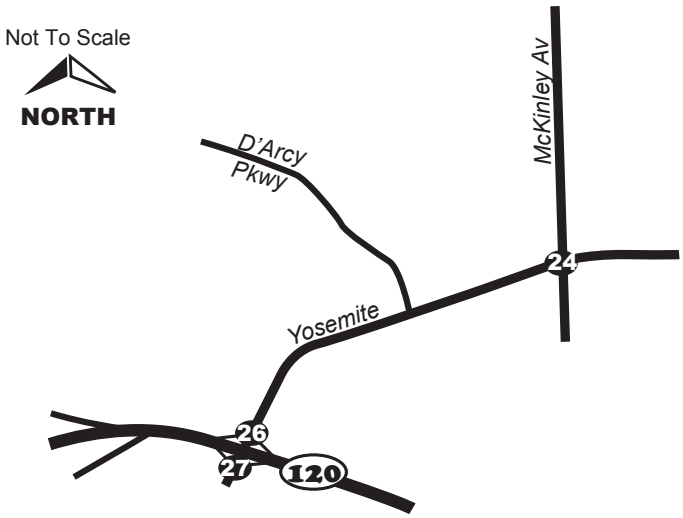
AM Peak Hour
LOS-Delay (in Seconds)
B-10.9



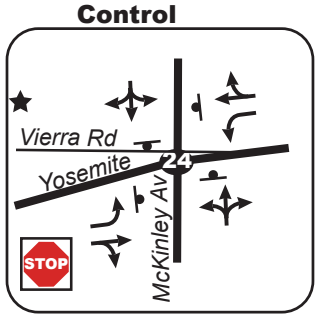
2013 Traffic Monitoring Program for the City of Lathrop

CRANE TRANSPORTATION GROUP

Figure 20
Year 2015 Mitigations
Roth Rd and Lathrop Rd Corridors



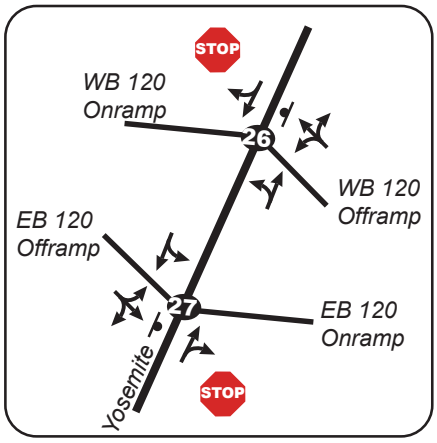
Existing Intersection Control



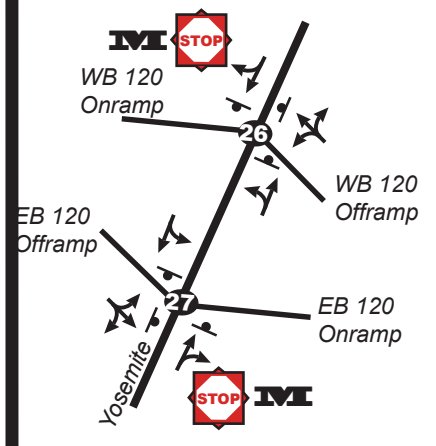
★ **Relocate Vierra Rd connection to local circulation system**

PM Peak Hour
LOS-Delay (in Seconds)
D-35.6

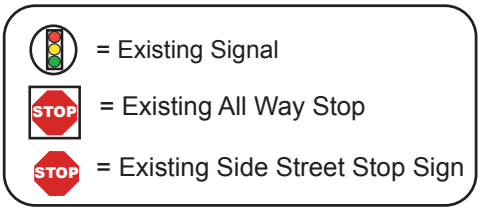
Existing Intersection Control



AM Peak Hour
LOS-Delay (in Seconds)
C-23.5



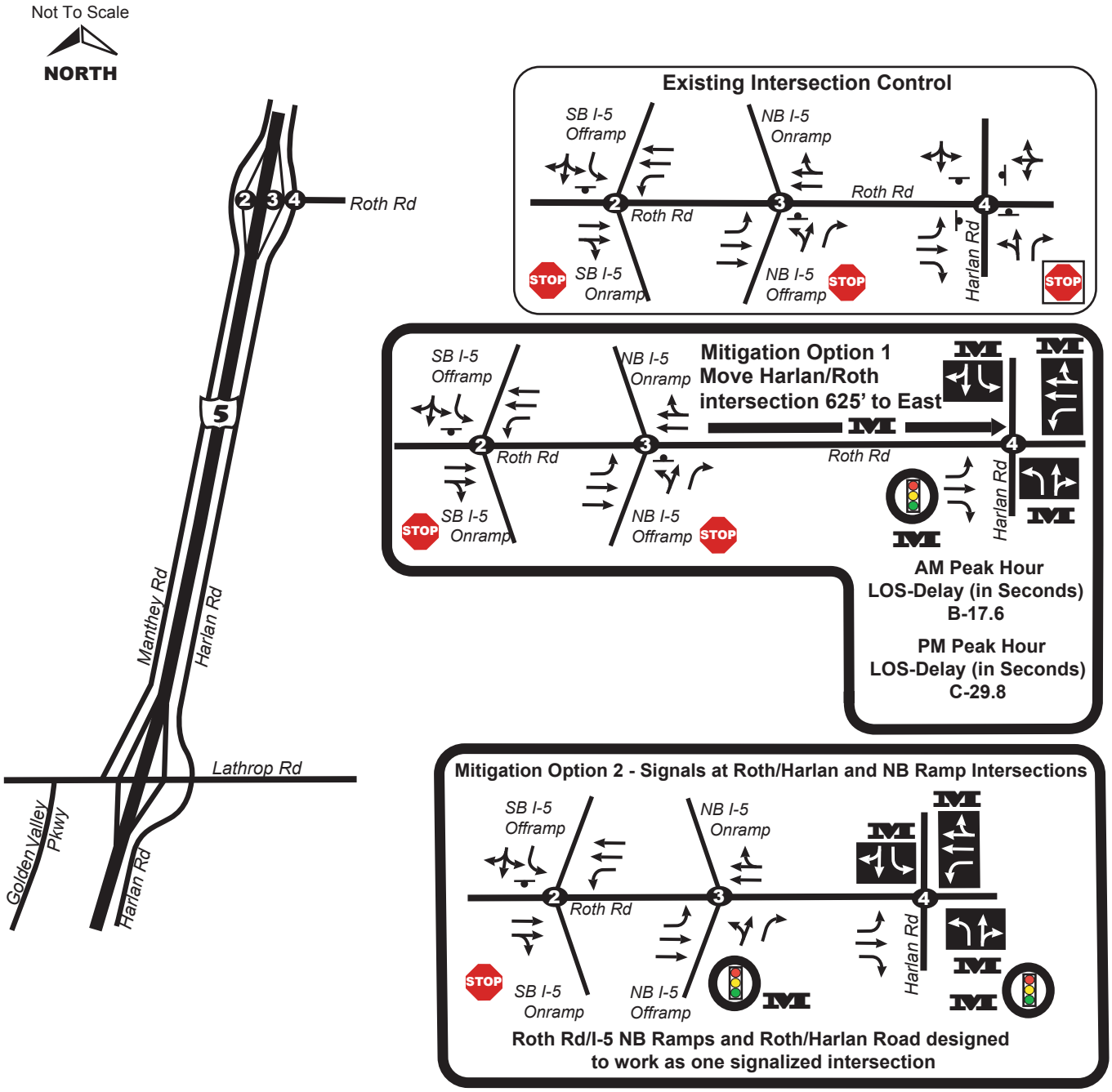
PM Peak Hour
LOS-Delay (in Seconds)
C-19.6



2013 Traffic Monitoring Program for the City of Lathrop

Figure 21
Year 2015 Mitigations
Yosemite Ave Corridor

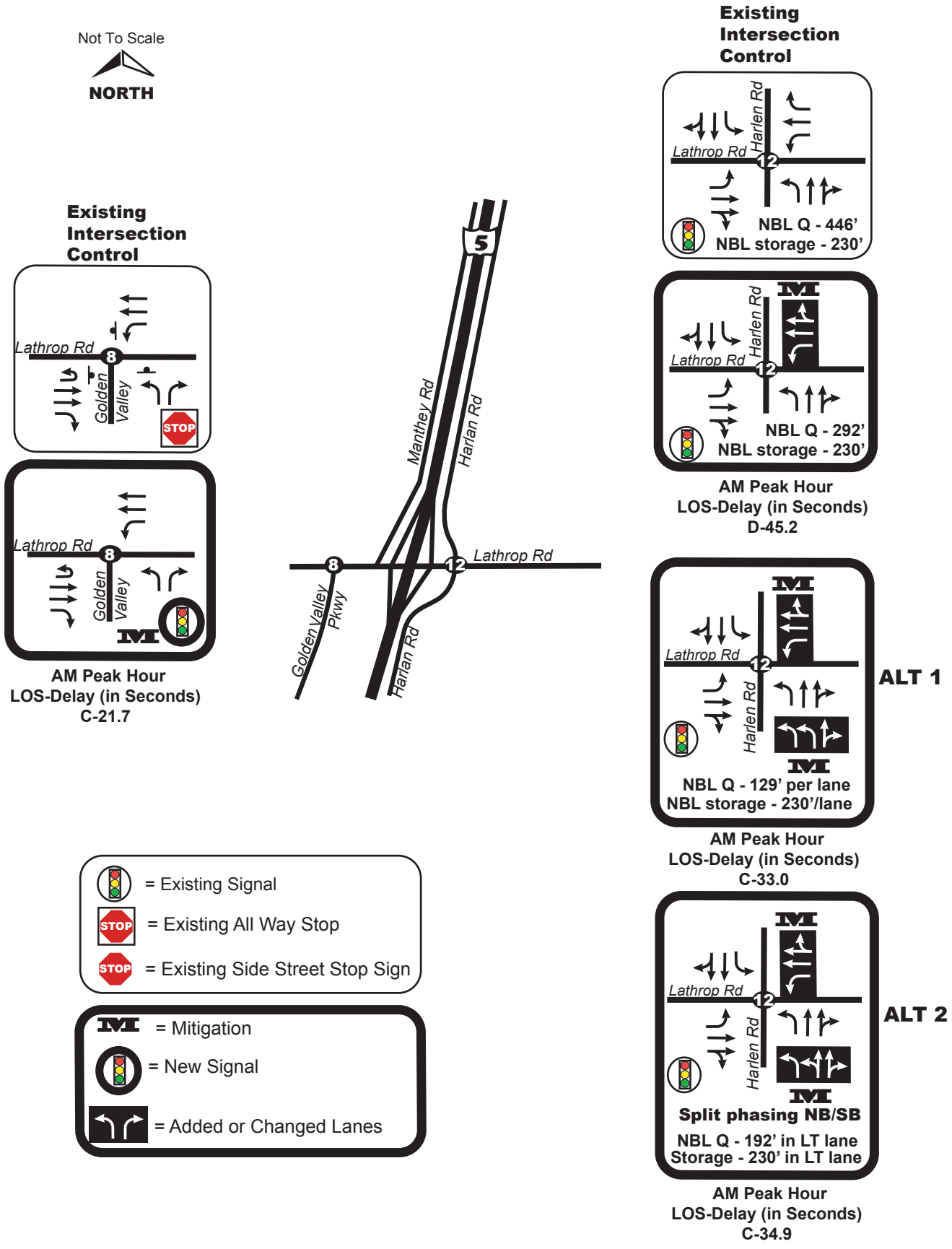
CRANE TRANSPORTATION GROUP



2013 Traffic Monitoring Program for the City of Lathrop

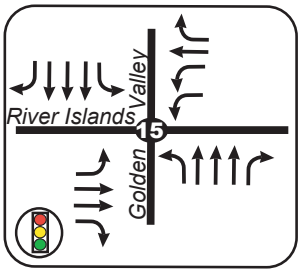
CRANE TRANSPORTATION GROUP

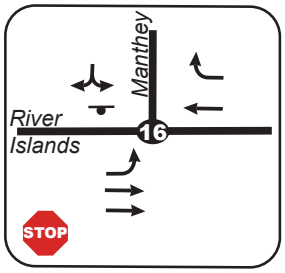
Figure 22
Year 2017 Mitigations
Roth Rd Corridor

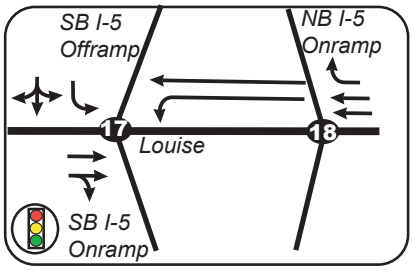


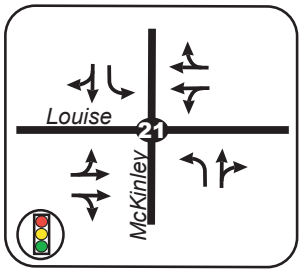
CRANE TRANSPORTATION GROUP

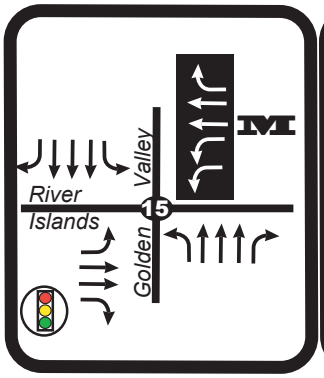
Figure 23
Year 2017 Mitigations
Lathrop Rd Corridor





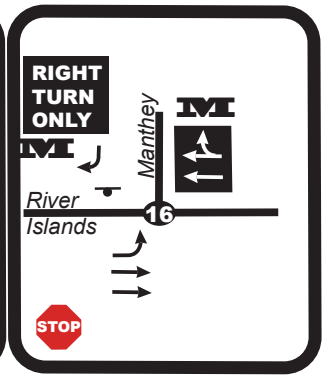


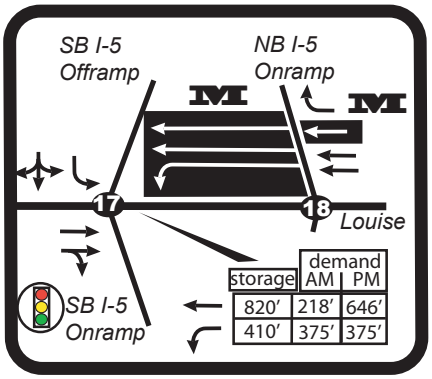




AM Peak Hour
LOS-Delay (in Seconds)
D-40.1

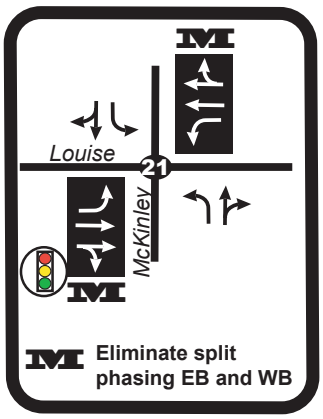
PM Peak Hour
LOS-Delay (in Seconds)
C-31.0





AM Peak Hour
LOS-Delay (in Seconds)
D-45.2

PM Peak Hour
LOS-Delay (in Seconds)
D-51.8



AM Peak Hour
LOS-Delay (in Seconds)
C-27.4

PM Peak Hour
LOS-Delay (in Seconds)
C-33.3

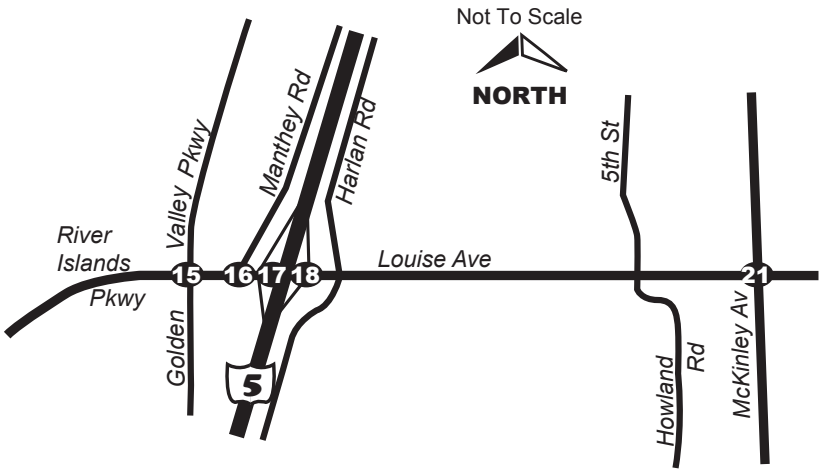
= Existing Signal

STOP = Existing Side Street Stop Sign

= Mitigation

= New Signal

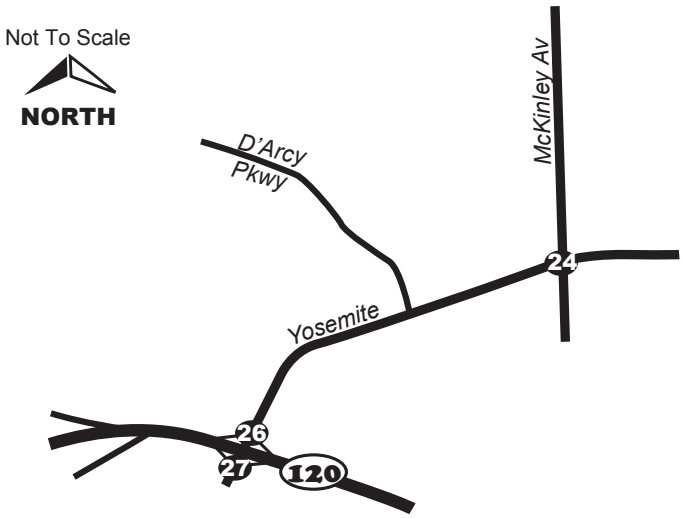
= Added or Changed Lanes



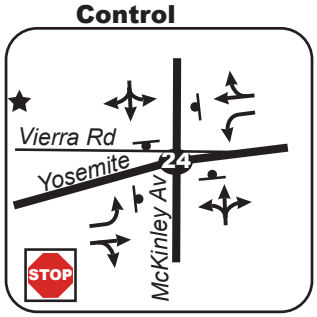
2013 Traffic Monitoring Program for the City of Lathrop

Figure 24
Year 2017 Mitigations
River Islands Pkwy/Louise Ave Corridor

CRANE TRANSPORTATION GROUP



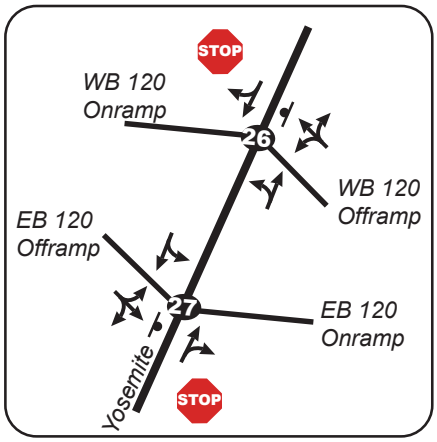
Existing Intersection Control



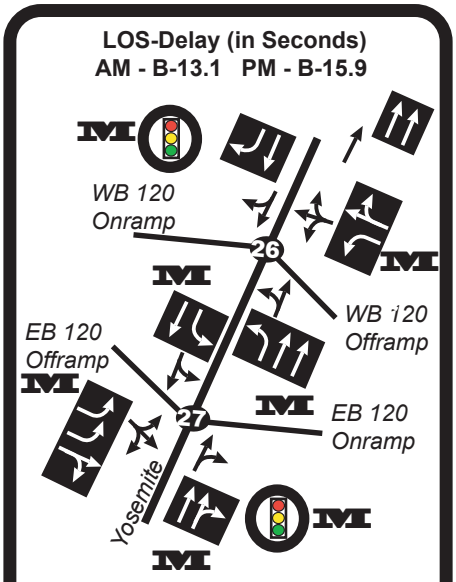
★ **Relocate Vierra Rd connection to local circulation system**

PM Peak Hour
LOS-Delay (in Seconds)
D-41.8

Existing Intersection Control



LOS-Delay (in Seconds)
AM - B-13.1 PM - B-15.9



LOS-Delay (in Seconds)
AM - B-17.2 PM - C-29.7

= Existing Signal
= Existing All Way Stop
= Existing Side Street Stop Sign

= Mitigation
= New All Way Stop
= New Signal
= Added or Changed Lanes

2013 Traffic Monitoring Program for the City of Lathrop

CRANE TRANSPORTATION GROUP

Figure 25
Year 2017 Mitigations
Yosemite Ave Corridor

Tables

Table 1

SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: 2010 Highway Capacity Manual (Transportation Research Board).

Table 2

UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2010 Highway Capacity Manual (Transportation Research Board).

Table 3 (page 1 of 2)

INTERSECTION LEVEL OF SERVICE

EXISTING, YEAR 2015 & YEAR 2017

MAP REF. #*	INTERSECTION NAME	EXISTING		YEAR 2015		YEAR 2017	
		AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.
Signalized Intersections							
10	Lathrop Rd./SB I-5 Ramps	B-17.1[(1)]	B-14.0	C-21.7	B-17.8	D-47.8	D-42.8
11	Lathrop Rd./NB I-5 Ramps	B-16.5[(1)]	C-21.3	C-22.9	C-29.5	D-43.4	D-49.9
16	Lathrop Rd./Harlan Rd.	D-39.1[(1)]	C-29.8	D-51.1	C-32.7	**E-63.5**	D-36.5
13	Lathrop Rd./5th St.	C-20.0[(1)]	C-23.6	C-21.3	C-24.9	C-24.4	C-22.8
14	Lathrop Rd./McKinley Ave.	NA	NA	A-6.1	A-7.3	A-6.3	A-8.7
15	River Islands Pkwy/Golden Valley Pkwy	C-22.2[(1)]	C-20.6	C-24.7	C-23.1	**F-83.4**	**F-167**
17	River Islands Pkwy/Louise Ave./I-5 SB Ramps	C-33.0[(1)]*	D-35.4	C-33.0	C-29.1	**F-127**	**F-86.7**
18	Louise Ave./NB I-5 Ramps	B-13.8[(1)]	B-17.5	B-13.6	C-20.5	B-18.7	D-53.0
19	Louise Ave./Harlan Rd.	B-15.7[(1)]	B-16.4	B-16.0	B-15.6	B-17.5	B-19.3
20	Louise Ave./5th St./Howland Rd.	B-15.5[(1)]	B-15.0	B-16.0	B-15.3	B-18.5	C-20.4
21	Louise Ave./McKinley Ave.	C-24.8[(1)]*	D-38.7	C-27.0	D-41.8	**F-95.6**	**F-175**
22	Towne Centre Dr./Golden Valley Pkwy	B-10.6[(1)]	A-9.0	B-10.8	A-9.9	B-12.2	B-12.2
25	D'Arcy Pkwy/Yosemite Ave.	B-16.7[(1)]	B-16.2	B-17.0	B-19.1	B-18.7	C-23.5
Unsignalized Intersections							
1	Roth Rd./Manthey Rd.	A-9.6[(2)]	A-9.2	A-9.6	A-9.2	A-9.6	A-9.2
2	Roth Rd./SB I-5 Ramps	C-16.3/ B-13.0[(3)]	C-18.7/ B-14.3	C-18.9/ B-14.3	C-21.3/ C-15.5	C-24.0/ C-16.3	D-30.6/ C-18.7
3	Roth Rd./NB I-5 Ramps	B-12.2/ B-10.4[(4)]	B-12.8/ B-10.9	B-12.9/ B-10.8	B-13.2/ B-11.2	B-13.5/ B-11.5	B-14.0/ B-11.9
5	Roth Rd./McKinley Ave.	B-11.0 [(5)]	B-11.4	B-11.5	B-11.5	B-12.5	B-12.6
9	Lathrop Rd./Manthey Rd.	C-16.2[(7)]	B-10.1	C-18.6	B-10.7	C-21.0	B-13.2
14	Lathrop Rd./McKinley Ave.	B-13.9[(8)]	C-19.4	NA**	NA**	NA**	NA**
16	River Islands Pkwy/Manthey Rd.	B-13.5[(9)]	B-14.5	C-15.3	C-20.9	**E-45.9**	**F-135**
23	Manthey Rd./Brookhurst Blvd.	A-9.4[(9)]	A-8.5	A-9.5	A-8.6	A-8.9	A-8.6
26	Yosemite Ave./WB SR120 Ramps	A-9.3[(10)]	B-10.2	B-11.4	B-12.9	**F-68.9**	**F***
27	Yosemite Ave./EB SR120 Ramps	B-10.2[(11)]	C-17.2	C-14.9	**F-180**	**F-292**	**F***
29	Manthey Rd./SB I-5 Ramps	A-9.1[(12)]	A-8.5	A-9.4	A-9.8	A-8.8	A-8.6
30	Mossdale Rd./NB I-5 Ramps	A-9.1[(13)]	A-9.2	A-9.9	B-10.5	A-8.9	A-9.5
All Way Stop Intersections							
4	Roth Rd./Harlan Rd.	B-13.3[(14)]	C-17.4	C-15.4	C-23.9	C-19.8	**E-40.7**
8	Lathrop Rd/Golden Valley Pkwy	D-29.2(14)	A-8.6	**E-49.5**	A-9.6	**F-83.9**	C-22.4
24	Yosemite Ave./McKinley Ave.	A-9.8[(14)]	B-14.3	C-17.1	**F-54.8**	**F-57.2**	**F-70.3**
28	Manthey Rd./Stewart Rd.	A-9.6[(14)]	A-7.9	B-12.2	B-12.7	A-8.0	A-8.5

Table 3 (page 2 of 2)

INTERSECTION LEVEL OF SERVICE

EXISTING, YEAR 2015 & YEAR 2017

(1) Signalized level of service – control delay in seconds.

(2) Unsignalized level of service – control delay in seconds. Roth Road westbound stop sign controlled approach.

(3) Unsignalized level of service – control delay in seconds. I-5 southbound stop sign controlled off-ramp left turn/right turn.

(4) Unsignalized level of service – control delay in seconds. I-5 northbound stop sign controlled off-ramp left turn/right turn.

(5) Unsignalized level of service – control delay in seconds. McKinley Avenue southbound stop sign controlled approach.

(6) Unsignalized level of service – control delay in seconds. Golden Valley Parkway northbound stop sign controlled left turn/right turn.

(7) Unsignalized level of service – control delay in seconds. Manthey Road southbound stop sign controlled approach.

(8) Unsignalized level of service – control delay in seconds. McKinley Avenue northbound stop sign controlled approach.

(9) Unsignalized level of service – control delay in seconds. Brookhurst Boulevard eastbound stop sign controlled approach.

(10) Unsignalized level of service – control delay in seconds. SR 120 westbound off-ramp stop sign controlled approach.

(11) Unsignalized level of service – control delay in seconds. SR 120 eastbound off-ramp stop sign controlled approach.

(12) Unsignalized level of service – control delay in seconds. I-5 southbound off-ramp stop sign controlled approach.

(13) Unsignalized level of service – control delay in seconds. I-5 northbound off-ramp stop sign controlled approach.

(14) All way stop level of service – control delay in seconds.

* Figure 1 map reference.
** To be signalized by 2015.

Bolded Result = Unacceptable operation

*Year 2010 Highway Capacity Manual (HCM) Analysis Methodology except where noted * - Year 2000 HCM Source: Crane Transportation Group*

Table 4

95TH PERCENTILE VEHICLE QUEUING AT LATHROP I-5 INTERCHANGES

LOCATION	STORAGE (FEET)	EXISTING		YEAR 2015		YEAR 2017	
		AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.
Roth Road Interchange							
EB Left Turn Approach to NB On-Ramp	370	22*	38*	30	41	36	44
EB Through Approach to Harlan Rd.	150	126	144	142	**336**	143	**437**
EB Right Turn Approach to Harlan Rd.	140	114*	**145***	127	**209**	**143**	**202**
WB Left Turn to SB On-Ramp	370	73*	59*	61	60	73	69
SB Off-Ramp	2060	246*	287*	380	443	572	464
NB Off-Ramp	2030	328*	409*	322	1119	922	1723
Lathrop Road Interchange							
EB Left Turn Approach to NB On-Ramp	480	35	17	76	27	133	77
EB Through Approach to NB On-Ramp	960	44	132	48	190	44	232
WB Left Turn Approach to SB On-Ramp	480	118	143	250	172	269	200
WB Through Approach to SB On-Ramp	480	126	25	135	14	146	10
SB Off-Ramp	1500	116	101	148	365	266	543
NB Off-Ramp	1600	73	189	151	296	229	537
Louise Avenue /River Islands Parkway Interchange							
EB Left Turn Approach to NB On-Ramp	410	154	128	153	102	201	206
EB Through Approach to NB On-Ramp	1230	360	372	460	416	502	438
WB Left Turn Approach to SB On-Ramp	410	289	226	320	232	342	228
WB Through Approach to SB On-Ramp	410	55	352	60	363	262	**873**
SB Off-Ramp	1275	335	384	437	529	1125	1032
NB Off-Ramp	1950	112	375	173	455	642	1314

* All way stop and unsignalized 95th percentile queuing at Roth Road interchange using SIM traffic program.
All signalized results = Synchro software 95th percentile queuing. **Bold = unacceptable operation.**
Source: Crane Transportation Group

Table 5

SIGNAL WARRANT EVALUATION

Do intersections have volumes meeting peak hour volume Warrant #3 criteria levels?

INTERSECTIONS	EXISTING		YEAR 2015		YEAR 2017	
	AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.	AM PEAK HR.	PM PEAK HR.
Roth Rd./Manthey Rd.	No	No	No	No	No	No
Roth Rd./I-5 SB Ramps	No	No	No	No	No	No
Roth Rd./I-5 NB Ramps	No	No	No	No	No	No
Roth Rd./Harlan Rd.	No	No	No	No	No	Yes
Roth Rd./McKinley Ave.	No	No	No	No	No	No
Lathrop Rd./Golden Valley Pkwy	No	No	Approach -ing	No	Yes	No
Lathrop Rd./Manthey Rd.	No	No	No	No	No	No
Lathrop Rd./McKinley Ave.	No	No	No	Yes	No	Yes
River Islands Pkwy/Manthey Rd.	No	No	No	No	No	No
Manthey Rd./Brookhurst Blvd.	No	No	No	No	No	No
Manthey Rd./SB I-5 Ramps	No	No	No	No	No	No
Manthey Rd./Stewart Rd.	No	No	No	No	No	No
Mossdale Rd./NB I-5 Ramps	No	No	No	No	No	No
Yosemite Ave./SR120 WB Ramps	No	No	No	No	Yes	Yes
Yosemite Ave./SR120 EB Ramps	No	No	No	No	Yes	Yes
Yosemite Ave./McKinley Ave.	No	No	No	Yes	Yes	Yes

Source: Crane Transportation Group

Table 6

TRIP GENERATION DUE TO CITY OF LATHROP
YEAR 2014 & 2015 DEVELOPMENT INCREMENT

LOCATION	USE	SIZE	AM PEAK HOUR TRIPS				PM PEAK HOUR TRIPS			
			INBOUND		OUTBOUND		INBOUND		OUTBOUND	
			RATE	VOL	RATE	VOL	RATE	VOL	RATE	VOL
Mossdale Landing	Single family residential	200 units	.19	38	.56	112	.63	126	.37	74
River Islands	Single family residential	500 units	.19	95	.56	280	.63	315	.37	185
Central Lathrop	Single family residential	200 units	.19	38	.56	112	.63	126	.37	74
Lathrop Gateway	Warehouse/ Distribution	250,000 SQ.FT.	.08	20	.03	8	.04	10	.08	20
	Light industrial	200,000 SQ.FT.	.81	162	.11	22	.12	24	.85	170
	Manufacturing	50,000 SQ.FT.	.57	29	.16	8	.26	13	.47	24
	TOTAL			211		38		47		214
	Commercial	25,000 SQ.FT.	1.5	38	.75	19	1.5	38	2.75	69
South Lathrop	Warehouse/ Distribution	50,000 SQ.FT.	.08	4	.03	2	.04	2	.08	4
	Light industrial	50,000 SQ.FT.	.81	41	.11	6	.12	6	.85	43
	TOTAL			45		8		8		47
Crossroads	Warehouse/ Distribution	250,000 SQ.FT.	.08	20	.03	8	.04	10	.08	20
	Light industrial	200,000 SQ.FT.	.81	162	.11	22	.12	24	.85	170
	Manufacturing	50,000 SQ.FT.	.57	29	.16	8	.26	13	.47	24
	TOTAL			211		38		47		214
	Commercial (high turnover restaurant)	5,000 SQ.FT.	5.95	30	4.86	25	5.91	30	3.94	20
Roth Road	Warehouse/ Distribution	600,000 SQ.FT.	.08	48	.03	18	.04	24	.08	48
	Light industrial	150,000 SQ.FT.	.81	122	.11	17	.12	18	.85	128
	TOTAL			170		35		42		176
Old Lathrop	Single family residential	25 units	.19	5	.56	14	.63	16	.37	9
	Commercial	7,000 SQ.FT.	1.70	12	.51	4	2.93	21	3.05	22
	Light industrial	50,000 SQ.FT.	.81	41	.11	6	.12	6	.85	43
Louise Ave.	Commercial	25,000 SQ.FT.	1.5	38	.75	19	1.5	38	2.75	69

Project list source: City of Lathrop
Trip rate source: Trip Generation Manual, 9th Edition, by the Institute of Transportation Engineers, 2012
Compiled by: Crane Transportation Group

Table 7

MANTECA DEVELOPMENT TRIP GENERATION
2014-2015 INCREMENT

PROJECT AREA	TYPE OF DEVELOPMENT	SIZE OR # OF UNITS	AM PEAK HOUR TRIPS				PM PEAK HOUR TRIPS			
			INBOUND		OUTBOUND		INBOUND		OUTBOUND	
			RATE	VOL	RATE	VOL	RATE	VOL	RATE	VOL
Centerpoint Airport Way (Roth Rd. to Lathrop Rd.)	Laundry	70,000 SQ.FT.	*	4	*	3	*	5	*	5
Lathrop Rd. Corridor (near Union Rd.)[1]	Single family residential	389 units	.19	74	.56	218	.63	245	.37	144
	Apartments	64 units	.10	6	.41	26	.40	26	.22	14
Louise Ave. Corridor (near Airport Way)[2]	Single family residential	198 units	.19	38	.56	111	.63	125	.37	73
South of SR120 (near McKinley)[3]	Single family residential	600 units	.19	114	.56	336	.63	378	.37	222
South of SR120 (near Airport Way[4]	Single family residential	239 units	.19	45	.56	134	.63	151	.37	88
South of SR120 (near Union Rd.)[5]	Single family residential	209 units	.19	40	.56	117	.63	132	.37	77

[1] Union Ranch Woodbridge #5 & 6, Union Ranch East, Woodbridge Apartments.
[2] Pacific Business Park, Villaticino West, Monte Bello.
[3] Trails, Oakwood Shores
[4] Terra Ranch, Machado Estates
[5] Oleander Estates

* DEIR Northwest Airport Way Master Plan, Michael Brandman Associates, August 2010. Straight line proportioning of trip generation based upon percent of project assumed completed (31.5%).

Trip rate source: Trip Generation Manual, 9th Edition, by the Institute of Transportation Engineers, 2012, unless noted
Compiled by: City of Lathrop/City of Manteca/Crane Transportation Group

Table 8

SAN JOAQUIN COUNTY DEVELOPMENT
TRIP GENERATION

2014-2015 INCREMENT

PROJECT AREA	TYPE OF DEVELOPMENT	SIZE OR # OF UNITS	AM PEAK HOUR TRIPS		PM PEAK HOUR TRIPS	
			IN	OUT	IN	OUT
Roth Rd. Corridor	Union Pacific intermodal expansion & modernization project	About 31% of Phase 1[(1)]	7* (6)	9 (8)	13 (12)	11 (10)
Roth Rd. Corridor	Truck parking area north side of Roth Rd. & Army supply base – 85% of traffic to/from intermodal facility	Phase 1 (parking for 32 tractor trailers & 11 trailers)	3*[(2)] (3)	3[(2)] (3)	3[(2)] (3)	3[(2)] (3)

* X (X) = total number of vehicles (number of trucks)

(1) Intermodal Trip Generation Draft EIR, by ESA, September 2011.
(2) Traffic traveling on Roth Rd. to/from I-5 interchange, Crane Transportation Group projection.

Project list source: San Joaquin County
Compiled by: Crane Transportation Group

Table 9

TRIP GENERATION DUE TO CITY OF LATHROP
YEAR 2016 & 2017 DEVELOPMENT INCREMENT

LOCATION	USE	SIZE	AM PEAK HOUR TRIPS				PM PEAK HOUR TRIPS			
			INBOUND		OUTBOUND		INBOUND		OUTBOUND	
			RATE	VOL	RATE	VOL	RATE	VOL	RATE	VOL
Mossdale Landing	Single family residential	100 units	.19	19	.56	56	.63	63	.37	37
	Commercial	50,000 SQ.FT.	.72	36	.48	24	1.8	90	1.8	90
River Islands	Single family residential	1000 units	.19	190	.56	560	.63	630	.37	370
	Neighborhood retail	25,000 SQ.FT.	(1)	42	(1)	25	(2)	114	(2)	123
Central Lathrop	Single family residential	400 units	.19	76	.56	224	.63	252	.37	148
	Office park	100,000 SQ.FT.	1.97	197	.24	24	.88	88	1.97	197
Lathrop Gateway	Warehouse/ Distribution	500,000 SQ.FT.	.08	40	.03	15	.04	20	.08	40
	Light industrial	400,000 SQ.FT.	.81	324	.11	44	.12	48	.85	340
	Manufacturing	100,000 SQ.FT.	.57	57	.16	16	.26	26	.47	47
	TOTAL			421		75		94		427
	Commercial	25,000 SQ.FT.	1.5	38	.75	19	1.5	38	2.75	69
South Lathrop	Warehouse/ Distribution	500,000 SQ.FT.	.08	40	.03	15	.04	20	.08	40
	Light industrial	400,000 SQ.FT.	.81	324	.11	44	.12	48	.85	340
	Manufacturing	100,000 SQ.FT.	.57	57	.16	16	.26	26	.47	47
	TOTAL			421		75		94		427
	Commercial	25,000 SQ.FT.	1.5	38	.75	19	1.5	38	2.75	69
Crossroads	Warehouse/ Distribution	150,000 SQ.FT.	.08	12	0.3	5	.04	6	.08	12
	Light industrial	120,000 SQ.FT.	.81	97	.11	13	.12	15	.85	102
	Manufacturing	30,000 SQ.FT.	.57	17	.16	5	.26	8	.47	14
	TOTAL			126		23		29		128
	Commercial	5,000 SQ.FT.	5.95	30	4.86	25	5.91	30	3.94	20
Roth Road	Commercial	25,000 SQ.FT.	1.5	38	.75	19	1.5	38	2.75	69
Old Lathrop	Single family residential	25 units	.19	5	.56	14	.63	16	.37	9
	Commercial	10,000 SQ.FT.	1.70	17	.51	5	2.93	29	3.05	30
	Light industrial	50,000 SQ.FT.	.81	41	.11	6	.12	6	.85	43
Louise Ave.	Commercial	20,000 SQ.FT.	1.5	30	.75	15	1.5	30	2.75	55

Project list source: City of Lathrop
Trip rate source: Trip Generation Manual, 9th Edition, by the Institute of Transportation Engineers, 2012, unless noted
Trip rate Mossdale Commercial: Trip Generators, San Diego Association of Governments, 2002

(1) Ln(T) = .61 Ln(X) + 2.24 (62% in/38% out)
(2) Ln(T) = .67 Ln(X) + 3.31 (48% in/52% out)

Ln = Natural Log
X = Size in 1,000 SQ.FT.
T = Trips

Compiled by: Crane Transportation Group

Table 10

MANTECA DEVELOPMENT TRIP GENERATION
2016-2017 INCREMENT

PROJECT AREA	TYPE OF DEVELOPMENT	SIZE OR # OF UNITS	AM PEAK HOUR TRIPS				PM PEAK HOUR TRIPS			
			INBOUND		OUTBOUND		INBOUND		OUTBOUND	
			RATE	VOL	RATE	VOL	RATE	VOL	RATE	VOL
Centerpoint Airport Way (Roth Rd. to Lathrop Rd.)	High cube warehouse/ distribution/ intermodal	1,000,000 SQ.FT.	*	48	*	48	*	74	*	74
Lathrop Rd. Corridor (near Union Rd.)[1]	Single family residential	240 units	.19	46	.56	134	.63	151	.37	89
	Apartments	64 units	.10	6	.41	26	.40	26	.22	14
Louise Ave. Corridor (near Airport Way)[2]	Single family residential	198 units	.19	38	.56	111	.63	125	.37	73
	Business park	750,000 SQ.FT.	1.19	893	.21	158	.33	248	.93	698
South of SR120 (near McKinley)[3]	Single family residential	600 units	.19	114	.56	336	.63	378	.37	222
South of SR120 (near Airport Way[4]	Single family residential	254 units	.19	48	.56	142	.63	160	.37	94
South of SR120 (near Union Rd.)[5]	Single family residential	259 units	.19	49	.56	145	.63	163	.37	96

(1) Union Ranch Woodbridge #5 & 6, Union Ranch East, Woodbridge Apartments.
(2) Pacific Business Park, Villaticino West, Monte Bello.
(3) Trails, Oakwood Shores
(4) Terra Ranch, Machado Estates
(5) Oleander Estates

* DEIR Northwest Airport Way Master Plan, Michael Brandman Associates, August 2010. Straight line proportioning of trip generation based upon percent of project assumed completed (31.5%).

Trip rate source: Trip Generation Manual, 9th Edition, by the Institute of Transportation Engineers, 2012, unless noted
Compiled by: City of Lathrop/City of Manteca/Crane Transportation Group

Table 11

SAN JOAQUIN COUNTY DEVELOPMENT
TRIP GENERATION

2016-2017 INCREMENT

PROJECT AREA	TYPE OF DEVELOPMENT	SIZE OR # OF UNITS	AM PEAK HOUR TRIPS		PM PEAK HOUR TRIPS	
			IN	OUT	IN	OUT
Roth Rd. Corridor	Union Pacific intermodal expansion & modernization project	About 36% of Phase 1[(1)]	8* (7)	11 (9)	15 (13)	13 (11)
Roth Rd. Corridor	Truck parking area north side of Roth Rd. & Army supply base – 85% of traffic to/from intermodal facility	Phase 2 (parking for 51 tractor trailers & 21 trailers)	3*[(2)] (3)	3[(2)] (3)	3[(2)] (3)	3[(2)] (3)

* X (X) = total number of vehicles (number of trucks)

(1) Intermodal Trip Generation Draft EIR, by ESA, September 2011.
(2) Traffic traveling on Roth Rd. to/from I-5 interchange, Crane Transportation Group projection.

Project list source: San Joaquin County
Compiled by: Crane Transportation Group

Table 12

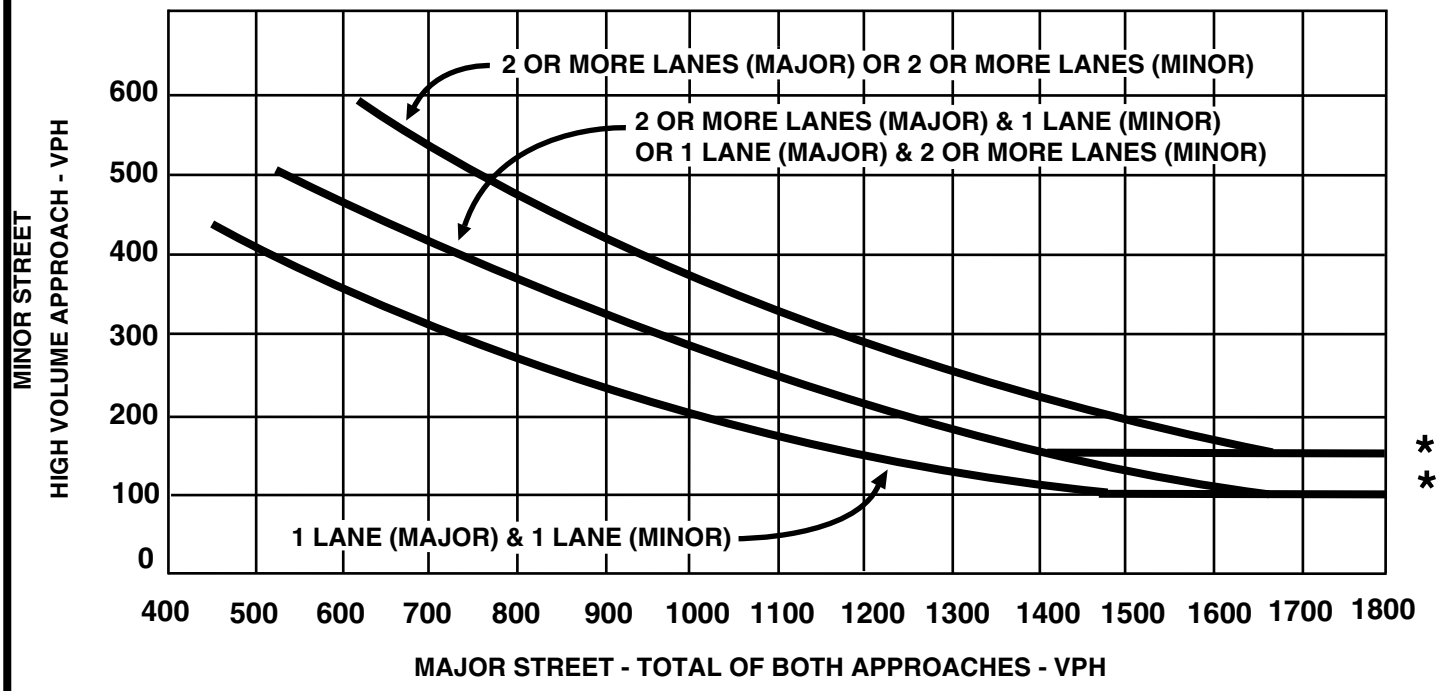
EXISTING LATHROP DEVELOPMENT TRAFFIC DISTRIBUTION PATTERNS

	RESIDENTIAL				EMPLOYMENT			
	AM PEAK HOUR		PM PEAK HOUR		AM PEAK HOUR		PM PEAK HOUR	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
I-5 North	10%	13%	14%	11%	30%	25%	30%	30%
I-5 South or I-205 West	15%	25%	22%	10%	20%	20%	22%	15%
SR 120 East	10%	10%	13%	13%	15%	15%	13%	15%
Lathrop Rd./ Louise Ave./Roth Rd./ Yosemite Ave. East	20%	20%	25%	32%	25%	25%	20%	25%
Local	45%	32%	26%	34%	10%	15%	15%	15%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Source: Crane Transportation Group, based upon existing traffic counts.

Appendix

PEAK HOUR VOLUME WARRANT #3
(Urban Area)



*** NOTE**

150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A 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

Source: California Manual on Uniform Traffic Control Devices, 2010

TECHNICAL APPENDIX

Capacity Worksheets

Existing Level of Service

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	155	129	31	171	24	142	32	41	23	19	50
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, %	25	18	9	29	26	13	12	9	15	13	21	56
Mvmt Flow	103	165	137	33	182	26	151	34	44	24	20	53
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	11.1	16.8	14.1	12
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	82%	0%	100%	0%	0%	14%	25%
Vol Thru, %	18%	0%	0%	100%	0%	76%	21%
Vol Right, %	0%	100%	0%	0%	100%	11%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	41	97	155	129	226	92
LT Vol	32	0	0	155	0	171	19
Through Vol	0	41	0	0	129	24	50
RT Vol	142	0	97	0	0	31	23
Lane Flow Rate	185	44	103	165	137	240	98
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.387	0.077	0.202	0.294	0.212	0.485	0.201
Departure Headway (Hd)	7.536	6.36	7.057	6.429	5.563	7.261	7.4
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	559	507	556	641	493	488
Service Time	5.326	4.149	4.832	4.203	3.337	5.049	5.1
HCM Lane V/C Ratio	0.389	0.079	0.203	0.297	0.214	0.487	0.201
HCM Control Delay	15.1	9.7	11.6	11.9	9.8	16.8	12
HCM Lane LOS	C	A	B	B	A	C	B
HCM 95th-tile Q	1.8	0.2	0.7	1.2	0.8	2.6	0.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	29.2
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	329	139	55	332	171	83
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	577	244	96	582	300	146
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	25.1	36.9
HCM LOS	D	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	83	165	165	139	63	166	166
LT Vol	0	0	165	165	0	0	166	166
Through Vol	0	83	0	0	139	0	0	0
RT Vol	171	0	0	0	0	63	0	0
Lane Flow Rate	300	146	289	289	244	111	291	291
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.831	0.354	0.703	0.703	0.423	0.289	0.719	0.719
Departure Headway (Hd)	9.977	8.757	8.774	8.774	6.25	9.408	8.889	8.889
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	363	409	413	413	576	381	408	408
Service Time	7.751	6.531	6.534	6.534	4.008	7.17	6.652	6.652
HCM Lane V/C Ratio	0.826	0.357	0.7	0.7	0.424	0.291	0.713	0.713
HCM Control Delay	46.9	16.3	29.9	29.9	13.6	16	31.5	31.5
HCM Lane LOS	E	C	D	D	B	C	D	D
HCM 95th-tile Q	7.4	1.6	5.3	5.3	2.1	1.2	5.5	5.5

Notes

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Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	19	88	15	14	116	54	33	36	11	94	28	8
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	32	13	2	2	10	2	2	2	2	2	2	2
Mvmt Flow	23	109	19	17	143	67	41	44	14	116	35	10
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.7	10.3	9.1	9.8
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	41%	100%	0%	100%	0%	72%
Vol Thru, %	45%	0%	85%	0%	68%	22%
Vol Right, %	14%	0%	15%	0%	32%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	19	103	14	170	130
LT Vol	36	0	88	0	116	28
Through Vol	11	0	15	0	54	8
RT Vol	33	19	0	14	0	94
Lane Flow Rate	99	23	127	17	210	160
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.141	0.042	0.195	0.028	0.308	0.23
Departure Headway (Hd)	5.142	6.462	5.529	5.873	5.282	5.155
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	551	645	606	676	692
Service Time	3.219	4.241	3.306	3.645	3.053	3.224
HCM Lane V/C Ratio	0.143	0.042	0.197	0.028	0.311	0.231
HCM Control Delay	9.1	9.5	9.7	8.8	10.4	9.8
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.5	0.1	0.7	0.1	1.3	0.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	162	73	99	36	63	162
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	180	81	110	40	70	180
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.3	9.7	8.9
HCM LOS	B	A	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	99	36	162	73	63	162
LT Vol	0	36	0	0	63	0
Through Vol	0	0	0	73	0	162
RT Vol	99	0	162	0	0	0
Lane Flow Rate	110	40	180	81	70	180
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.184	0.061	0.3	0.108	0.106	0.237
Departure Headway (Hd)	6.013	5.509	6	4.794	5.439	4.733
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	594	646	596	741	656	754
Service Time	3.779	3.274	3.768	2.562	3.195	2.489
HCM Lane V/C Ratio	0.185	0.062	0.302	0.109	0.107	0.239
HCM Control Delay	10.1	8.6	11.3	8.1	8.8	9
HCM Lane LOS	B	A	B	A	A	A
HCM 95th-tile Q	0.7	0.2	1.3	0.4	0.4	0.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	61	187	145	54	184	22	162	27	40	36	34	86
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, %	44	33	19	8	28	32	19	19	8	6	6	19
Mvmt Flow	68	208	161	60	204	24	180	30	44	40	38	96
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	13.9	23	18.1	15.6
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	86%	0%	100%	0%	0%	21%	23%
Vol Thru, %	14%	0%	0%	100%	0%	71%	22%
Vol Right, %	0%	100%	0%	0%	100%	8%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	40	61	187	145	260	156
LT Vol	27	0	0	187	0	184	34
Through Vol	0	40	0	0	145	22	86
RT Vol	162	0	61	0	0	54	36
Lane Flow Rate	210	44	68	208	161	289	173
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.499	0.091	0.154	0.432	0.292	0.628	0.382
Departure Headway (Hd)	8.554	7.399	8.196	7.493	6.534	7.822	7.94
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	420	483	437	480	548	462	452
Service Time	6.322	5.166	5.956	5.253	4.293	5.585	5.712
HCM Lane V/C Ratio	0.5	0.091	0.156	0.433	0.294	0.626	0.383
HCM Control Delay	19.6	10.9	12.5	15.9	12	23	15.6
HCM Lane LOS	C	B	B	C	B	C	C
HCM 95th-tile Q	2.7	0.3	0.5	2.1	1.2	4.2	1.8

Notes

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Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	37	19	118	60	14	79
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	23	142	72	17	95
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	7.3	8.1
HCM LOS	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	79	19	19	19	128	30	30
LT Vol	0	0	19	19	0	0	30	30
Through Vol	0	79	0	0	19	0	0	0
RT Vol	14	0	0	0	0	128	0	0
Lane Flow Rate	17	95	22	22	23	154	36	36
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.027	0.122	0.033	0.033	0.018	0.234	0.05	0.05
Departure Headway (Hd)	5.794	4.597	5.313	5.313	2.869	5.46	4.958	4.958
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	619	780	674	674	1244	659	723	723
Service Time	3.515	2.319	3.04	3.04	0.595	3.184	2.683	2.683
HCM Lane V/C Ratio	0.027	0.122	0.033	0.033	0.018	0.234	0.05	0.05
HCM Control Delay	8.7	8	8.2	8.2	5.6	9.9	7.9	7.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.1	0.1	0.1	0.9	0.2	0.2

Notes

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Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	30	216	34	42	147	139	15	20	25	128	33	17
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	7	6	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	38	273	43	53	186	176	19	25	32	162	42	22
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15	15.1	10.4	13.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	25%	100%	0%	100%	0%	72%
Vol Thru, %	33%	0%	86%	0%	51%	19%
Vol Right, %	42%	0%	14%	0%	49%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	30	250	42	286	178
LT Vol	20	0	216	0	147	33
Through Vol	25	0	34	0	139	17
RT Vol	15	30	0	42	0	128
Lane Flow Rate	76	38	316	53	362	225
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.134	0.07	0.533	0.097	0.573	0.389
Departure Headway (Hd)	6.347	6.681	6.058	6.538	5.701	6.223
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	561	535	592	547	630	575
Service Time	4.437	4.441	3.819	4.296	3.459	4.294
HCM Lane V/C Ratio	0.135	0.071	0.534	0.097	0.575	0.391
HCM Control Delay	10.4	9.9	15.6	10	15.9	13.2
HCM Lane LOS	B	A	C	A	C	B
HCM 95th-tile Q	0.5	0.2	3.1	0.3	3.6	1.8

Notes

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Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

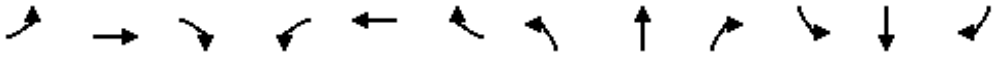
Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	10	37	7	103	47	8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	44	8	121	55	9
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	7.4	8.3	7.7
HCM LOS	A	A	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	103	10	37	47	8
LT Vol	0	103	0	0	47	0
Through Vol	0	0	0	37	0	8
RT Vol	7	0	10	0	0	0
Lane Flow Rate	8	121	12	44	55	9
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.012	0.157	0.018	0.052	0.072	0.01
Departure Headway (Hd)	5.163	4.662	5.502	4.3	4.695	3.994
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	765	654	838	756	885
Service Time	2.919	2.418	3.202	2	2.469	1.767
HCM Lane V/C Ratio	0.012	0.158	0.018	0.053	0.073	0.01
HCM Control Delay	8	8.3	8.3	7.2	7.8	6.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.6	0.1	0.2	0.2	0

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	315	157	281	261	0	0	0	0	317	0	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.95		1.00	1.00					1.00	0.94	
Flt Protected		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (prot)		3407		1656	1881					1618	1586	
Flt Permitted		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (perm)		3407		1656	1881					1618	1586	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	350	174	312	290	0	0	0	0	352	0	81
RTOR Reduction (vph)	0	73	0	0	0	0	0	0	0	0	35	0
Lane Group Flow (vph)	0	451	0	312	290	0	0	0	0	222	176	0
Heavy Vehicles (%)	2%	1%	0%	9%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		17.1		22.4	43.5					38.5	38.5	
Effective Green, g (s)		17.1		22.4	43.5					38.5	38.5	
Actuated g/C Ratio		0.19		0.25	0.48					0.43	0.43	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		647		412	909					692	678	
v/s Ratio Prot		c0.13		c0.19	0.15					c0.14	0.11	
v/s Ratio Perm												
v/c Ratio		0.70		0.76	0.32					0.32	0.26	
Uniform Delay, d1		34.0		31.3	14.2					17.1	16.6	
Progression Factor		1.00		1.70	1.26					1.00	1.00	
Incremental Delay, d2		3.3		7.3	0.2					1.2	0.9	
Delay (s)		37.3		60.7	18.1					18.3	17.5	
Level of Service		D		E	B					B	B	
Approach Delay (s)		37.3			40.2			0.0			17.9	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	317	108	11	332	14	57	26	12	13	34	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.96			0.99		1.00	0.95		1.00	0.94	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3403			3513		1770	1777		1681	1670	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3403			3513		1770	1777		1681	1669	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	18	323	110	11	339	14	58	27	12	13	35	21
RTOR Reduction (vph)	0	47	0	0	4	0	0	8	0	0	14	0
Lane Group Flow (vph)	0	404	0	0	360	0	58	31	0	12	43	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		12.0			11.4		3.2	21.4		0.7	19.6	
Effective Green, g (s)		12.0			11.4		3.2	21.4		0.7	19.6	
Actuated g/C Ratio		0.20			0.19		0.05	0.35		0.01	0.32	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		664			651		92	618		19	531	
v/s Ratio Prot		c0.12			c0.10		c0.03	0.02		0.01	0.00	
v/s Ratio Perm											c0.02	
v/c Ratio		0.61			0.55		0.63	0.05		0.63	0.08	
Uniform Delay, d1		22.6			22.7		28.6	13.3		30.3	14.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			1.0		13.2	0.2		52.7	0.1	
Delay (s)		24.2			23.8		41.8	13.5		83.0	14.7	
Level of Service		C			C		D	B		F	B	
Approach Delay (s)		24.2			23.8			30.4			26.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	51	170	349	116	54	482	71	220	100	47	80	82
Number		7	4	14	3	8	18	5	2	12	1	6
Initial Q (Qb), veh		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	
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
Adj Sat Flow veh/h/ln		183.5	182.7	190.0	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7
Lanes		1	2	0	1	1	1	1	2	0	1	2
Cap, veh/h		236	1166	383	82	648	550	296	690	308	120	341
Arrive On Green		0.14	0.44	0.44	0.05	0.35	0.35	0.17	0.29	0.29	0.07	0.19
Sat Flow, veh/h		1748	2634	867	1740	1827	1553	1740	2397	1068	1740	1827
Grp Volume(v), veh/h		202	286	267	64	574	85	262	89	86	95	98
Grp Sat Flow(s),veh/h/ln		1748	1827	1674	1740	1827	1553	1740	1827	1638	1740	1827
Q Serve(g_s), s		11.8	10.8	11.0	3.8	30.8	3.9	15.3	3.8	4.1	5.6	4.8
Cycle Q Clear(g_c), s		11.8	10.8	11.0	3.8	30.8	3.9	15.3	3.8	4.1	5.6	4.8
Prop In Lane		1.00		0.52	1.00		1.00	1.00		0.65	1.00	
Lane Grp Cap(c), veh/h		236	808	741	82	648	550	296	526	472	120	341
V/C Ratio(X)		0.86	0.35	0.36	0.78	0.89	0.15	0.89	0.17	0.18	0.79	0.29
Avail Cap(c_a), veh/h		403	1069	980	167	824	700	401	526	472	217	341
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
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
Uniform Delay (d), s/veh		44.1	19.2	19.3	49.1	31.7	23.0	42.3	27.8	27.9	47.8	36.4
Incr Delay (d2), s/veh		8.7	0.3	0.3	14.7	9.6	0.1	16.4	0.7	0.8	11.0	2.1
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
%ile Back of Q (50%), veh/ln		5.8	4.9	4.6	2.0	15.8	1.5	8.2	1.9	1.8	2.9	2.4
Lane Grp Delay (d), s/veh		52.8	19.5	19.6	63.8	41.2	23.1	58.7	28.5	28.7	58.8	38.5
Lane Grp LOS		D	B	B	E	D	C	E	C	C	E	D
Approach Vol, veh/h			755			723			437			366
Approach Delay, s/veh			28.4			41.1			46.6			48.0
Approach LOS			C			D			D			D
Timer												
Assigned Phs		7	4		3	8		5	2		1	6
Phs Duration (G+Y+Rc), s		18.1	50.1		8.9	40.9		21.7	34.0		11.2	23.5
Change Period (Y+Rc), s		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s		24.0	61.0		10.0	47.0		24.0	30.0		13.0	19.0
Max Q Clear Time (g_c+I1), s		13.8	13.0		5.8	32.8		17.3	6.1		7.6	12.6
Green Ext Time (p_c), s		0.3	5.1		0.0	4.1		0.4	1.6		0.1	0.9
Intersection Summary												
HCM 2010 Ctrl Delay			39.1									
HCM 2010 LOS			D									
Notes												

Movement	SBR
Lane Configurations	
Volume (veh/h)	145
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	190.0
Lanes	0
Cap, veh/h	290
Arrive On Green	0.19
Sat Flow, veh/h	1553
Grp Volume(v), veh/h	173
Grp Sat Flow(s),veh/h/ln	1553
Q Serve(g_s), s	10.6
Cycle Q Clear(g_c), s	10.6
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	290
V/C Ratio(X)	0.60
Avail Cap(c_a), veh/h	290
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	38.8
Incr Delay (d2), s/veh	8.7
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	4.9
Lane Grp Delay (d), s/veh	47.5
Lane Grp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

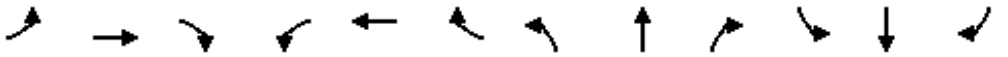
Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	126	229	45	10	192	84	41	49	104	185	40	96
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	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	
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1		2	1	1	1	3	1	1	3
Cap, veh/h	206	503	214		367	233	198	78	2539	719	68	2507
Arrive On Green	0.12	0.14	0.14		0.11	0.13	0.13	0.04	0.45	0.45	0.04	0.45
Sat Flow, veh/h	1774	3725	1583		3442	1863	1583	1774	5588	1583	1774	5588
Grp Volume(v), veh/h	159	290	57		243	106	52	62	132	234	51	122
Grp Sat Flow(s),veh/h/ln	1774	1863	1583		1721	1863	1583	1774	1863	1583	1774	1863
Q Serve(g_s), s	5.2	4.4	1.9		4.1	3.2	1.8	2.1	0.8	5.7	1.7	0.7
Cycle Q Clear(g_c), s	5.2	4.4	1.9		4.1	3.2	1.8	2.1	0.8	5.7	1.7	0.7
Prop In Lane	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	206	503	214		367	233	198	78	2539	719	68	2507
V/C Ratio(X)	0.77	0.58	0.27		0.66	0.45	0.26	0.80	0.05	0.33	0.75	0.05
Avail Cap(c_a), veh/h	619	1671	710		801	619	526	177	2539	719	236	2507
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
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
Uniform Delay (d), s/veh	25.8	24.4	23.4		25.8	24.4	23.8	28.5	9.2	10.5	28.7	9.4
Incr Delay (d2), s/veh	6.0	1.0	0.7		2.0	1.4	0.7	16.5	0.0	1.2	15.5	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
%ile Back of Q (50%), veh/ln	2.6	2.0	0.8		1.8	1.5	0.7	1.2	0.3	2.2	1.0	0.3
Lane Grp Delay (d), s/veh	31.8	25.5	24.0		27.9	25.8	24.5	45.0	9.2	11.7	44.1	9.4
Lane Grp LOS	C	C	C		C	C	C	D	A	B	D	A
Approach Vol, veh/h		506				401			428			273
Approach Delay, s/veh		27.3				26.9			15.8			16.2
Approach LOS		C				C			B			B
Timer												
Assigned Phs	7	4			3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	11.0	12.1			10.4	11.5		6.6	31.3		6.3	31.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	21.0	27.0			14.0	20.0		6.0	25.0		8.0	27.0
Max Q Clear Time (g_c+I1), s	7.2	6.4			6.1	5.2		4.1	7.7		3.7	4.2
Green Ext Time (p_c), s	0.3	1.7			0.4	1.6		0.0	1.8		0.0	1.9
Intersection Summary												
HCM 2010 Ctrl Delay			22.2									
HCM 2010 LOS			C									
Notes												

Movement	SBR
Lane Configurations	
Volume (veh/h)	79
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	710
Arrive On Green	0.45
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	100
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	2.2
Cycle Q Clear(g_c), s	2.2
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	710
V/C Ratio(X)	0.14
Avail Cap(c_a), veh/h	710
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	9.8
Incr Delay (d2), s/veh	0.4
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	0.8
Lane Grp Delay (d), s/veh	10.2
Lane Grp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

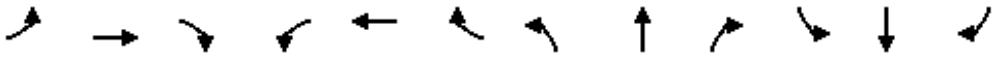


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	348	50	294	394	0	0	0	0	222	0	29
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	187.9	190.0	182.7	188.1	0.0				190.0	180.4	190.0
Lanes	0	3	0	1	1	0				0	1	0
Cap, veh/h	0	791	111	486	982	0				477	0	63
Arrive On Green	0.00	0.16	0.16	0.28	0.52	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	4841	677	1740	1881	0				1498	0	197
Grp Volume(v), veh/h	0	368	177	403	540	0				344	0	0
Grp Sat Flow(s),veh/h/ln	0	1879	1759	1740	1881	0				1695	0	0
Q Serve(g_s), s	0.0	4.6	4.7	10.9	9.7	0.0				8.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.6	4.7	10.9	9.7	0.0				8.7	0.0	0.0
Prop In Lane	0.00		0.38	1.00		0.00				0.88		0.12
Lane Grp Cap(c), veh/h	0	614	287	486	982	0				540	0	0
V/C Ratio(X)	0.00	0.60	0.62	0.83	0.55	0.00				0.64	0.00	0.00
Avail Cap(c_a), veh/h	0	1197	561	554	1349	0				540	0	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)	0.00	1.00	1.00	0.43	0.43	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.5	19.5	17.0	8.0	0.0				14.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	2.1	4.2	0.2	0.0				5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	2.1	2.1	4.9	3.5	0.0				4.2	0.0	0.0
Lane Grp Delay (d), s/veh	0.0	20.4	21.7	21.2	8.3	0.0				20.3	0.0	0.0
Lane Grp LOS		C	C	C	A					C		
Approach Vol, veh/h		545			943						344	
Approach Delay, s/veh		20.8			13.8						20.3	
Approach LOS		C			B						C	

Timer												
Assigned Phs		4		3	8						6	
Phs Duration (G+Y+Rc), s		12.2		18.0	30.2						20.0	
Change Period (Y+Rc), s		4.0		4.0	4.0						4.0	
Max Green Setting (Gmax), s		16.0		16.0	36.0						16.0	
Max Q Clear Time (g_c+I1), s		6.7		12.9	11.7						10.7	
Green Ext Time (p_c), s		1.5		1.2	3.3						0.6	

Intersection Summary		
HCM 2010 Ctrl Delay		17.1
HCM 2010 LOS		B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	37	533	0	0	653	347	35	0	224	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow veh/h/ln	190.0	184.5	0.0	0.0	183.2	190.0	190.0	184.5	177.6			
Lanes	1	2	0	0	2	0	0	1	1			
Cap, veh/h	66	2025	0	0	995	525	539	0	463			
Arrive On Green	0.04	0.55	0.00	0.00	0.44	0.44	0.31	0.00	0.31			
Sat Flow, veh/h	1810	3689	0	0	2261	1193	1757	0	1509			
Grp Volume(v), veh/h	46	666	0	0	660	590	44	0	280			
Grp Sat Flow(s),veh/h/ln	1810	1845	0	0	1832	1622	1757	0	1509			
Q Serve(g_s), s	1.4	5.5	0.0	0.0	17.5	17.7	1.0	0.0	8.8			
Cycle Q Clear(g_c), s	1.4	5.5	0.0	0.0	17.5	17.7	1.0	0.0	8.8			
Prop In Lane	1.00		0.00	0.00		0.74	1.00		1.00			
Lane Grp Cap(c), veh/h	66	2025	0	0	806	714	539	0	463			
V/C Ratio(X)	0.69	0.33	0.00	0.00	0.82	0.83	0.08	0.00	0.60			
Avail Cap(c_a), veh/h	131	2330	0	0	893	790	539	0	463			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.4	6.9	0.0	0.0	13.6	13.7	13.7	0.0	16.3			
Incr Delay (d2), s/veh	10.1	0.1	0.0	0.0	5.6	6.7	0.3	0.0	5.8			
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 Back of Q (50%), veh/ln	0.8	2.0	0.0	0.0	8.4	7.7	0.4	0.0	3.8			
Lane Grp Delay (d), s/veh	36.5	7.0	0.0	0.0	19.2	20.3	14.0	0.0	22.1			
Lane Grp LOS	D	A			B	C	B		C			
Approach Vol, veh/h		712			1250			324				
Approach Delay, s/veh		8.9			19.7			21.0				
Approach LOS		A			B			C				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	6.0	34.4			28.4			21.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	4.0	35.0			27.0			17.0	
Max Q Clear Time (g_c+I1), s	3.4	7.5			19.7			10.8	
Green Ext Time (p_c), s	0.0	9.9			4.7			0.6	

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

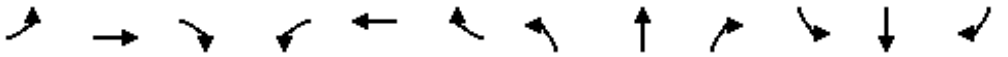
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	277	50	5	398	54	78	23	17	100	33	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	45	439	373	11	696	94	112	340	249	144	667	567
Arrive On Green	0.03	0.24	0.24	0.01	0.22	0.22	0.06	0.34	0.34	0.08	0.36	0.36
Sat Flow, veh/h	1774	1863	1583	1774	3213	436	1774	1002	732	1774	1863	1583
Grp Volume(v), veh/h	27	311	56	6	258	250	88	0	45	112	37	83
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1786	1774	0	1734	1774	1863	1583
Q Serve(g_s), s	0.7	7.3	1.3	0.2	6.0	6.0	2.3	0.0	0.8	2.9	0.6	1.7
Cycle Q Clear(g_c), s	0.7	7.3	1.3	0.2	6.0	6.0	2.3	0.0	0.8	2.9	0.6	1.7
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	45	439	373	11	404	387	112	0	589	144	667	567
V/C Ratio(X)	0.60	0.71	0.15	0.53	0.64	0.65	0.79	0.00	0.08	0.78	0.06	0.15
Avail Cap(c_a), veh/h	149	628	534	149	628	602	262	0	589	299	667	567
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	16.7	14.4	23.5	16.9	16.9	21.9	0.0	10.6	21.4	10.0	10.3
Incr Delay (d2), s/veh	12.3	2.1	0.2	33.1	1.7	1.8	11.5	0.0	0.3	8.7	0.2	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 Back of Q (50%), veh/ln	0.4	3.4	0.5	0.2	2.7	2.7	1.3	0.0	0.4	1.6	0.3	0.7
Lane Grp Delay (d), s/veh	35.2	18.8	14.6	56.6	18.6	18.7	33.4	0.0	10.9	30.1	10.1	10.9
Lane Grp LOS	D	B	B	E	B	B	C		B	C	B	B
Approach Vol, veh/h		394			514			133			232	
Approach Delay, s/veh		19.3			19.1			25.8			20.0	
Approach LOS		B			B			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	5.2	15.2		4.3	14.3		7.0	20.1		7.9	21.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	4.0	16.0		4.0	16.0		7.0	16.0		8.0	17.0	
Max Q Clear Time (g_c+I1), s	2.7	9.3		2.2	8.0		4.3	2.8		4.9	3.7	
Green Ext Time (p_c), s	0.0	1.9		0.0	2.1		0.0	0.4		0.1	0.4	

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Notes

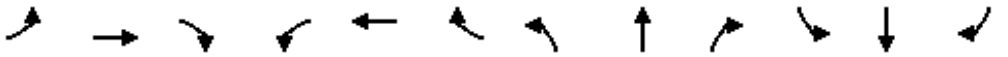


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	129	503	0	0	463	290	79	0	227	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	188.1	181.0	0.0	0.0	181.0	182.7	190.0	186.3	179.2			
Lanes	1	2	0	0	2	1	0	1	1			
Cap, veh/h	182	1442	0	0	840	360	836	0	718			
Arrive On Green	0.20	0.80	0.00	0.00	0.23	0.00	0.47	0.00	0.47			
Sat Flow, veh/h	1792	3619	0	0	3619	1553	1774	0	1524			
Grp Volume(v), veh/h	142	553	0	0	509	0	87	0	249			
Grp Sat Flow(s),veh/h/ln	1792	1810	0	0	1810	1553	1774	0	1524			
Q Serve(g_s), s	4.6	2.7	0.0	0.0	7.7	0.0	1.7	0.0	6.4			
Cycle Q Clear(g_c), s	4.6	2.7	0.0	0.0	7.7	0.0	1.7	0.0	6.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	182	1442	0	0	840	360	836	0	718			
V/C Ratio(X)	0.78	0.38	0.00	0.00	0.61	0.00	0.10	0.00	0.35			
Avail Cap(c_a), veh/h	524	3118	0	0	1824	783	836	0	718			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.9	4.0	0.0	0.0	21.1	0.0	9.0	0.0	10.3			
Incr Delay (d2), s/veh	5.5	0.1	0.0	0.0	0.7	0.0	0.2	0.0	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			
%ile Back of Q (50%), veh/ln	2.1	0.8	0.0	0.0	3.4	0.0	0.7	0.0	2.4			
Lane Grp Delay (d), s/veh	29.4	4.2	0.0	0.0	21.8	0.0	9.3	0.0	11.6			
Lane Grp LOS	C	A			C		A		B			
Approach Vol, veh/h		695			509			336				
Approach Delay, s/veh		9.3			21.8			11.0				
Approach LOS		A			C			B				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	10.2	28.5			18.3			33.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	13.0	53.0			31.0			29.0	
Max Q Clear Time (g_c+I1), s	16.6	4.7			9.7			8.4	
Green Ext Time (p_c), s	0.2	5.0			4.5			1.0	

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Notes

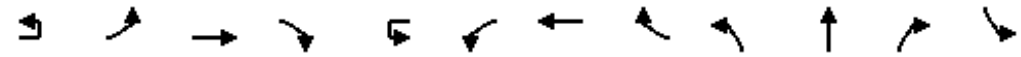


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	67	342	16	5	330	58	14	7	8	90	8	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	1	0	1	1
Cap, veh/h	93	866	41	10	615	106	736	888	755	781	60	755
Arrive On Green	0.05	0.25	0.25	0.01	0.20	0.20	0.48	0.48	0.00	0.48	0.48	0.48
Sat Flow, veh/h	1774	3528	168	1774	3097	534	1307	1863	1583	1308	126	1583
Grp Volume(v), veh/h	70	187	186	5	205	199	15	7	0	102	0	77
Grp Sat Flow(s),veh/h/ln	1774	1863	1833	1774	1863	1768	1307	1863	1583	1434	0	1583
Q Serve(g_s), s	1.7	3.7	3.7	0.1	4.4	4.5	0.3	0.1	0.0	1.5	0.0	1.2
Cycle Q Clear(g_c), s	1.7	3.7	3.7	0.1	4.4	4.5	2.0	0.1	0.0	1.7	0.0	1.2
Prop In Lane	1.00		0.09	1.00		0.30	1.00		1.00	0.92		1.00
Lane Grp Cap(c), veh/h	93	457	450	10	370	351	736	888	755	841	0	755
V/C Ratio(X)	0.76	0.41	0.41	0.52	0.56	0.57	0.02	0.01	0.00	0.12	0.00	0.10
Avail Cap(c_a), veh/h	322	930	916	201	804	763	736	888	755	841	0	755
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	0.00	1.00
Uniform Delay (d), s/veh	20.6	13.9	14.0	21.8	15.9	15.9	7.0	6.1	0.0	6.5	0.0	6.3
Incr Delay (d2), s/veh	11.7	0.6	0.6	37.9	1.3	1.4	0.1	0.0	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 Back of Q (50%), veh/ln	1.0	1.6	1.6	0.2	2.0	1.9	0.1	0.0	0.0	0.6	0.0	0.4
Lane Grp Delay (d), s/veh	32.3	14.5	14.6	59.8	17.2	17.4	7.1	6.1	0.0	6.8	0.0	6.6
Lane Grp LOS	C	B	B	E	B	B	A	A		A		A
Approach Vol, veh/h		443			409			22			179	
Approach Delay, s/veh		17.4			17.8			6.8			6.7	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	6.3	14.8		4.2	12.7			25.0			25.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	3.0	22.0		5.0	19.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s	3.7	5.7		2.1	6.5			4.0			3.7	
Green Ext Time (p_c), s	0.0	2.5		0.0	2.3			0.5			0.5	

Intersection Summary	
HCM 2010 Ctrl Delay	15.5
HCM 2010 LOS	B

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (veh/h)	80	52	388	194	17	75	458	35	112	22	21	41
Number		7	4	14		3	8	18	5	2	12	1
Initial Q (Qb), veh		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
Parking Bus Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		182.7	182.7	182.7		182.7	182.7	190.0	182.7	182.7	190.0	182.7
Lanes		1	2	1		1	2	0	2	1	0	1
Cap, veh/h		76	858	365		102	838	63	1518	387	370	782
Arrive On Green		0.04	0.23	0.00		0.06	0.25	0.25	0.45	0.45	0.45	0.45
Sat Flow, veh/h		1740	3654	1553		1740	3355	254	3375	860	822	1740
Grp Volume(v), veh/h		55	413	0		80	265	259	119	0	45	44
Grp Sat Flow(s),veh/h/ln		1740	1827	1553		1740	1827	1782	1688	0	1682	1740
Q Serve(g_s), s		1.5	4.6	0.0		2.1	5.9	6.0	0.9	0.0	0.7	0.7
Cycle Q Clear(g_c), s		1.5	4.6	0.0		2.1	5.9	6.0	0.9	0.0	0.7	0.7
Prop In Lane		1.00		1.00		1.00		0.14	1.00		0.49	1.00
Lane Grp Cap(c), veh/h		76	858	365		102	456	445	1518	0	756	782
V/C Ratio(X)		0.72	0.48	0.00		0.79	0.58	0.58	0.08	0.00	0.06	0.06
Avail Cap(c_a), veh/h		820	3208	1363		596	1369	1336	1518	0	756	782
HCM Platoon Ratio		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	0.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		22.1	15.4	0.0		21.7	15.4	15.4	7.3	0.0	7.3	7.3
Incr Delay (d2), s/veh		12.2	0.4	0.0		12.5	1.2	1.2	0.1	0.0	0.2	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
%ile Back of Q (50%), veh/ln		0.8	1.9	0.0		1.2	2.6	2.5	0.3	0.0	0.3	0.2
Lane Grp Delay (d), s/veh		34.2	15.8	0.0		34.2	16.5	16.6	7.4	0.0	7.4	7.3
Lane Grp LOS		C	B			C	B	B	A		A	A
Approach Vol, veh/h			468				604			164		
Approach Delay, s/veh			18.0				18.9			7.4		
Approach LOS			B				B			A		

Timer												
Assigned Phs		7	4			3	8			2		
Phs Duration (G+Y+Rc), s		6.0	15.0			6.7	15.7			25.0		
Change Period (Y+Rc), s		4.0	4.0			4.0	4.0			4.0		
Max Green Setting (Gmax), s		22.0	41.0			16.0	35.0			21.0		
Max Q Clear Time (g_c+I1), s		3.5	6.6			4.1	8.0			2.9		
Green Ext Time (p_c), s		0.1	3.8			0.1	3.7			1.1		

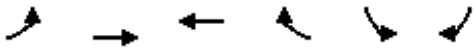
Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	53	99
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus Adj	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	190.0
Lanes	2	0
Cap, veh/h	822	698
Arrive On Green	0.45	0.45
Sat Flow, veh/h	1827	1553
Grp Volume(v), veh/h	56	105
Grp Sat Flow(s),veh/h/ln	1827	1553
Q Serve(g_s), s	0.8	1.9
Cycle Q Clear(g_c), s	0.8	1.9
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	822	698
V/C Ratio(X)	0.07	0.15
Avail Cap(c_a), veh/h	822	698
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	7.3	7.6
Incr Delay (d2), s/veh	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0
%ile Back of Q (50%), veh/ln	0.3	0.6
Lane Grp Delay (d), s/veh	7.3	7.7
Lane Grp LOS	A	A
Approach Vol, veh/h	205	
Approach Delay, s/veh	7.5	
Approach LOS	A	

Timer	
Assigned Phs	6
Phs Duration (G+Y+Rc), s	25.0
Change Period (Y+Rc), s	4.0
Max Green Setting (Gmax), s	16.0
Max Q Clear Time (g_c+I1), s	3.9
Green Ext Time (p_c), s	1.0

Intersection Summary

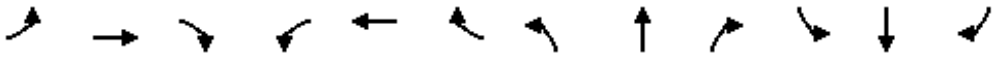


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	79	97	111	46	25	42
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	162.4	172.7	168.8	190.0	158.3	142.9
Lanes	1	2	2	0	1	1
Cap, veh/h	104	1009	276	109	751	605
Arrive On Green	0.07	0.29	0.12	0.12	0.50	0.50
Sat Flow, veh/h	1547	3455	2305	911	1508	1214
Grp Volume(v), veh/h	88	108	88	86	28	47
Grp Sat Flow(s),veh/h/ln	1547	1727	1688	1528	1508	1214
Q Serve(g_s), s	2.1	0.9	1.9	2.0	0.4	0.8
Cycle Q Clear(g_c), s	2.1	0.9	1.9	2.0	0.4	0.8
Prop In Lane	1.00			0.60	1.00	1.00
Lane Grp Cap(c), veh/h	104	1009	202	183	751	605
V/C Ratio(X)	0.84	0.11	0.44	0.47	0.04	0.08
Avail Cap(c_a), veh/h	487	2989	753	681	751	605
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	9.9	15.6	15.7	4.9	5.0
Incr Delay (d2), s/veh	16.3	0.0	1.5	1.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.2	0.3	0.8	0.8	0.1	0.0
Lane Grp Delay (d), s/veh	33.9	9.9	17.1	17.5	5.0	5.2
Lane Grp LOS	C	A	B	B	A	A
Approach Vol, veh/h		196	174		75	
Approach Delay, s/veh		20.7	17.3		5.1	
Approach LOS		C	B		A	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	6.6	15.1	8.6			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	12.6	33.0	17.0			
Max Q Clear Time (g_c+I1), s	4.1	2.9	4.0			
Green Ext Time (p_c), s	0.1	1.0	0.8			

Intersection Summary	
HCM 2010 Ctrl Delay	16.7
HCM 2010 LOS	B

Notes

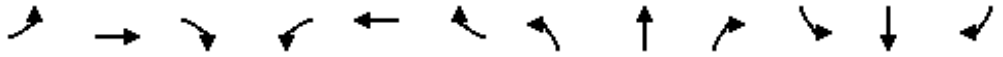


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	141	13	0	0	11	101	1	106	0	18	110	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	3	0	1	3	1
Cap, veh/h	315	331	281	315	331	281	5	2618	0	45	2753	780
Arrive On Green	0.18	0.18	0.00	0.00	0.18	0.18	0.00	0.47	0.00	0.03	0.49	0.49
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5588	0	1774	5588	1583
Grp Volume(v), veh/h	201	19	0	0	16	144	1	151	0	26	157	129
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	3.8	0.3	0.0	0.0	0.3	3.0	0.0	0.5	0.0	0.5	0.5	1.6
Cycle Q Clear(g_c), s	3.8	0.3	0.0	0.0	0.3	3.0	0.0	0.5	0.0	0.5	0.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	331	281	315	331	281	5	2618	0	45	2753	780
V/C Ratio(X)	0.64	0.06	0.00	0.00	0.05	0.51	0.21	0.06	0.00	0.58	0.06	0.17
Avail Cap(c_a), veh/h	777	816	693	777	816	693	194	2618	0	243	2753	780
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	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	12.5	0.0	0.0	12.5	13.6	18.2	5.3	0.0	17.6	4.8	5.1
Incr Delay (d2), s/veh	2.1	0.1	0.0	0.0	0.1	1.4	19.7	0.0	0.0	11.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.7	0.1	0.0	0.0	0.1	1.1	0.0	0.2	0.0	0.3	0.2	0.5
Lane Grp Delay (d), s/veh	16.1	12.5	0.0	0.0	12.5	15.0	37.9	5.3	0.0	28.7	4.9	5.6
Lane Grp LOS	B	B			B	B	D	A		C	A	A
Approach Vol, veh/h		220			160			152			312	
Approach Delay, s/veh		15.8			14.8			5.6			7.2	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		10.5			10.5		4.0	21.1		4.9	22.0	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0			16.0		4.0	17.0		5.0	18.0	
Max Q Clear Time (g_c+I1), s		5.8			5.0		2.0	2.5		2.5	3.6	
Green Ext Time (p_c), s		0.8			0.8		0.0	1.3		0.0	1.3	

Intersection Summary		
HCM 2010 Ctrl Delay		10.6
HCM 2010 LOS		B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	342	81	224	593	0	0	0	0	368	0	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.97		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (prot)		3451		1736	1881					1618	1575	
Flt Permitted		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (perm)		3451		1736	1881					1618	1575	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.90	0.84	0.84	0.84
Adj. Flow (vph)	0	407	96	267	706	0	0	0	0	438	0	136
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	33	0
Lane Group Flow (vph)	0	478	0	267	706	0	0	0	0	293	248	0
Heavy Vehicles (%)	2%	2%	0%	4%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		17.7		18.9	40.6					41.4	41.4	
Effective Green, g (s)		17.7		18.9	40.6					41.4	41.4	
Actuated g/C Ratio		0.20		0.21	0.45					0.46	0.46	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		678		364	848					744	724	
v/s Ratio Prot		0.14		0.15	c0.38					c0.18	0.16	
v/s Ratio Perm												
v/c Ratio		0.71		0.73	0.83					0.39	0.34	
Uniform Delay, d1		33.7		33.2	21.7					16.0	15.6	
Progression Factor		1.00		1.25	1.72					1.00	1.00	
Incremental Delay, d2		3.3		7.0	6.6					1.6	1.3	
Delay (s)		37.1		48.6	44.0					17.6	16.9	
Level of Service		D		D	D					B	B	
Approach Delay (s)		37.1			45.2			0.0			17.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	470	97	10	384	17	143	56	33	30	50	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.98			0.99		1.00	0.94		1.00	0.95	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3444			3513		1770	1760		1681	1672	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3444			3513		1770	1760		1681	1668	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	516	107	11	422	19	157	62	36	33	55	32
RTOR Reduction (vph)	0	23	0	0	5	0	0	24	0	0	22	0
Lane Group Flow (vph)	0	633	0	0	447	0	157	74	0	30	68	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		15.2			13.3		6.0	22.6		1.9	20.4	
Effective Green, g (s)		15.2			13.3		6.0	22.6		1.9	20.4	
Actuated g/C Ratio		0.22			0.19		0.09	0.33		0.03	0.30	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		758			677		153	576		46	493	
v/s Ratio Prot		c0.18			c0.13		c0.09	c0.04		0.02	0.00	
v/s Ratio Perm											0.04	
v/c Ratio		0.83			0.66		1.03	0.13		0.65	0.14	
Uniform Delay, d1		25.7			25.8		31.5	16.3		33.2	17.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		7.9			2.4		79.8	0.5		28.5	0.1	
Delay (s)		33.6			28.2		111.3	16.7		61.8	18.0	
Level of Service		C			C		F	B		E	B	
Approach Delay (s)		33.6			28.2			75.0			28.9	
Approach LOS		C			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	46	161	538	182	88	261	63	197	154	113	120	131
Number		7	4	14	3	8	18	5	2	12	1	6
Initial Q (Qb), veh		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	
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
Adj Sat Flow veh/h/ln		186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3
Lanes		1	2	0	1	1	1	1	2	0	1	2
Cap, veh/h		206	712	240	116	402	342	245	771	528	156	799
Arrive On Green		0.12	0.27	0.27	0.07	0.22	0.22	0.14	0.37	0.37	0.09	0.32
Sat Flow, veh/h		1774	2667	900	1774	1863	1583	1774	2063	1413	1774	2470
Grp Volume(v), veh/h		163	379	348	89	264	64	199	140	130	121	98
Grp Sat Flow(s),veh/h/ln		1774	1863	1704	1774	1863	1583	1774	1863	1613	1774	1863
Q Serve(g_s), s		6.9	14.5	14.6	3.8	10.0	2.6	8.4	3.9	4.3	5.2	2.9
Cycle Q Clear(g_c), s		6.9	14.5	14.6	3.8	10.0	2.6	8.4	3.9	4.3	5.2	2.9
Prop In Lane		1.00		0.53	1.00		1.00	1.00		0.88	1.00	
Lane Grp Cap(c), veh/h		206	497	455	116	402	342	245	696	603	156	602
V/C Ratio(X)		0.79	0.76	0.77	0.77	0.66	0.19	0.81	0.20	0.22	0.77	0.16
Avail Cap(c_a), veh/h		686	1200	1098	343	840	714	640	696	603	457	602
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
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
Uniform Delay (d), s/veh		33.4	26.2	26.2	35.7	27.8	24.9	32.5	16.5	16.6	34.6	18.7
Incr Delay (d2), s/veh		6.6	2.4	2.7	10.2	1.8	0.3	6.3	0.6	0.8	7.9	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
%ile Back of Q (50%), veh/ln		3.5	6.9	6.3	2.0	4.8	1.0	4.1	1.9	1.8	2.6	1.4
Lane Grp Delay (d), s/veh		40.0	28.6	28.9	45.9	29.6	25.1	38.8	17.1	17.4	42.6	19.3
Lane Grp LOS		D	C	C	D	C	C	D	B	B	D	B
Approach Vol, veh/h			890			417			469			313
Approach Delay, s/veh			30.8			32.4			26.4			28.4
Approach LOS			C			C			C			C

Timer												
Assigned Phs		7	4		3	8		5	2		1	6
Phs Duration (G+Y+Rc), s		13.0	24.7		9.1	20.8		14.7	33.0		10.8	29.1
Change Period (Y+Rc), s		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s		30.0	50.0		15.0	35.0		28.0	29.0		20.0	21.0
Max Q Clear Time (g_c+I1), s		8.9	16.6		5.8	12.0		10.4	6.3		7.2	5.1
Green Ext Time (p_c), s		0.4	4.1		0.1	3.9		0.4	1.6		0.2	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C

Notes

Movement	SBR
Lane Configurations	
Volume (veh/h)	59
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	190.0
Lanes	0
Cap, veh/h	345
Arrive On Green	0.32
Sat Flow, veh/h	1067
Grp Volume(v), veh/h	94
Grp Sat Flow(s),veh/h/ln	1674
Q Serve(g_s), s	3.1
Cycle Q Clear(g_c), s	3.1
Prop In Lane	0.64
Lane Grp Cap(c), veh/h	542
V/C Ratio(X)	0.17
Avail Cap(c_a), veh/h	542
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	18.8
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	1.4
Lane Grp Delay (d), s/veh	19.5
Lane Grp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	43	192	16	14	307	279	13	29	44	152	9	50
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	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	
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1		2	1	1	1	3	1	1	3
Cap, veh/h	65	449	191		490	421	358	49	2437	690	18	2341
Arrive On Green	0.04	0.12	0.12		0.14	0.23	0.23	0.03	0.44	0.44	0.01	0.42
Sat Flow, veh/h	1774	3725	1583		3442	1863	1583	1774	5588	1583	1774	5588
Grp Volume(v), veh/h	46	206	17		330	300	14	31	47	163	10	54
Grp Sat Flow(s),veh/h/ln	1774	1863	1583		1721	1863	1583	1774	1863	1583	1774	1863
Q Serve(g_s), s	1.4	2.8	0.5		5.0	8.2	0.4	1.0	0.3	3.6	0.3	0.3
Cycle Q Clear(g_c), s	1.4	2.8	0.5		5.0	8.2	0.4	1.0	0.3	3.6	0.3	0.3
Prop In Lane	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	65	449	191		490	421	358	49	2437	690	18	2341
V/C Ratio(X)	0.71	0.46	0.09		0.67	0.71	0.04	0.64	0.02	0.24	0.55	0.02
Avail Cap(c_a), veh/h	322	1557	662		1313	1151	978	226	2437	690	193	2341
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
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
Uniform Delay (d), s/veh	26.2	22.5	21.5		22.4	19.6	16.6	26.5	8.8	9.8	27.1	9.4
Incr Delay (d2), s/veh	13.1	0.7	0.2		1.6	2.2	0.0	13.0	0.0	0.8	23.1	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	0.0	0.0
%ile Back of Q (50%), veh/ln	0.8	1.3	0.2		2.2	3.8	0.1	0.6	0.1	1.3	0.2	0.1
Lane Grp Delay (d), s/veh	39.3	23.3	21.7		24.0	21.9	16.7	39.5	8.8	10.6	50.2	9.4
Lane Grp LOS	D	C	C		C	C	B	D	A	B	D	A
Approach Vol, veh/h		269				644			241			161
Approach Delay, s/veh		25.9				22.9			13.9			12.5
Approach LOS		C				C			B			B

Timer												
Assigned Phs	7	4			3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	6.0	10.6			11.8	16.4		5.5	28.0		4.6	27.1
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	2.0	23.0			21.0	34.0		7.0	24.0		6.0	23.0
Max Q Clear Time (g_c+I1), s	3.4	4.8			7.0	10.2		3.0	5.6		2.3	4.1
Green Ext Time (p_c), s	0.0	1.8			0.9	1.9		0.0	1.0		0.0	1.0

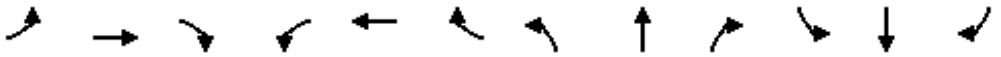
Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Notes

Movement	SBR
Lane Configurations	
Volume (veh/h)	90
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	663
Arrive On Green	0.42
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	97
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	2.1
Cycle Q Clear(g_c), s	2.1
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	663
V/C Ratio(X)	0.15
Avail Cap(c_a), veh/h	663
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	9.9
Incr Delay (d2), s/veh	0.5
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	0.8
Lane Grp Delay (d), s/veh	10.4
Lane Grp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	128	21	209	191	0	0	0	0	410	0	27
Number	7	4	14	3	8	18				1	6	16
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
Adj Sat Flow veh/h/ln	0.0	190.0	190.0	186.3	186.3	0.0				190.0	181.5	190.0
Lanes	0	3	0	1	1	0				0	1	0
Cap, veh/h	0	472	73	318	702	0				682	0	45
Arrive On Green	0.00	0.10	0.10	0.18	0.38	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	4822	746	1774	1863	0				1609	0	107
Grp Volume(v), veh/h	0	106	52	222	203	0				465	0	0
Grp Sat Flow(s),veh/h/ln	0	1900	1768	1774	1863	0				1716	0	0
Q Serve(g_s), s	0.0	1.0	1.1	4.7	3.1	0.0				8.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.0	1.1	4.7	3.1	0.0				8.6	0.0	0.0
Prop In Lane	0.00		0.42	1.00		0.00				0.94		0.06
Lane Grp Cap(c), veh/h	0	372	173	318	702	0				727	0	0
V/C Ratio(X)	0.00	0.28	0.30	0.70	0.29	0.00				0.64	0.00	0.00
Avail Cap(c_a), veh/h	0	1610	749	1061	2089	0				727	0	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)	0.00	1.00	1.00	0.64	0.64	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.8	16.8	15.4	8.7	0.0				9.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	1.0	1.8	0.1	0.0				4.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	0.5	0.5	1.9	1.2	0.0				3.8	0.0	0.0
Lane Grp Delay (d), s/veh	0.0	17.2	17.8	17.2	8.9	0.0				13.4	0.0	0.0
Lane Grp LOS		B	B	B	A					B		
Approach Vol, veh/h		158			425						465	
Approach Delay, s/veh		17.4			13.2						13.4	
Approach LOS		B			B						B	

Timer												
Assigned Phs		4		3	8						6	
Phs Duration (G+Y+Rc), s		7.9		11.2	19.1						21.0	
Change Period (Y+Rc), s		4.0		4.0	4.0						4.0	
Max Green Setting (Gmax), s		17.0		24.0	45.0						17.0	
Max Q Clear Time (g_c+I1), s		3.1		6.7	5.1						10.6	
Green Ext Time (p_c), s		0.4		1.1	1.3						1.0	

Intersection Summary		
HCM 2010 Ctrl Delay	14.0	
HCM 2010 LOS	B	

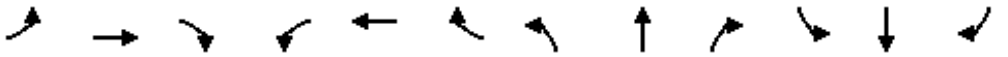
Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	523	0	0	362	298	38	0	465	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow veh/h/ln	190.0	184.5	0.0	0.0	188.1	190.0	190.0	190.0	181.0			
Lanes	1	2	0	0	2	0	0	1	1			
Cap, veh/h	28	1265	0	0	520	423	982	0	835			
Arrive On Green	0.02	0.34	0.00	0.00	0.27	0.27	0.54	0.00	0.54			
Sat Flow, veh/h	1810	3689	0	0	1924	1563	1810	0	1538			
Grp Volume(v), veh/h	16	545	0	0	368	319	40	0	484			
Grp Sat Flow(s),veh/h/ln	1810	1845	0	0	1881	1605	1810	0	1538			
Q Serve(g_s), s	0.6	8.0	0.0	0.0	12.4	12.6	0.7	0.0	14.7			
Cycle Q Clear(g_c), s	0.6	8.0	0.0	0.0	12.4	12.6	0.7	0.0	14.7			
Prop In Lane	1.00		0.00	0.00		0.97	1.00		1.00			
Lane Grp Cap(c), veh/h	28	1265	0	0	509	434	982	0	835			
V/C Ratio(X)	0.58	0.43	0.00	0.00	0.72	0.73	0.04	0.00	0.58			
Avail Cap(c_a), veh/h	103	1265	0	0	509	434	982	0	835			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	34.2	17.7	0.0	0.0	23.2	23.2	7.5	0.0	10.7			
Incr Delay (d2), s/veh	17.1	1.0	0.0	0.0	5.1	6.3	0.1	0.0	2.9			
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 Back of Q (50%), veh/ln	0.4	3.6	0.0	0.0	6.3	5.7	0.3	0.0	5.5			
Lane Grp Delay (d), s/veh	51.4	18.8	0.0	0.0	28.2	29.6	7.6	0.0	13.6			
Lane Grp LOS	D	B			C	C	A		B			
Approach Vol, veh/h		561			687			524				
Approach Delay, s/veh		19.7			28.8			13.1				
Approach LOS		B			C			B				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	5.1	28.0			22.9			42.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	4.0	24.0			16.0			38.0	
Max Q Clear Time (g_c+I1), s	2.6	10.0			14.6			16.7	
Green Ext Time (p_c), s	0.0	4.4			0.8			1.7	

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

Notes

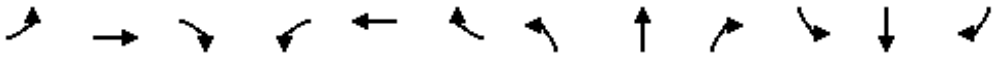


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	502	56	12	302	98	51	19	12	82	19	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	72	612	520	22	814	259	72	327	196	108	595	505
Arrive On Green	0.04	0.33	0.33	0.01	0.30	0.30	0.04	0.30	0.30	0.06	0.32	0.32
Sat Flow, veh/h	1774	1863	1583	1774	2711	862	1774	1092	655	1774	1863	1583
Grp Volume(v), veh/h	53	523	58	12	215	202	53	0	32	85	20	39
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1711	1774	0	1747	1774	1863	1583
Q Serve(g_s), s	1.6	14.0	1.4	0.4	4.9	5.0	1.6	0.0	0.7	2.5	0.4	0.9
Cycle Q Clear(g_c), s	1.6	14.0	1.4	0.4	4.9	5.0	1.6	0.0	0.7	2.5	0.4	0.9
Prop In Lane	1.00		1.00	1.00		0.50	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	72	612	520	22	559	513	72	0	523	108	595	505
V/C Ratio(X)	0.73	0.85	0.11	0.55	0.38	0.39	0.73	0.00	0.06	0.79	0.03	0.08
Avail Cap(c_a), veh/h	199	697	592	133	627	576	133	0	523	133	595	505
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	16.8	12.5	26.3	14.8	14.9	25.4	0.0	13.4	24.8	12.5	12.7
Incr Delay (d2), s/veh	13.3	9.2	0.1	20.2	0.4	0.5	13.3	0.0	0.2	22.1	0.1	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 Back of Q (50%), veh/ln	0.9	7.4	0.5	0.3	2.2	2.0	0.9	0.0	0.3	1.7	0.2	0.4
Lane Grp Delay (d), s/veh	38.6	26.0	12.6	46.5	15.2	15.3	38.6	0.0	13.6	46.9	12.6	13.0
Lane Grp LOS	D	C	B	D	B	B	D		B	D	B	B
Approach Vol, veh/h		634			429			85			144	
Approach Delay, s/veh		25.8			16.2			29.2			33.0	
Approach LOS		C			B			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	6.2	21.6		4.7	20.0		6.2	20.0		7.2	21.1	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	6.0	20.0		4.0	18.0		4.0	16.0		4.0	16.0	
Max Q Clear Time (g_c+I1), s	3.6	16.0		2.4	7.0		3.6	2.7		4.5	2.9	
Green Ext Time (p_c), s	0.0	1.6		0.0	2.9		0.0	0.2		0.0	0.2	

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C

Notes

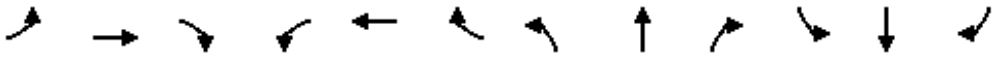


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	103	607	0	0	501	357	226	0	455	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	182.7	182.7	0.0	0.0	182.7	182.7	190.0	186.3	177.6			
Lanes	1	2	0	0	2	1	0	1	1			
Cap, veh/h	139	1249	0	0	769	327	984	0	838			
Arrive On Green	0.16	0.68	0.00	0.00	0.21	0.00	0.55	0.00	0.55			
Sat Flow, veh/h	1740	3654	0	0	3654	1553	1774	0	1509			
Grp Volume(v), veh/h	110	646	0	0	533	0	240	0	484			
Grp Sat Flow(s),veh/h/ln	1740	1827	0	0	1827	1553	1774	0	1509			
Q Serve(g_s), s	4.7	6.7	0.0	0.0	10.4	0.0	5.4	0.0	16.3			
Cycle Q Clear(g_c), s	4.7	6.7	0.0	0.0	10.4	0.0	5.4	0.0	16.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	139	1249	0	0	769	327	984	0	838			
V/C Ratio(X)	0.79	0.52	0.00	0.00	0.69	0.00	0.24	0.00	0.58			
Avail Cap(c_a), veh/h	269	1839	0	0	1085	461	984	0	838			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.77	0.77	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.0	9.1	0.0	0.0	28.3	0.0	8.9	0.0	11.3			
Incr Delay (d2), s/veh	7.7	0.3	0.0	0.0	1.1	0.0	0.6	0.0	2.9			
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 Back of Q (50%), veh/ln	2.2	2.1	0.0	0.0	4.9	0.0	2.3	0.0	6.2			
Lane Grp Delay (d), s/veh	39.7	9.4	0.0	0.0	29.4	0.0	9.5	0.0	14.2			
Lane Grp LOS	D	A			C		A		B			
Approach Vol, veh/h		756			533			724				
Approach Delay, s/veh		13.8			29.4			12.6				
Approach LOS		B			C			B				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	10.2	30.5			20.3			47.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	12.0	39.0			23.0			43.0	
Max Q Clear Time (g_c+I1), s	6.7	8.7			12.4			18.3	
Green Ext Time (p_c), s	0.1	5.5			3.9			2.6	

Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Notes

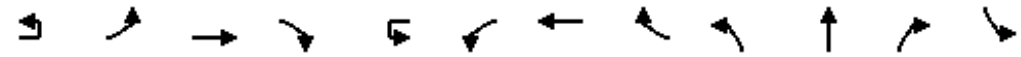


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	486	4	4	446	77	23	10	6	71	11	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	1	0	1	1
Cap, veh/h	73	1064	8	8	778	134	703	824	700	692	99	700
Arrive On Green	0.04	0.29	0.29	0.00	0.25	0.25	0.44	0.44	0.00	0.44	0.44	0.44
Sat Flow, veh/h	1774	3692	29	1774	3098	533	1332	1863	1583	1230	224	1583
Grp Volume(v), veh/h	50	261	260	4	284	272	24	11	0	88	0	52
Grp Sat Flow(s),veh/h/ln	1774	1863	1858	1774	1863	1769	1332	1863	1583	1454	0	1583
Q Serve(g_s), s	1.3	5.2	5.2	0.1	6.1	6.2	0.5	0.1	0.0	1.2	0.0	0.9
Cycle Q Clear(g_c), s	1.3	5.2	5.2	0.1	6.1	6.2	2.0	0.1	0.0	1.5	0.0	0.9
Prop In Lane	1.00		0.02	1.00		0.30	1.00		1.00	0.86		1.00
Lane Grp Cap(c), veh/h	73	537	535	8	468	444	703	824	700	791	0	700
V/C Ratio(X)	0.68	0.49	0.49	0.52	0.61	0.61	0.03	0.01	0.00	0.11	0.00	0.07
Avail Cap(c_a), veh/h	314	988	986	157	824	782	703	824	700	791	0	700
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	0.00	1.00
Uniform Delay (d), s/veh	21.4	13.3	13.3	22.5	15.0	15.0	8.1	7.1	0.0	7.4	0.0	7.3
Incr Delay (d2), s/veh	10.7	0.7	0.7	45.3	1.3	1.4	0.1	0.0	0.0	0.3	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 Back of Q (50%), veh/ln	0.7	2.3	2.3	0.1	2.6	2.5	0.2	0.1	0.0	0.6	0.0	0.3
Lane Grp Delay (d), s/veh	32.1	14.0	14.0	67.8	16.2	16.4	8.2	7.1	0.0	7.7	0.0	7.5
Lane Grp LOS	C	B	B	E	B	B	A	A		A		A
Approach Vol, veh/h		571			560			35			140	
Approach Delay, s/veh		15.6			16.7			7.8			7.6	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	5.9	17.0		4.2	15.4			24.0			24.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	3.0	24.0		4.0	20.0			20.0			20.0	
Max Q Clear Time (g_c+I1), s	3.3	7.2		2.1	8.2			4.0			3.5	
Green Ext Time (p_c), s	0.0	3.6		0.0	3.2			0.4			0.4	

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (veh/h)	137	136	530	215	13	70	385	365	247	61	74	73
Number		7	4	14		3	8	18	5	2	12	1
Initial Q (Qb), veh		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
Parking Bus Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		186.3	186.3	186.3		186.3	186.3	190.0	186.3	186.3	190.0	186.3
Lanes		1	2	1		1	2	0	2	1	0	1
Cap, veh/h		188	1462	621		93	632	537	1171	262	316	603
Arrive On Green		0.11	0.39	0.00		0.05	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h		1774	3725	1583		1774	1863	1583	3442	771	928	1774
Grp Volume(v), veh/h		142	552	0		73	401	380	257	0	141	76
Grp Sat Flow(s),veh/h/ln		1774	1863	1583		1774	1863	1583	1721	0	1699	1774
Q Serve(g_s), s		4.3	5.9	0.0		2.3	10.1	11.7	3.0	0.0	3.3	1.6
Cycle Q Clear(g_c), s		4.3	5.9	0.0		2.3	10.1	11.7	3.0	0.0	3.3	1.6
Prop In Lane		1.00		1.00		1.00		1.00	1.00		0.55	1.00
Lane Grp Cap(c), veh/h		188	1462	621		93	632	537	1171	0	578	603
V/C Ratio(X)		0.76	0.38	0.00		0.78	0.63	0.71	0.22	0.00	0.24	0.13
Avail Cap(c_a), veh/h		889	3135	1332		381	1034	879	1171	0	578	603
HCM Platoon Ratio		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	0.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		24.3	12.1	0.0		26.1	15.5	16.1	13.1	0.0	13.3	12.7
Incr Delay (d2), s/veh		6.1	0.2	0.0		13.2	1.1	1.7	0.4	0.0	1.0	0.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln		2.1	2.4	0.0		1.3	4.4	4.4	1.2	0.0	1.4	0.7
Lane Grp Delay (d), s/veh		30.3	12.3	0.0		39.3	16.6	17.8	13.6	0.0	14.3	12.8
Lane Grp LOS		C	B			D	B	B	B		B	B
Approach Vol, veh/h			694				854			398		
Approach Delay, s/veh			16.0				19.1			13.8		
Approach LOS			B				B			B		

Timer									
Assigned Phs	7	4			3	8			2
Phs Duration (G+Y+Rc), s	9.9	25.9			6.9	22.9			23.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0			4.0
Max Green Setting (Gmax), s	28.0	47.0			12.0	31.0			19.0
Max Q Clear Time (g_c+I1), s	6.3	7.9			4.3	13.7			5.3
Green Ext Time (p_c), s	0.3	6.2			0.1	5.3			1.9

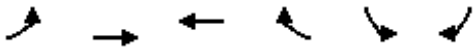
Intersection Summary	
HCM 2010 Ctrl Delay	16.4
HCM 2010 LOS	B

Notes

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	66	108
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus Adj	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	190.0
Lanes	2	0
Cap, veh/h	634	539
Arrive On Green	0.34	0.34
Sat Flow, veh/h	1863	1583
Grp Volume(v), veh/h	69	112
Grp Sat Flow(s),veh/h/ln	1863	1583
Q Serve(g_s), s	1.4	2.8
Cycle Q Clear(g_c), s	1.4	2.8
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	634	539
V/C Ratio(X)	0.11	0.21
Avail Cap(c_a), veh/h	634	539
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	12.6	13.1
Incr Delay (d2), s/veh	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile Back of Q (50%), veh/ln	0.6	1.0
Lane Grp Delay (d), s/veh	12.7	13.3
Lane Grp LOS	B	B
Approach Vol, veh/h	257	
Approach Delay, s/veh	13.0	
Approach LOS	B	

Timer	
Assigned Phs	6
Phs Duration (G+Y+Rc), s	23.0
Change Period (Y+Rc), s	4.0
Max Green Setting (Gmax), s	16.0
Max Q Clear Time (g_c+I1), s	4.8
Green Ext Time (p_c), s	1.8

Intersection Summary

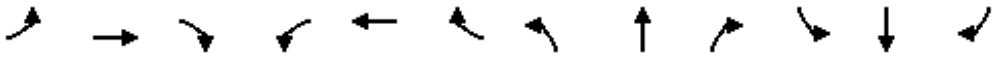


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	53	226	143	36	53	85
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	135.7	177.6	178.9	190.0	186.3	162.4
Lanes	1	2	2	0	1	1
Cap, veh/h	67	1038	399	97	909	707
Arrive On Green	0.05	0.29	0.14	0.14	0.51	0.51
Sat Flow, veh/h	1293	3551	2781	677	1774	1380
Grp Volume(v), veh/h	64	272	109	106	64	102
Grp Sat Flow(s),veh/h/ln	1293	1776	1789	1670	1774	1380
Q Serve(g_s), s	2.0	2.4	2.3	2.4	0.7	1.6
Cycle Q Clear(g_c), s	2.0	2.4	2.3	2.4	0.7	1.6
Prop In Lane	1.00			0.41	1.00	1.00
Lane Grp Cap(c), veh/h	67	1038	256	239	909	707
V/C Ratio(X)	0.96	0.26	0.43	0.44	0.07	0.14
Avail Cap(c_a), veh/h	315	2686	742	693	909	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	11.1	16.0	16.1	5.1	5.3
Incr Delay (d2), s/veh	42.4	0.1	1.1	1.3	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.4	0.9	1.0	1.0	0.3	1.8
Lane Grp Delay (d), s/veh	61.8	11.2	17.1	17.3	5.2	5.7
Lane Grp LOS	E	B	B	B	A	A
Approach Vol, veh/h		336	215		166	
Approach Delay, s/veh		20.9	17.2		5.5	
Approach LOS		C	B		A	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	6.1	16.0	9.9			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	10.0	31.0	17.0			
Max Q Clear Time (g_c+I1), s	4.3	4.4	4.4			
Green Ext Time (p_c), s	0.1	1.8	1.5			

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	8	0	0	20	28	1	46	0	9	94	128
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	3	0	1	3	1
Cap, veh/h	177	185	158	177	185	158	5	2984	0	19	3037	860
Arrive On Green	0.10	0.10	0.00	0.00	0.10	0.10	0.00	0.53	0.00	0.01	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5588	0	1774	5588	1583
Grp Volume(v), veh/h	105	9	0	0	23	32	1	53	0	10	108	147
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	1.9	0.1	0.0	0.0	0.4	0.6	0.0	0.2	0.0	0.2	0.3	1.6
Cycle Q Clear(g_c), s	1.9	0.1	0.0	0.0	0.4	0.6	0.0	0.2	0.0	0.2	0.3	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	185	158	177	185	158	5	2984	0	19	3037	860
V/C Ratio(X)	0.59	0.05	0.00	0.00	0.12	0.20	0.19	0.02	0.00	0.53	0.04	0.17
Avail Cap(c_a), veh/h	842	884	751	842	884	751	210	2984	0	210	3037	860
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	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	13.7	0.0	0.0	13.8	14.0	16.8	3.7	0.0	16.6	3.6	3.9
Incr Delay (d2), s/veh	3.2	0.1	0.0	0.0	0.3	0.6	16.6	0.0	0.0	21.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.1	0.4
Lane Grp Delay (d), s/veh	17.7	13.8	0.0	0.0	14.1	14.6	33.4	3.7	0.0	37.9	3.6	4.3
Lane Grp LOS	B	B			B	B	C	A		D	A	A
Approach Vol, veh/h		114			55			54			265	
Approach Delay, s/veh		17.4			14.4			4.3			5.3	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		7.4			7.4		4.0	22.0		4.4	22.3	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0			16.0		4.0	18.0		4.0	18.0	
Max Q Clear Time (g_c+I1), s		3.9			2.6		2.0	2.2		2.2	3.6	
Green Ext Time (p_c), s		0.3			0.3		0.0	0.9		0.0	0.9	

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

Notes

Intersection	
Intersection Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	196	184	12	32	34
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	29	39	8	3	6
Mvmt Flow	17	228	214	14	37	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	228	0	-	0	484	221
Stage 1	-	-	-	-	221	-
Stage 2	-	-	-	-	263	-
Follow-up Headway	2.2	-	-	-	3.527	3.354
Pot Capacity-1 Maneuver	1352	-	-	-	540	809
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	779	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1352	-	-	-	532	809
Mov Capacity-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1352	-	-	-	532	809
HCM Lane V/C Ratio	0.013	-	-	-	0.07	0.049
HCM Control Delay (s)	7.698	0	-	-	12.3	9.7
HCM Lane LOS	A	A			B	A
HCM 95th %tile Q(veh)	0.039	-	-	-	0.225	0.154

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	229	0	0	184	179	13	0	152	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	12	10	2	2	26	20	23	2	27	2	2	2
Mvmt Flow	27	244	0	0	196	190	14	0	162	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	386	0	0	244	0	0	395	683	122
Stage 1	-	-	-	-	-	-	297	297	-
Stage 2	-	-	-	-	-	-	98	386	-
Follow-up Headway	2.32	-	-	2.22	-	-	3.73	4.02	3.57
Pot Capacity-1 Maneuver	1101	-	-	1319	-	-	530	370	832
Stage 1	-	-	-	-	-	-	669	666	-
Stage 2	-	-	-	-	-	-	856	609	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	1101	-	-	1319	-	-	517	0	832
Mov Capacity-2 Maneuver	-	-	-	-	-	-	517	0	-
Stage 1	-	-	-	-	-	-	653	0	-
Stage 2	-	-	-	-	-	-	856	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	10.5
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	517	832	1101	-	-	1319	-	-
HCM Lane V/C Ratio	0.027	0.194	0.024	-	-	-	-	-
HCM Control Delay (s)	12.2	10.4	8.351	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.082	0.718	0.074	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	71	25	151	46	0	0	0	0	183	0	26
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	-	-	-	0	-	-	-	-	-	600	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	7	16	31	7	2	2	2	2	13	0	4
Mvmt Flow	0	80	28	170	52	0	0	0	0	206	0	29

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	52	0	0	108	0	0				431	499	26
Stage 1	-	-	-	-	-	-				391	391	-
Stage 2	-	-	-	-	-	-				40	108	-
Follow-up Headway	2.22	-	-	2.51	-	-				3.63	4	3.34
Pot Capacity-1 Maneuver	1552	-	-	1292	-	-				525	476	1037
Stage 1	-	-	-	-	-	-				621	611	-
Stage 2	-	-	-	-	-	-				946	810	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1552	-	-	1292	-	-				456	0	1037
Mov Capacity-2 Maneuver	-	-	-	-	-	-				456	0	-
Stage 1	-	-	-	-	-	-				539	0	-
Stage 2	-	-	-	-	-	-				946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.3	14.9
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1552	-	-	1292	-	-	456	548
HCM Lane V/C Ratio	-	-	-	0.131	-	-	0.301	0.178
HCM Control Delay (s)	0	-	-	8.207	-	-	16.3	13
HCM Lane LOS	A			A			C	B
HCM 95th %tile Q(veh)	0	-	-	0.452	-	-	1.25	0.644

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	42	30	24	56	40	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	51	37	29	68	49	32

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	192	63	0	0	98	0
Stage 1	63	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	786	988	-	-	1470	-
Stage 1	947	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	759	988	-	-	1470	-
Mov Capacity-2 Maneuver	759	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.6
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	759	988	1470	-
HCM Lane V/C Ratio	-	-	0.067	0.037	0.033	-
HCM Control Delay (s)	-	-	10.1	8.8	7.533	0
HCM Lane LOS			B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.217	0.115	0.103	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	33	379	374	49	19	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	60	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	632	623	82	32	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	623	0	-	0	986	312
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	363	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	954	-	-	-	278	684
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	638	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	954	-	-	-	262	684
Mov Capacity-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.2
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	954	-	-	-	388
HCM Lane V/C Ratio	0.058	-	-	-	0.172
HCM Control Delay (s)	9.004	-	-	-	16.2
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0.183	-	-	-	0.613

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	464	327	7	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	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	0	521	367	8	9	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	367	0	-	0	628	367
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	261	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	1192	-	-	-	431	677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	760	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1192	-	-	-	431	677
Mov Capacity-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1192	-	-	-	431
HCM Lane V/C Ratio	-	-	-	-	0.021
HCM Control Delay (s)	0	-	-	-	13.5
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0	-	-	-	0.064

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	346	59	48	443	31	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	384	66	53	492	34	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	450	0	1016	417
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	599	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1110	-	264	636
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	549	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	1110	-	251	636
Mov Capacity-2 Maneuver	-	-	-	-	379	-
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	523	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	13.9
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	467	-	-	1110	-
HCM Lane V/C Ratio	0.138	-	-	0.048	-
HCM Control Delay (s)	13.9	-	-	8.407	-
HCM Lane LOS	B			A	
HCM 95th %tile Q(veh)	0.476	-	-	0.151	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	11	0	67	10	99	0	0	47	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
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	0	2	20	40	8	2	2	21	20
Mvmt Flow	0	0	0	12	0	73	11	108	0	0	51	111

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	236	291	108	162	0	0	108	0	0
Stage 1	129	129	-	-	-	-	-	-	-
Stage 2	107	162	-	-	-	-	-	-	-
Follow-up Headway	3.5	4.018	3.48	2.56	-	-	2.218	-	-
Pot Capacity-1 Maneuver	757	619	899	1216	-	-	1483	-	-
Stage 1	902	789	-	-	-	-	-	-	-
Stage 2	922	764	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	749	0	899	1216	-	-	1483	-	-
Mov Capacity-2 Maneuver	749	0	-	-	-	-	-	-	-
Stage 1	893	0	-	-	-	-	-	-	-
Stage 2	922	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0.7	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1216	-	-	843	899	1483	-	-
HCM Lane V/C Ratio	0.009	-	-	0.043	0.054	-	-	-
HCM Control Delay (s)	7.987	0	-	9.5	9.2	0	-	-
HCM Lane LOS	A	A		A	A	A		
HCM 95th %tile Q(veh)	0.027	-	-	0.135	0.171	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	99	0	12	0	0	0	0	10	3	47	11	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	92	89	92	92	92	92	89	89	89	89	92
Heavy Vehicles, %	19	2	15	2	2	2	2	30	30	21	10	2
Mvmt Flow	111	0	13	0	0	0	0	11	3	53	12	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	131	133	12			12	0	0	15	0	0
Stage 1	118	118	-			-	-	-	-	-	-
Stage 2	13	15	-			-	-	-	-	-	-
Follow-up Headway	3.671	4.018	3.435			2.218	-	-	2.389	-	-
Pot Capacity-1 Maneuver	824	758	1032			1607	-	-	1487	-	-
Stage 1	867	798	-			-	-	-	-	-	-
Stage 2	967	883	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	794	0	1032			1607	-	-	1487	-	-
Mov Capacity-2 Maneuver	794	0	-			-	-	-	-	-	-
Stage 1	836	0	-			-	-	-	-	-	-
Stage 2	967	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	6.1
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1607	-	-	801	1032	1487	-	-
HCM Lane V/C Ratio	-	-	-	0.144	0.009	0.036	-	-
HCM Control Delay (s)	0	-	-	10.3	8.5	7.51	0	-
HCM Lane LOS	A			B	A	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.504	0.026	0.11	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	78	41	133	133	1
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	83	44	141	141	1

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	371	142	143	0	-	0
Stage 1	142	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	630	906	1440	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	609	906	1440	-	-	-
Mov Capacity-2 Maneuver	609	-	-	-	-	-
Stage 1	885	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.8	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1440	-	906	-	-
HCM Lane V/C Ratio	0.03	-	0.092	-	-
HCM Control Delay (s)	7.578	0	9.4	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.094	-	0.302	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	103	4	0	98	4
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	87	87	87	87	87	87
Heavy Vehicles, %	2	30	2	2	7	2
Mvmt Flow	1	118	5	0	113	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	235	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Follow-up Headway	3.518	3.57	-	-	2.263	-
Pot Capacity-1 Maneuver	753	1002	-	-	1584	-
Stage 1	1018	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	699	1002	-	-	1584	-
Mov Capacity-2 Maneuver	699	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.1	0	7.2
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	998	1584	-
HCM Lane V/C Ratio	-	-	0.12	0.071	-
HCM Control Delay (s)	-	-	9.1	7.447	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.407	0.229	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	12	50	89	5	6	16
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	89	89	89	89	89	89
Heavy Vehicles, %	2	16	15	2	2	31
Mvmt Flow	13	56	100	6	7	18

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	222	16	25	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Follow-up Headway	3.518	3.444	2.335	-	-	-
Pot Capacity-1 Maneuver	766	1024	1509	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	715	1024	1509	-	-	-
Mov Capacity-2 Maneuver	715	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.1	7.2	0
HCM LOS	A		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1509	-	945	-	-
HCM Lane V/C Ratio	0.066	-	0.074	-	-
HCM Control Delay (s)	7.555	0	9.1	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.213	-	0.238	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	219	228	12	32	34
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	31	47	8	0	3
Mvmt Flow	17	252	262	14	37	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	276	0	-	0	555	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	286	-
Follow-up Headway	2.2	-	-	-	3.5	3.327
Pot Capacity-1 Maneuver	1299	-	-	-	496	767
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	767	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1299	-	-	-	489	767
Mov Capacity-2 Maneuver	-	-	-	-	489	-
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.4
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1299	-	-	-	489	767
HCM Lane V/C Ratio	0.013	-	-	-	0.075	0.051
HCM Control Delay (s)	7.809	0	-	-	13	9.9
HCM Lane LOS	A	A			B	A
HCM 95th %tile Q(veh)	0.04	-	-	-	0.243	0.161

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	31	247	0	0	212	220	30	0	146	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	94	91	94	94	94
Heavy Vehicles, %	3	17	2	2	29	17	10	2	45	2	2	2
Mvmt Flow	34	271	0	0	233	242	33	0	160	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	475	0	0	271	0	0	456	815	136
Stage 1	-	-	-	-	-	-	340	340	-
Stage 2	-	-	-	-	-	-	116	475	-
Follow-up Headway	2.23	-	-	2.22	-	-	3.6	4.02	3.75
Pot Capacity-1 Maneuver	1076	-	-	1289	-	-	513	310	767
Stage 1	-	-	-	-	-	-	669	638	-
Stage 2	-	-	-	-	-	-	873	556	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	1076	-	-	1289	-	-	497	0	767
Mov Capacity-2 Maneuver	-	-	-	-	-	-	497	0	-
Stage 1	-	-	-	-	-	-	648	0	-
Stage 2	-	-	-	-	-	-	873	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.9	0	11.2
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	497	767	1076	-	-	1289	-	-
HCM Lane V/C Ratio	0.066	0.209	0.032	-	-	-	-	-
HCM Control Delay (s)	12.8	10.9	8.455	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.212	0.785	0.098	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	61	11	173	69	0	0	0	0	217	0	25
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	-	-	-	0	-	-	-	-	-	600	-	-
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	7	16	18	4	2	2	2	2	17	0	8
Mvmt Flow	0	66	12	186	74	0	0	0	0	233	0	27

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	74	0	0	77	0	0				479	523	37
Stage 1	-	-	-	-	-	-				446	446	-
Stage 2	-	-	-	-	-	-				33	77	-
Follow-up Headway	2.22	-	-	2.38	-	-				3.67	4	3.38
Pot Capacity-1 Maneuver	1524	-	-	1410	-	-				479	462	1008
Stage 1	-	-	-	-	-	-				571	577	-
Stage 2	-	-	-	-	-	-				943	835	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1524	-	-	1410	-	-				416	0	1008
Mov Capacity-2 Maneuver	-	-	-	-	-	-				416	0	-
Stage 1	-	-	-	-	-	-				496	0	-
Stage 2	-	-	-	-	-	-				943	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.7	16.9
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1524	-	-	1410	-	-	416	490
HCM Lane V/C Ratio	-	-	-	0.132	-	-	0.374	0.214
HCM Control Delay (s)	0	-	-	7.941	-	-	18.7	14.3
HCM Lane LOS	A			A			C	B
HCM 95th %tile Q(veh)	0	-	-	0.455	-	-	1.703	0.801

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	50	44	13	36	36	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	57	50	15	41	41	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	138	35	0	0	56	0
Stage 1	35	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	844	1024	-	-	1523	-
Stage 1	975	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	821	1024	-	-	1523	-
Mov Capacity-2 Maneuver	821	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	884	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	4.9
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	821	1024	1523	-
HCM Lane V/C Ratio	-	-	0.069	0.049	0.027	-
HCM Control Delay (s)	-	-	9.7	8.7	7.429	0
HCM Lane LOS			A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.223	0.154	0.083	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	13	113	166	52	36	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	130	191	60	41	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	191	0	-	0	273	95
Stage 1	-	-	-	-	191	-
Stage 2	-	-	-	-	82	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	1380	-	-	-	697	943
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	891	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1380	-	-	-	689	943
Mov Capacity-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.1
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1380	-	-	-	767
HCM Lane V/C Ratio	0.011	-	-	-	0.087
HCM Control Delay (s)	7.637	-	-	-	10.1
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.033	-	-	-	0.285

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	426	610	7	3	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	468	670	8	3	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	670	0	-	0	906	670
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	236	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	920	-	-	-	291	456
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	782	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	920	-	-	-	291	456
Mov Capacity-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	390
HCM Lane V/C Ratio	0.001	-	-	-	0.028
HCM Control Delay (s)	8.918	-	-	-	14.5
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.004	-	-	-	0.087

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	577	52	39	360	71	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	627	57	42	391	77	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	1131	655
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	476	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	909	-	225	466
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	625	-
Time blocked-Platoon, %	-	-		-		
Mov Capacity-1 Maneuver	-	-	909	-	215	466
Mov Capacity-2 Maneuver	-	-	-	-	350	-
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	19.4
HCM LOS			C

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	398	-	-	909	-
HCM Lane V/C Ratio	0.377	-	-	0.047	-
HCM Control Delay (s)	19.4	-	-	9.154	-
HCM Lane LOS	C			A	
HCM 95th %tile Q(veh)	1.719	-	-	0.147	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	7	0	47	22	230	0	0	108	138
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	95	95	92	92	95	95
Heavy Vehicles, %	2	2	2	43	2	7	23	16	2	2	6	16
Mvmt Flow	0	0	0	7	0	49	23	242	0	0	114	145

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	474	547	242	259	0	0	242	0	0
Stage 1	288	288	-	-	-	-	-	-	-
Stage 2	186	259	-	-	-	-	-	-	-
Follow-up Headway	3.887	4.018	3.363	2.407	-	-	2.218	-	-
Pot Capacity-1 Maneuver	481	445	785	1193	-	-	1324	-	-
Stage 1	676	674	-	-	-	-	-	-	-
Stage 2	756	694	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	470	0	785	1193	-	-	1324	-	-
Mov Capacity-2 Maneuver	470	0	-	-	-	-	-	-	-
Stage 1	661	0	-	-	-	-	-	-	-
Stage 2	756	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0.7	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1193	-	-	650	785	1324	-	-
HCM Lane V/C Ratio	0.019	-	-	0.037	0.042	-	-	-
HCM Control Delay (s)	8.077	0	-	10.7	9.8	0	-	-
HCM Lane LOS	A	A		B	A	A		
HCM 95th %tile Q(veh)	0.059	-	-	0.114	0.131	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	235	0	6	0	0	0	0	17	6	106	9	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	92	77	92	92	92	92	77	77	77	77	92
Heavy Vehicles, %	16	2	67	2	2	2	2	18	30	4	45	2
Mvmt Flow	305	0	8	0	0	0	0	22	8	138	12	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	313	317	12			12	0	0	30	0	0
Stage 1	287	287	-			-	-	-	-	-	-
Stage 2	26	30	-			-	-	-	-	-	-
Follow-up Headway	3.644	4.018	3.903			2.218	-	-	2.236	-	-
Pot Capacity-1 Maneuver	652	599	907			1607	-	-	1570	-	-
Stage 1	731	674	-			-	-	-	-	-	-
Stage 2	962	870	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	595	0	907			1607	-	-	1570	-	-
Mov Capacity-2 Maneuver	595	0	-			-	-	-	-	-	-
Stage 1	667	0	-			-	-	-	-	-	-
Stage 2	962	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0	6.9
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1607	-	-	597	907	1570	-	-
HCM Lane V/C Ratio	-	-	-	0.516	0.006	0.088	-	-
HCM Control Delay (s)	0	-	-	17.3	9	7.513	0	-
HCM Lane LOS	A			C	A	A	A	
HCM 95th %tile Q(veh)	0	-	-	2.952	0.017	0.288	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	16	28	45	18	0
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	18	32	52	21	0

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	137	21	21	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	116	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	856	1056	1595	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	838	1056	1595	-	-	-
Mov Capacity-2 Maneuver	838	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	2.8	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1595	-	1040	-	-
HCM Lane V/C Ratio	0.02	-	0.019	-	-
HCM Control Delay (s)	7.304	0	8.5	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.062	-	0.057	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	30	10	1	48	4
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	36	12	1	57	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	132	13	0	0	13	0
Stage 1	13	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	862	1067	-	-	1606	-
Stage 1	1010	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	831	1067	-	-	1606	-
Mov Capacity-2 Maneuver	831	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	8.5	0	6.8
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	1057	1606	-
HCM Lane V/C Ratio	-	-	0.035	0.036	-
HCM Control Delay (s)	-	-	8.5	7.324	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.108	0.111	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.2

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	27	82	35	19	14	25
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	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	92	39	21	16	28

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	130	30	44	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	864	1044	1564	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	842	1044	1564	-	-	-
Mov Capacity-2 Maneuver	842	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.2	4.8	0
HCM LOS	A		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1564	-	985	-	-
HCM Lane V/C Ratio	0.025	-	0.124	-	-
HCM Control Delay (s)	7.361	0	9.2	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.077	-	0.424	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

2015 Level of Service

Intersection	
Intersection Delay, s/veh	23.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	61	209	157	60	211	22	210	28	62	36	35	86
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, %	44	33	19	8	28	32	19	19	8	6	6	19
Mvmt Flow	68	232	174	67	234	24	233	31	69	40	39	96
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	16.8	35.6	25.7	18.3
HCM LOS	C	E	D	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	88%	0%	100%	0%	0%	20%	23%
Vol Thru, %	12%	0%	0%	100%	0%	72%	22%
Vol Right, %	0%	100%	0%	0%	100%	8%	55%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	62	61	209	157	293	157
LT Vol	28	0	0	209	0	211	35
Through Vol	0	62	0	0	157	22	86
RT Vol	210	0	61	0	0	60	36
Lane Flow Rate	264	69	68	232	174	326	174
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.676	0.154	0.168	0.531	0.352	0.777	0.431
Departure Headway (Hd)	9.201	8.025	8.942	8.235	7.268	8.594	8.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	394	447	401	439	495	420	405
Service Time	6.952	5.776	6.69	5.982	5.016	6.345	6.652
HCM Lane V/C Ratio	0.67	0.154	0.17	0.528	0.352	0.776	0.43
HCM Control Delay	29.2	12.2	13.5	20	13.9	35.6	18.3
HCM Lane LOS	D	B	B	C	B	E	C
HCM 95th-tile Q	4.8	0.5	0.6	3	1.6	6.6	2.1

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	42	26	174	65	19	117
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	31	210	78	23	141
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	7.6	8.7
HCM LOS	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	117	21	21	26	184	33	33
LT Vol	0	0	21	21	0	0	33	33
Through Vol	0	117	0	0	26	0	0	0
RT Vol	19	0	0	0	0	184	0	0
Lane Flow Rate	23	141	25	25	31	222	39	39
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.038	0.19	0.04	0.04	0.028	0.347	0.056	0.056
Departure Headway (Hd)	6.038	4.842	5.63	5.63	3.18	5.639	5.136	5.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	739	633	633	1113	636	695	695
Service Time	3.781	2.585	3.387	3.387	0.936	3.39	2.887	2.887
HCM Lane V/C Ratio	0.039	0.191	0.039	0.039	0.028	0.349	0.056	0.056
HCM Control Delay	9	8.7	8.6	8.6	6	11.4	8.2	8.2
HCM Lane LOS	A	A	A	A	A	B	A	A
HCM 95th-tile Q	0.1	0.7	0.1	0.1	0.1	1.5	0.2	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	54.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	66	309	237	112	187	154	82	76	70	135	76	45
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	7	3	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	84	391	300	142	237	195	104	96	89	171	96	57
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	67.4	58.6	31.9	38.2
HCM LOS	F	F	D	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	100%	0%	100%	0%	53%
Vol Thru, %	33%	0%	57%	0%	55%	30%
Vol Right, %	31%	0%	43%	0%	45%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	66	546	112	341	256
LT Vol	76	0	309	0	187	76
Through Vol	70	0	237	0	154	45
RT Vol	82	66	0	112	0	135
Lane Flow Rate	289	84	691	142	432	324
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.72	0.221	1	0.359	0.998	0.791
Departure Headway (Hd)	8.975	9.535	8.623	9.245	8.441	8.902
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	378	429	391	432	408
Service Time	6.975	7.254	6.343	6.945	6.141	6.902
HCM Lane V/C Ratio	0.715	0.222	1.611	0.363	1	0.794
HCM Control Delay	31.9	14.9	73.7	17	72.3	38.2
HCM Lane LOS	D	B	F	C	F	E
HCM 95th-tile Q	5.5	0.8	12.5	1.6	12.6	6.9

Notes

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Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

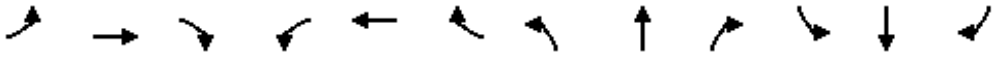
Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	24	208	301	123	49	29
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	245	354	145	58	34
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	11	14.4	8.9
HCM LOS	B	B	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	123	24	208	49	29
LT Vol	0	123	0	0	49	0
Through Vol	0	0	0	208	0	29
RT Vol	301	0	24	0	0	0
Lane Flow Rate	354	145	28	245	58	34
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.576	0.215	0.051	0.362	0.096	0.05
Departure Headway (Hd)	5.853	5.349	6.532	5.324	5.973	5.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	609	663	545	670	604	684
Service Time	3.65	3.146	4.314	3.106	3.673	2.963
HCM Lane V/C Ratio	0.581	0.219	0.051	0.366	0.096	0.05
HCM Control Delay	16.4	9.6	9.7	11.1	9.3	8.2
HCM Lane LOS	C	A	A	B	A	A
HCM 95th-tile Q	3.7	0.8	0.2	1.7	0.3	0.2

Notes

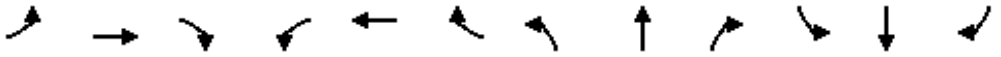
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	407	122	300	649	0	0	0	0	409	0	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.97		1.00	1.00					1.00	0.92	
Flt Protected		1.00		0.95	1.00					0.95	0.98	
Satd. Flow (prot)		3433		1736	1881					1618	1573	
Flt Permitted		1.00		0.95	1.00					0.95	0.98	
Satd. Flow (perm)		3433		1736	1881					1618	1573	
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.90	0.90	0.90	0.90	0.84	0.84	0.84
Adj. Flow (vph)	0	485	145	357	773	0	0	0	0	487	0	160
RTOR Reduction (vph)	0	37	0	0	0	0	0	0	0	0	49	0
Lane Group Flow (vph)	0	593	0	357	773	0	0	0	0	331	267	0
Heavy Vehicles (%)	2%	2%	0%	4%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		17.5		20.8	42.3					24.7	24.7	
Effective Green, g (s)		17.5		20.8	42.3					24.7	24.7	
Actuated g/C Ratio		0.23		0.28	0.56					0.33	0.33	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		801		481	1060					532	518	
v/s Ratio Prot		0.17		0.21	c0.41					c0.20	0.17	
v/s Ratio Perm												
v/c Ratio		0.74		0.74	0.73					0.62	0.52	
Uniform Delay, d1		26.6		24.7	12.1					21.2	20.3	
Progression Factor		1.00		1.12	2.27					1.00	1.00	
Incremental Delay, d2		3.7		5.0	2.1					5.4	3.6	
Delay (s)		30.4		32.6	29.5					26.6	24.0	
Level of Service		C		C	C					C	C	
Approach Delay (s)		30.4			30.5			0.0			25.3	
Approach LOS		C			C			A			C	

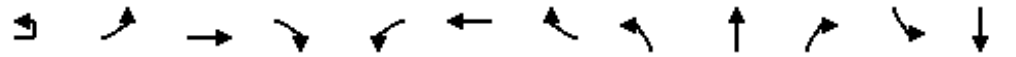
Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	593	104	43	458	18	158	85	95	37	88	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.98			0.99		1.00	0.92		1.00	0.96	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3455			3506		1770	1715		1681	1696	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3455			3506		1770	1715		1681	1692	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	44	652	114	47	503	20	174	93	104	41	97	37
RTOR Reduction (vph)	0	18	0	0	3	0	0	49	0	0	14	0
Lane Group Flow (vph)	0	792	0	0	567	0	174	148	0	37	124	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		18.0			15.2		9.0	22.1		4.5	22.1	
Effective Green, g (s)		18.0			15.2		9.0	22.1		4.5	22.1	
Actuated g/C Ratio		0.24			0.20		0.12	0.29		0.06	0.29	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		820			703		210	500		99	493	
v/s Ratio Prot		c0.23			c0.16		c0.10	c0.09		0.02	0.01	
v/s Ratio Perm											0.06	
v/c Ratio		0.97			0.81		0.83	0.30		0.37	0.25	
Uniform Delay, d1		28.6			28.9		32.6	20.8		34.3	20.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		23.3			6.7		22.8	1.5		2.4	0.3	
Delay (s)		51.9			35.6		55.4	22.3		36.7	20.8	
Level of Service		D			D		E	C		D	C	
Approach Delay (s)		51.9			35.6			37.8			24.1	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	75.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	46	180	666	223	90	361	69	247	159	115	139	136
Number		7	4	14	3	8	18	5	2	12	1	6
Initial Q (Qb), veh		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	
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
Adj Sat Flow veh/h/ln		186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3
Lanes		1	2	0	1	1	1	1	2	0	1	2
Cap, veh/h		223	858	287	118	487	414	292	687	465	176	509
Arrive On Green		0.13	0.32	0.32	0.07	0.26	0.26	0.16	0.33	0.33	0.10	0.27
Sat Flow, veh/h		1774	2674	894	1774	1863	1583	1774	2074	1403	1774	1917
Grp Volume(v), veh/h		182	469	429	91	365	70	249	143	134	140	133
Grp Sat Flow(s),veh/h/ln		1774	1863	1705	1774	1863	1583	1774	1863	1615	1774	1863
Q Serve(g_s), s		8.8	20.0	20.0	4.4	15.8	3.0	11.9	4.9	5.3	6.8	4.9
Cycle Q Clear(g_c), s		8.8	20.0	20.0	4.4	15.8	3.0	11.9	4.9	5.3	6.8	4.9
Prop In Lane		1.00		0.52	1.00		1.00	1.00		0.87	1.00	
Lane Grp Cap(c), veh/h		223	598	547	118	487	414	292	617	535	176	495
V/C Ratio(X)		0.82	0.78	0.78	0.77	0.75	0.17	0.85	0.23	0.25	0.80	0.27
Avail Cap(c_a), veh/h		567	1085	993	304	808	687	547	617	535	385	495
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
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
Uniform Delay (d), s/veh		37.3	27.0	27.0	40.2	29.7	25.0	35.5	21.2	21.4	38.6	25.4
Incr Delay (d2), s/veh		7.1	2.3	2.5	10.3	2.3	0.2	7.0	0.9	1.1	8.0	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
%ile Back of Q (50%), veh/ln		4.4	9.5	8.7	2.3	7.6	1.2	5.9	2.4	2.2	3.4	2.5
Lane Grp Delay (d), s/veh		44.4	29.3	29.5	50.5	32.0	25.2	42.5	22.1	22.5	46.6	26.8
Lane Grp LOS		D	C	C	D	C	C	D	C	C	D	C
Approach Vol, veh/h			1080			526			526			396
Approach Delay, s/veh			31.9			34.3			31.9			34.0
Approach LOS			C			C			C			C

Timer											
Assigned Phs	7	4		3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	15.0	32.1		9.8	26.9		18.4	33.0		12.7	27.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	28.0	51.0		15.0	38.0		27.0	29.0		19.0	21.0
Max Q Clear Time (g_c+I1), s	10.8	22.0		6.4	17.8		13.9	7.3		8.8	7.4
Green Ext Time (p_c), s	0.4	5.5		0.1	5.1		0.5	1.8		0.2	1.6

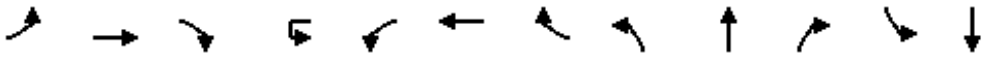
Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

Movement	SBR
Lane Configurations	
Volume (veh/h)	118
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	190.0
Lanes	0
Cap, veh/h	408
Arrive On Green	0.27
Sat Flow, veh/h	1537
Grp Volume(v), veh/h	123
Grp Sat Flow(s),veh/h/ln	1591
Q Serve(g_s), s	5.4
Cycle Q Clear(g_c), s	5.4
Prop In Lane	0.97
Lane Grp Cap(c), veh/h	423
V/C Ratio(X)	0.29
Avail Cap(c_a), veh/h	423
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	25.6
Incr Delay (d2), s/veh	1.7
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	2.8
Lane Grp Delay (d), s/veh	27.4
Lane Grp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

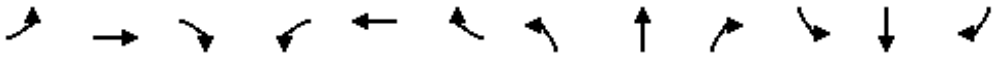


Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	53	252	23	14	311	379	75	44	63	158	40	60
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Parking Bus Adj	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1		2	1	1	1	3	1	1	3
Cap, veh/h	72	675	287		477	520	442	64	2167	614	60	2156
Arrive On Green	0.04	0.18	0.18		0.14	0.28	0.28	0.04	0.39	0.39	0.03	0.39
Sat Flow, veh/h	1774	3725	1583		3442	1863	1583	1774	5588	1583	1774	5588
Grp Volume(v), veh/h	57	271	25		334	408	81	47	68	170	43	65
Grp Sat Flow(s),veh/h/ln	1774	1863	1583		1721	1863	1583	1774	1863	1583	1774	1863
Q Serve(g_s), s	2.0	4.0	0.8		5.7	12.5	2.4	1.6	0.5	4.6	1.5	0.4
Cycle Q Clear(g_c), s	2.0	4.0	0.8		5.7	12.5	2.4	1.6	0.5	4.6	1.5	0.4
Prop In Lane	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	72	675	287		477	520	442	64	2167	614	60	2156
V/C Ratio(X)	0.79	0.40	0.09		0.70	0.78	0.18	0.74	0.03	0.28	0.72	0.03
Avail Cap(c_a), veh/h	287	1385	589		1168	1023	870	201	2167	614	172	2156
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
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
Uniform Delay (d), s/veh	29.4	22.4	21.1		25.4	20.6	16.9	29.5	11.7	13.0	29.6	11.8
Incr Delay (d2), s/veh	17.6	0.4	0.1		1.9	2.6	0.2	15.4	0.0	1.1	14.8	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
%ile Back of Q (50%), veh/ln	1.2	1.8	0.3		2.5	5.8	0.0	1.0	0.2	1.8	0.9	0.2
Lane Grp Delay (d), s/veh	47.0	22.8	21.2		27.3	23.2	17.1	44.9	11.8	14.1	44.4	11.8
Lane Grp LOS	D	C	C		C	C	B	D	B	B	D	B
Approach Vol, veh/h		353				823			285			224
Approach Delay, s/veh		26.6				24.3			18.6			18.8
Approach LOS		C				C			B			B
Timer												
Assigned Phs	7	4			3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	6.5	15.2			12.6	21.3		6.2	28.0		6.1	27.9
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	2.5	23.0			21.0	34.0		7.0	24.0		6.0	23.0
Max Q Clear Time (g_c+I1), s	4.0	6.0			7.7	14.5		3.6	6.6		3.5	5.0
Green Ext Time (p_c), s	0.0	2.7			0.9	2.8		0.0	1.2		0.0	1.2
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									
Notes												

Movement	SBR
Lane Configurations	
Volume (veh/h)	108
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	611
Arrive On Green	0.39
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	116
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	3.0
Cycle Q Clear(g_c), s	3.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	611
V/C Ratio(X)	0.19
Avail Cap(c_a), veh/h	611
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	12.6
Incr Delay (d2), s/veh	0.7
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	1.1
Lane Grp Delay (d), s/veh	13.3
Lane Grp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

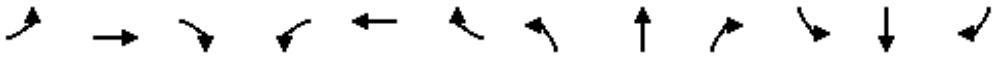


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	644	62	15	407	101	56	23	15	83	22	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	69	750	638	28	1096	269	73	271	181	110	523	445
Arrive On Green	0.04	0.40	0.40	0.02	0.38	0.38	0.04	0.26	0.26	0.06	0.28	0.28
Sat Flow, veh/h	1774	1863	1583	1774	2891	709	1774	1044	696	1774	1863	1583
Grp Volume(v), veh/h	54	671	65	16	272	257	58	0	40	86	23	40
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1738	1774	0	1740	1774	1863	1583
Q Serve(g_s), s	1.9	20.7	1.6	0.6	6.5	6.6	2.0	0.0	1.1	2.9	0.6	1.1
Cycle Q Clear(g_c), s	1.9	20.7	1.6	0.6	6.5	6.6	2.0	0.0	1.1	2.9	0.6	1.1
Prop In Lane	1.00		1.00	1.00		0.41	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	69	750	638	28	706	659	73	0	452	110	523	445
V/C Ratio(X)	0.78	0.89	0.10	0.58	0.38	0.39	0.80	0.00	0.09	0.78	0.04	0.09
Avail Cap(c_a), veh/h	173	817	694	173	817	762	144	0	452	144	523	445
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	17.2	11.4	30.1	13.9	13.9	29.3	0.0	17.3	28.5	16.1	16.3
Incr Delay (d2), s/veh	16.7	11.7	0.1	17.8	0.3	0.4	17.8	0.0	0.4	18.4	0.2	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 Back of Q (50%), veh/ln	1.1	11.0	0.6	0.4	2.9	2.7	1.2	0.0	0.5	1.8	0.3	0.5
Lane Grp Delay (d), s/veh	46.0	28.9	11.5	47.9	14.2	14.3	47.1	0.0	17.6	46.9	16.3	16.7
Lane Grp LOS	D	C	B	D	B	B	D		B	D	B	B
Approach Vol, veh/h		790			545			98			149	
Approach Delay, s/veh		28.6			15.3			35.1			34.1	
Approach LOS		C			B			D			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	6.4	28.8		5.0	27.3		6.5	20.0		7.8	21.3	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	6.0	27.0		6.0	27.0		5.0	16.0		5.0	16.0	
Max Q Clear Time (g_c+I1), s	3.9	22.7		2.6	8.6		4.0	3.1		4.9	3.1	
Green Ext Time (p_c), s	0.0	2.1		0.0	4.8		0.0	0.2		0.0	0.2	

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	460	10	11	547	84	35	23	11	76	17	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	1	0	1	1
Cap, veh/h	81	1124	25	22	873	133	657	789	671	630	127	671
Arrive On Green	0.05	0.31	0.31	0.01	0.28	0.28	0.42	0.42	0.00	0.42	0.42	0.42
Sat Flow, veh/h	1774	3630	82	1774	3159	482	1312	1863	1583	1160	299	1583
Grp Volume(v), veh/h	59	251	249	12	343	328	37	24	0	99	0	63
Grp Sat Flow(s),veh/h/ln	1774	1863	1848	1774	1863	1778	1312	1863	1583	1459	0	1583
Q Serve(g_s), s	1.5	5.1	5.1	0.3	7.7	7.7	0.8	0.4	0.0	1.4	0.0	1.1
Cycle Q Clear(g_c), s	1.5	5.1	5.1	0.3	7.7	7.7	2.7	0.4	0.0	1.9	0.0	1.1
Prop In Lane	1.00		0.04	1.00		0.27	1.00		1.00	0.82		1.00
Lane Grp Cap(c), veh/h	81	577	572	22	515	491	657	789	671	757	0	671
V/C Ratio(X)	0.73	0.43	0.44	0.55	0.67	0.67	0.06	0.03	0.00	0.13	0.00	0.09
Avail Cap(c_a), veh/h	301	947	940	150	789	753	657	789	671	757	0	671
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	0.00	1.00
Uniform Delay (d), s/veh	22.2	13.0	13.0	23.2	15.1	15.2	9.2	7.9	0.0	8.3	0.0	8.2
Incr Delay (d2), s/veh	11.8	0.5	0.5	19.7	1.5	1.6	0.2	0.1	0.0	0.4	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 Back of Q (50%), veh/ln	0.9	2.2	2.2	0.2	3.4	3.3	0.3	0.2	0.0	0.7	0.0	0.4
Lane Grp Delay (d), s/veh	34.0	13.5	13.5	42.8	16.6	16.7	9.4	8.0	0.0	8.7	0.0	8.4
Lane Grp LOS	C	B	B	D	B	B	A	A		A		A
Approach Vol, veh/h		559			683			61			162	
Approach Delay, s/veh		15.7			17.1			8.8			8.6	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	6.2	18.6		4.6	17.0			24.0			24.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	3.0	24.0		4.0	20.0			20.0			20.0	
Max Q Clear Time (g_c+I1), s	3.5	7.1		2.3	9.7			4.7			3.9	
Green Ext Time (p_c), s	0.0	4.0		0.0	3.3			0.6			0.6	

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	718	57	66	455	87	105
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	1	2	1	1
Cap, veh/h	1488	632	106	2200	261	233
Arrive On Green	0.40	0.40	0.06	0.59	0.15	0.15
Sat Flow, veh/h	3725	1583	1774	3725	1774	1583
Grp Volume(v), veh/h	780	62	72	495	95	114
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	4.8	0.7	1.2	1.9	1.5	2.0
Cycle Q Clear(g_c), s	4.8	0.7	1.2	1.9	1.5	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1488	632	106	2200	261	233
V/C Ratio(X)	0.52	0.10	0.68	0.22	0.36	0.49
Avail Cap(c_a), veh/h	2812	1195	349	4035	1106	987
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	5.7	14.0	2.9	11.7	11.9
Incr Delay (d2), s/veh	0.3	0.1	7.3	0.1	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.7	0.2	0.7	0.4	0.6	0.7
Lane Grp Delay (d), s/veh	7.2	5.8	21.4	3.0	12.6	13.5
Lane Grp LOS	A	A	C	A	B	B
Approach Vol, veh/h	842			567	209	
Approach Delay, s/veh	7.1			5.3	13.1	
Approach LOS	A			A	B	

Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	16.2		5.8	22.0		
Change Period (Y+Rc), s	4.0		4.0	4.0		
Max Green Setting (Gmax), s	23.0		6.0	33.0		
Max Q Clear Time (g_c+I1), s	6.8		3.2	3.9		
Green Ext Time (p_c), s	5.3		0.0	6.3		

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (veh/h)	137	149	630	265	13	79	493	69	227	159	115	139
Number		7	4	14		3	8	18	5	2	12	1
Initial Q (Qb), veh		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
Parking Bus Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		186.3	186.3	186.3		186.3	186.3	190.0	186.3	186.3	190.0	186.3
Lanes		1	2	1		1	2	0	2	1	0	1
Cap, veh/h		206	1244	529		105	887	124	1280	374	271	660
Arrive On Green		0.12	0.33	0.00		0.06	0.28	0.28	0.37	0.37	0.37	0.37
Sat Flow, veh/h		1774	3725	1583		1774	3200	447	3442	1007	728	1774
Grp Volume(v), veh/h		155	656	0		82	298	288	236	0	286	145
Grp Sat Flow(s),veh/h/ln		1774	1863	1583		1774	1863	1784	1721	0	1734	1774
Q Serve(g_s), s		4.3	7.3	0.0		2.3	7.0	7.1	2.4	0.0	6.3	2.9
Cycle Q Clear(g_c), s		4.3	7.3	0.0		2.3	7.0	7.1	2.4	0.0	6.3	2.9
Prop In Lane		1.00		1.00		1.00		0.25	1.00		0.42	1.00
Lane Grp Cap(c), veh/h		206	1244	529		105	517	495	1280	0	645	660
V/C Ratio(X)		0.75	0.53	0.00		0.78	0.58	0.58	0.18	0.00	0.44	0.22
Avail Cap(c_a), veh/h		972	3427	1456		417	1130	1082	1280	0	645	660
HCM Platoon Ratio		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	0.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		21.9	13.8	0.0		23.7	15.9	15.9	10.8	0.0	12.1	11.0
Incr Delay (d2), s/veh		5.5	0.3	0.0		11.7	1.0	1.1	0.3	0.0	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
%ile Back of Q (50%), veh/ln		2.1	3.1	0.0		1.3	3.0	2.9	0.9	0.0	2.9	1.2
Lane Grp Delay (d), s/veh		27.4	14.1	0.0		35.4	16.9	17.0	11.1	0.0	14.3	11.1
Lane Grp LOS		C	B			D	B	B	B		B	B
Approach Vol, veh/h			811				668			522		
Approach Delay, s/veh			16.6				19.2			12.9		
Approach LOS			B				B			B		

Timer									
Assigned Phs	7	4			3	8			2
Phs Duration (G+Y+Rc), s	9.9	21.1			7.0	18.2			23.0
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0			4.0
Max Green Setting (Gmax), s	28.0	47.0			12.0	31.0			19.0
Max Q Clear Time (g_c+I1), s	6.3	9.3			4.3	9.1			8.3
Green Ext Time (p_c), s	0.3	5.5			0.1	5.1			2.6

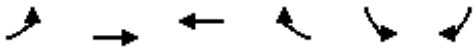
Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Notes

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	136	118
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus Adj	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	190.0
Lanes	2	0
Cap, veh/h	713	571
Arrive On Green	0.37	0.37
Sat Flow, veh/h	1918	1537
Grp Volume(v), veh/h	138	127
Grp Sat Flow(s),veh/h/ln	1863	1592
Q Serve(g_s), s	2.6	2.8
Cycle Q Clear(g_c), s	2.6	2.8
Prop In Lane		0.97
Lane Grp Cap(c), veh/h	693	592
V/C Ratio(X)	0.20	0.22
Avail Cap(c_a), veh/h	693	592
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	10.9	11.0
Incr Delay (d2), s/veh	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0
%ile Back of Q (50%), veh/ln	1.1	1.0
Lane Grp Delay (d), s/veh	11.0	11.1
Lane Grp LOS	B	B
Approach Vol, veh/h	410	
Approach Delay, s/veh	11.1	
Approach LOS	B	

Timer	
Assigned Phs	6
Phs Duration (G+Y+Rc), s	23.0
Change Period (Y+Rc), s	4.0
Max Green Setting (Gmax), s	16.0
Max Q Clear Time (g_c+I1), s	4.8
Green Ext Time (p_c), s	2.6

Intersection Summary

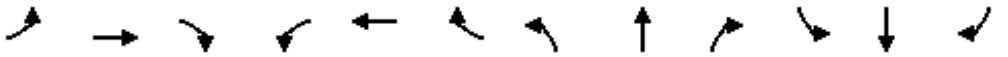


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	78	497	195	356	85	152
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	152.0	184.5	184.5	190.0	186.3	174.3
Lanes	1	2	2	0	1	1
Cap, veh/h	112	1699	570	484	693	579
Arrive On Green	0.08	0.46	0.31	0.31	0.39	0.39
Sat Flow, veh/h	1448	3689	1845	1568	1774	1482
Grp Volume(v), veh/h	94	599	235	429	102	183
Grp Sat Flow(s),veh/h/ln	1448	1845	1845	1568	1774	1482
Q Serve(g_s), s	3.4	5.6	5.4	14.0	2.0	4.6
Cycle Q Clear(g_c), s	3.4	5.6	5.4	14.0	2.0	4.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	112	1699	570	484	693	579
V/C Ratio(X)	0.84	0.35	0.41	0.89	0.15	0.32
Avail Cap(c_a), veh/h	269	2127	583	496	693	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	9.3	14.7	17.7	10.6	11.4
Incr Delay (d2), s/veh	15.0	0.1	0.5	17.1	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.6	2.2	2.4	7.3	0.9	0.2
Lane Grp Delay (d), s/veh	39.5	9.5	15.2	34.8	11.0	12.8
Lane Grp LOS	D	A	B	C	B	B
Approach Vol, veh/h		693	664		285	
Approach Delay, s/veh		13.5	27.8		12.2	
Approach LOS		B	C		B	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	8.2	28.8	20.6			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	10.0	31.0	17.0			
Max Q Clear Time (g_c+I1), s	5.4	7.6	16.0			
Green Ext Time (p_c), s	0.1	5.5	0.6			

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	93	9	2	0	22	57	2	47	0	20	96	129
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	3	0	1	3	1
Cap, veh/h	195	205	174	195	205	174	5	2907	0	41	3023	856
Arrive On Green	0.11	0.11	0.11	0.00	0.11	0.11	0.00	0.52	0.00	0.02	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5588	0	1774	5588	1583
Grp Volume(v), veh/h	107	10	2	0	25	66	2	54	0	23	110	148
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	2.0	0.2	0.0	0.0	0.4	1.3	0.0	0.2	0.0	0.4	0.3	1.6
Cycle Q Clear(g_c), s	2.0	0.2	0.0	0.0	0.4	1.3	0.0	0.2	0.0	0.4	0.3	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	195	205	174	195	205	174	5	2907	0	41	3023	856
V/C Ratio(X)	0.55	0.05	0.01	0.00	0.12	0.38	0.39	0.02	0.00	0.57	0.04	0.17
Avail Cap(c_a), veh/h	820	861	732	820	861	732	205	2907	0	205	3023	856
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	13.8	13.7	0.0	13.9	14.3	17.2	4.0	0.0	16.7	3.7	4.0
Incr Delay (d2), s/veh	2.4	0.1	0.0	0.0	0.3	1.4	42.1	0.0	0.0	11.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	0.1	0.0	0.0	0.2	0.5	0.1	0.0	0.0	0.3	0.1	0.4
Lane Grp Delay (d), s/veh	17.0	13.9	13.7	0.0	14.2	15.7	59.3	4.0	0.0	28.5	3.7	4.5
Lane Grp LOS	B	B	B		B	B	E	A		C	A	A
Approach Vol, veh/h		119			91			56			281	
Approach Delay, s/veh		16.7			15.2			6.0			6.1	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		7.8			7.8		4.1	22.0		4.8	22.7	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0			16.0		4.0	18.0		4.0	18.0	
Max Q Clear Time (g_c+I1), s		4.0			3.3		2.0	2.2		2.4	3.6	
Green Ext Time (p_c), s		0.4			0.4		0.0	0.9		0.0	0.9	

Intersection Summary												
HCM 2010 Ctrl Delay			9.9									
HCM 2010 LOS			A									

Notes

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	51	261	260	25	12	32
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	31	47	8	0	3
Mvmt Flow	59	300	299	29	14	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	328	0	-	0	730	313
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	417	-
Follow-up Headway	2.2	-	-	-	3.5	3.327
Pot Capacity-1 Maneuver	1243	-	-	-	392	725
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	669	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1243	-	-	-	370	725
Mov Capacity-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1243	-	-	-	370	725
HCM Lane V/C Ratio	0.047	-	-	-	0.037	0.051
HCM Control Delay (s)	8.04	0	-	-	15.1	10.2
HCM Lane LOS	A	A			C	B
HCM 95th %tile Q(veh)	0.148	-	-	-	0.116	0.16

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	31	269	0	0	228	279	30	0	158	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	94	91	94	94	94
Heavy Vehicles, %	3	17	2	2	29	17	10	2	45	2	2	2
Mvmt Flow	34	296	0	0	251	307	33	0	174	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	557	0	0	296	0	0	489	921	148
Stage 1	-	-	-	-	-	-	364	364	-
Stage 2	-	-	-	-	-	-	125	557	-
Follow-up Headway	2.23	-	-	2.22	-	-	3.6	4.02	3.75
Pot Capacity-1 Maneuver	1003	-	-	1262	-	-	489	269	752
Stage 1	-	-	-	-	-	-	650	622	-
Stage 2	-	-	-	-	-	-	864	510	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	1003	-	-	1262	-	-	472	0	752
Mov Capacity-2 Maneuver	-	-	-	-	-	-	472	0	-
Stage 1	-	-	-	-	-	-	628	0	-
Stage 2	-	-	-	-	-	-	864	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.9	0	11.5
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	472	752	1003	-	-	1262	-	-
HCM Lane V/C Ratio	0.07	0.231	0.034	-	-	-	-	-
HCM Control Delay (s)	13.2	11.2	8.715	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.224	0.89	0.105	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	62	11	189	69	0	0	0	0	238	0	25
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	-	-	-	0	-	-	-	-	-	600	-	-
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	7	16	18	4	2	2	2	2	17	0	8
Mvmt Flow	0	67	12	203	74	0	0	0	0	256	0	27

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	74	0	0	78	0	0				514	559	37
Stage 1	-	-	-	-	-	-				481	481	-
Stage 2	-	-	-	-	-	-				33	78	-
Follow-up Headway	2.22	-	-	2.38	-	-				3.67	4	3.38
Pot Capacity-1 Maneuver	1524	-	-	1409	-	-				455	440	1008
Stage 1	-	-	-	-	-	-				546	557	-
Stage 2	-	-	-	-	-	-				943	834	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1524	-	-	1409	-	-				389	0	1008
Mov Capacity-2 Maneuver	-	-	-	-	-	-				389	0	-
Stage 1	-	-	-	-	-	-				467	0	-
Stage 2	-	-	-	-	-	-				943	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	5.8	19
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1524	-	-	1409	-	-	389	456
HCM Lane V/C Ratio	-	-	-	0.144	-	-	0.439	0.246
HCM Control Delay (s)	0	-	-	7.985	-	-	21.3	15.5
HCM Lane LOS	A			A			C	C
HCM 95th %tile Q(veh)	0	-	-	0.504	-	-	2.171	0.958

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	50	44	13	36	37	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	57	50	15	41	42	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	141	35	0	0	56	0
Stage 1	35	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	840	1024	-	-	1523	-
Stage 1	975	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	816	1024	-	-	1523	-
Mov Capacity-2 Maneuver	816	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	4.9
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	816	1024	1523	-
HCM Lane V/C Ratio	-	-	0.07	0.049	0.028	-
HCM Control Delay (s)	-	-	9.7	8.7	7.431	0
HCM Lane LOS			A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.224	0.154	0.085	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	13	156	227	52	36	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	179	261	60	41	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	363	130
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	102	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	1300	-	-	-	622	896
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	870	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1300	-	-	-	615	896
Mov Capacity-2 Maneuver	-	-	-	-	615	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.7
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1300	-	-	-	698
HCM Lane V/C Ratio	0.011	-	-	-	0.096
HCM Control Delay (s)	7.801	-	-	-	10.7
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.035	-	-	-	0.316

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	522	776	7	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	574	853	8	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	853	0	-	0	1142	853
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	289	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	786	-	-	-	207	358
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	735	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	786	-	-	-	207	358
Mov Capacity-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.9
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	786	-	-	-	237
HCM Lane V/C Ratio	0.001	-	-	-	0.046
HCM Control Delay (s)	9.587	-	-	-	20.9
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0.004	-	-	-	0.145

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	8	0	106	44	467	0	0	195	356
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	95	95	92	92	95	95
Heavy Vehicles, %	2	2	2	43	2	5	23	9	2	2	6	8
Mvmt Flow	0	0	0	8	0	112	46	492	0	0	205	375

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	977	1164	492	580	0	0	492	0	0
Stage 1	584	584	-	-	-	-	-	-	-
Stage 2	393	580	-	-	-	-	-	-	-
Follow-up Headway	3.887	4.018	3.345	2.407	-	-	2.218	-	-
Pot Capacity-1 Maneuver	235	194	571	898	-	-	1071	-	-
Stage 1	485	498	-	-	-	-	-	-	-
Stage 2	601	500	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	219	0	571	898	-	-	1071	-	-
Mov Capacity-2 Maneuver	219	0	-	-	-	-	-	-	-
Stage 1	451	0	-	-	-	-	-	-	-
Stage 2	601	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0.8	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	898	-	-	440	571	1071	-	-
HCM Lane V/C Ratio	0.052	-	-	0.104	0.13	-	-	-
HCM Control Delay (s)	9.227	0	-	14.1	12.2	0	-	-
HCM Lane LOS	A	A		B	B	A		
HCM 95th %tile Q(veh)	0.163	-	-	0.345	0.446	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	179.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	455	0	10	0	0	0	0	56	14	190	13	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	92	77	92	92	92	92	77	77	77	77	92
Heavy Vehicles, %	8	2	67	2	2	2	2	8	30	4	45	2
Mvmt Flow	591	0	13	0	0	0	0	73	18	247	17	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	592	601	17			17	0	0	91	0	0
Stage 1	510	510	-			-	-	-	-	-	-
Stage 2	82	91	-			-	-	-	-	-	-
Follow-up Headway	3.572	4.018	3.903			2.218	-	-	2.236	-	-
Pot Capacity-1 Maneuver	459	414	901			1600	-	-	1491	-	-
Stage 1	591	538	-			-	-	-	-	-	-
Stage 2	926	820	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	382	0	901			1600	-	-	1491	-	-
Mov Capacity-2 Maneuver	382	0	-			-	-	-	-	-	-
Stage 1	492	0	-			-	-	-	-	-	-
Stage 2	926	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	282	0	7.4
HCM LOS	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1600	-	-	384	901	1491	-	-
HCM Lane V/C Ratio	-	-	-	1.55	0.01	0.165	-	-
HCM Control Delay (s)	0	-	-	286	9	7.893	0	-
HCM Lane LOS	A			F	A	A	A	
HCM 95th %tile Q(veh)	0	-	-	33.14	0.029	0.593	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	27	31	76	30	0
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	31	36	87	34	0

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	193	34	34	0	-	0
Stage 1	34	-	-	-	-	-
Stage 2	159	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	796	1039	1578	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	870	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	777	1039	1578	-	-	-
Mov Capacity-2 Maneuver	777	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	2.1	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1578	-	1027	-	-
HCM Lane V/C Ratio	0.023	-	0.031	-	-
HCM Control Delay (s)	7.334	0	8.6	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.069	-	0.097	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.8

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	258	10	1	83	4
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	307	12	1	99	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	215	13	0	0	13	0
Stage 1	13	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	773	1067	-	-	1606	-
Stage 1	1010	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	725	1067	-	-	1606	-
Mov Capacity-2 Maneuver	725	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	780	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.8	0	7
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	1065	1606	-
HCM Lane V/C Ratio	-	-	0.29	0.062	-
HCM Control Delay (s)	-	-	9.8	7.388	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	1.207	0.196	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.9

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	28	173	197	20	15	26
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	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	194	221	22	17	29

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	496	31	46	0	-	0
Stage 1	31	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	533	1043	1562	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	457	1043	1562	-	-	-
Mov Capacity-2 Maneuver	457	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	10.5	7	0
HCM LOS	B		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1562	-	885	-	-
HCM Lane V/C Ratio	0.142	-	0.255	-	-
HCM Control Delay (s)	7.685	0	10.5	-	-
HCM Lane LOS	A	A	B		
HCM 95th %tile Q(veh)	0.494	-	1.015	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	182	173	44	199	24	150	33	45	23	20	50
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, %	25	18	9	29	26	13	12	9	15	13	21	56
Mvmt Flow	103	194	184	47	212	26	160	35	48	24	21	53
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	12.2	21.7	15.6	12.9
HCM LOS	B	C	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	82%	0%	100%	0%	0%	16%	25%
Vol Thru, %	18%	0%	0%	100%	0%	75%	22%
Vol Right, %	0%	100%	0%	0%	100%	9%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	45	97	182	173	267	93
LT Vol	33	0	0	182	0	199	20
Through Vol	0	45	0	0	173	24	50
RT Vol	150	0	97	0	0	44	23
Lane Flow Rate	195	48	103	194	184	284	99
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.437	0.092	0.209	0.358	0.296	0.608	0.218
Departure Headway (Hd)	8.079	6.896	7.425	6.795	5.925	7.7	7.939
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	521	486	532	611	472	453
Service Time	5.806	4.622	5.125	4.495	3.625	5.426	5.674
HCM Lane V/C Ratio	0.435	0.092	0.212	0.365	0.301	0.602	0.219
HCM Control Delay	16.9	10.3	12.1	13.2	11.1	21.7	12.9
HCM Lane LOS	C	B	B	B	B	C	B
HCM 95th-tile Q	2.2	0.3	0.8	1.6	1.2	4	0.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	49.5
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	359	149	75	363	193	143
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	630	261	132	637	339	251
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	41.4	63.4
HCM LOS	E	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	143	180	180	149	83	182	182
LT Vol	0	0	180	180	0	0	182	182
Through Vol	0	143	0	0	149	0	0	0
RT Vol	193	0	0	0	0	83	0	0
Lane Flow Rate	339	251	315	315	261	146	318	318
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1	0.704	0.861	0.861	0.541	0.423	0.88	0.88
Departure Headway (Hd)	11.321	10.097	9.841	9.841	7.45	10.575	10.077	10.077
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	322	359	368	368	484	342	363	363
Service Time	9.038	7.814	7.613	7.613	5.189	8.275	7.777	7.777
HCM Lane V/C Ratio	1.053	0.699	0.856	0.856	0.539	0.427	0.876	0.876
HCM Control Delay	85.5	33.6	50.8	50.8	18.7	20.8	54.5	54.5
HCM Lane LOS	F	D	F	F	C	C	F	F
HCM 95th-tile Q	10.9	5.1	8.1	8.1	3.2	2	8.5	8.5

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	41	125	54	20	180	64	193	49	36	95	36	35
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	32	13	2	2	10	2	2	2	2	2	2	2
Mvmt Flow	51	154	67	25	222	79	238	60	44	117	44	43
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.6	18.3	19.6	14.1
HCM LOS	B	C	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	69%	100%	0%	100%	0%	57%
Vol Thru, %	18%	0%	70%	0%	74%	22%
Vol Right, %	13%	0%	30%	0%	26%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	41	179	20	244	166
LT Vol	49	0	125	0	180	36
Through Vol	36	0	54	0	64	35
RT Vol	193	41	0	20	0	95
Lane Flow Rate	343	51	221	25	301	205
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.619	0.115	0.435	0.051	0.58	0.386
Departure Headway (Hd)	6.492	8.146	7.083	7.498	6.936	6.785
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	556	439	506	477	518	529
Service Time	4.546	5.908	4.845	5.257	4.694	4.851
HCM Lane V/C Ratio	0.617	0.116	0.437	0.052	0.581	0.388
HCM Control Delay	19.6	12	15.2	10.7	18.9	14.1
HCM Lane LOS	C	B	C	B	C	B
HCM 95th-tile Q	4.2	0.4	2.2	0.2	3.6	1.8

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

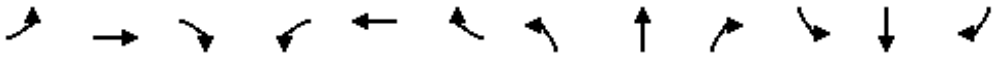
Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	182	308	157	40	63	174
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	202	342	174	44	70	193
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	12.9	12.3	10.6
HCM LOS	B	B	B

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	157	40	182	308	63	174
LT Vol	0	40	0	0	63	0
Through Vol	0	0	0	308	0	174
RT Vol	157	0	182	0	0	0
Lane Flow Rate	174	44	202	342	70	193
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.333	0.079	0.361	0.497	0.124	0.303
Departure Headway (Hd)	6.877	6.368	6.434	5.224	6.357	5.645
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	563	560	691	564	636
Service Time	4.616	4.107	4.165	2.956	4.096	3.384
HCM Lane V/C Ratio	0.333	0.078	0.361	0.495	0.124	0.303
HCM Control Delay	13	9.7	12.8	13	10	10.8
HCM Lane LOS	B	A	B	B	A	B
HCM 95th-tile Q	1.4	0.3	1.6	2.8	0.4	1.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

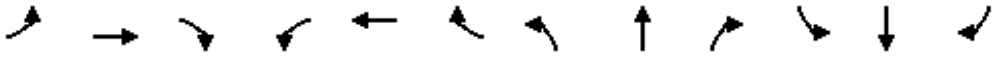


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	338	55	7	474	55	84	24	19	102	37	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	57	491	418	15	787	91	120	315	245	148	633	538
Arrive On Green	0.03	0.26	0.26	0.01	0.24	0.24	0.07	0.32	0.32	0.08	0.34	0.34
Sat Flow, veh/h	1774	1863	1583	1774	3278	380	1774	973	757	1774	1863	1583
Grp Volume(v), veh/h	37	380	62	8	302	293	94	0	48	115	42	91
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1796	1774	0	1729	1774	1863	1583
Q Serve(g_s), s	1.0	9.4	1.5	0.2	7.4	7.4	2.6	0.0	1.0	3.2	0.8	2.0
Cycle Q Clear(g_c), s	1.0	9.4	1.5	0.2	7.4	7.4	2.6	0.0	1.0	3.2	0.8	2.0
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	57	491	418	15	447	431	120	0	561	148	633	538
V/C Ratio(X)	0.65	0.77	0.15	0.54	0.68	0.68	0.78	0.00	0.09	0.78	0.07	0.17
Avail Cap(c_a), veh/h	142	596	507	142	596	575	248	0	561	284	633	538
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	17.0	14.1	24.7	17.2	17.2	22.9	0.0	11.7	22.5	11.1	11.6
Incr Delay (d2), s/veh	11.7	5.1	0.2	26.7	1.9	2.0	10.5	0.0	0.3	8.4	0.2	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 Back of Q (50%), veh/ln	0.6	4.6	0.5	0.2	3.3	3.3	1.4	0.0	0.4	1.7	0.3	0.8
Lane Grp Delay (d), s/veh	35.6	22.2	14.3	51.4	19.1	19.3	33.5	0.0	12.0	30.9	11.3	12.2
Lane Grp LOS	D	C	B	D	B	B	C		B	C	B	B
Approach Vol, veh/h		479			603			142			248	
Approach Delay, s/veh		22.2			19.6			26.2			20.7	
Approach LOS		C			B			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	5.6	17.2		4.4	16.0		7.4	20.2		8.2	21.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	4.0	16.0		4.0	16.0		7.0	16.0		8.0	17.0	
Max Q Clear Time (g_c+I1), s	3.0	11.4		2.2	9.4		4.6	3.0		5.2	4.0	
Green Ext Time (p_c), s	0.0	1.8		0.0	2.3		0.0	0.5		0.1	0.5	

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

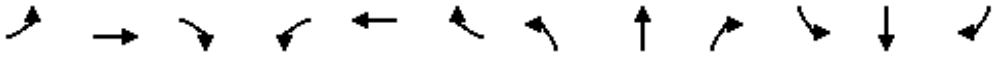
Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	382	235	317	293	0	0	0	0	388	0	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.94		1.00	1.00					1.00	0.95	
Flt Protected		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (prot)		3383		1656	1881					1618	1588	
Flt Permitted		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (perm)		3383		1656	1881					1618	1588	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	424	261	352	326	0	0	0	0	431	0	90
RTOR Reduction (vph)	0	107	0	0	0	0	0	0	0	0	38	0
Lane Group Flow (vph)	0	578	0	352	326	0	0	0	0	267	216	0
Heavy Vehicles (%)	2%	1%	0%	9%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		20.1		24.5	48.6					33.4	33.4	
Effective Green, g (s)		20.1		24.5	48.6					33.4	33.4	
Actuated g/C Ratio		0.22		0.27	0.54					0.37	0.37	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		755		450	1015					600	589	
v/s Ratio Prot		c0.17		c0.21	0.17					c0.17	0.14	
v/s Ratio Perm												
v/c Ratio		0.77		0.78	0.32					0.45	0.37	
Uniform Delay, d1		32.7		30.3	11.5					21.3	20.6	
Progression Factor		1.00		1.74	0.82					1.00	1.00	
Incremental Delay, d2		4.6		8.0	0.2					2.4	1.8	
Delay (s)		37.4		60.7	9.6					23.7	22.4	
Level of Service		D		E	A					C	C	
Approach Delay (s)		37.4			36.2			0.0			23.0	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	363	109	39	399	21	61	48	18	15	41	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.97			0.99		1.00	0.96		1.00	0.94	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3415			3500		1770	1788		1681	1662	
Flt Permitted		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3415			3500		1770	1788		1681	1658	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	370	111	40	407	21	62	49	18	15	42	29
RTOR Reduction (vph)	0	38	0	0	5	0	0	12	0	0	20	0
Lane Group Flow (vph)	0	466	0	0	463	0	62	55	0	13	53	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		13.1			13.0		3.2	21.3		0.7	19.5	
Effective Green, g (s)		13.1			13.0		3.2	21.3		0.7	19.5	
Actuated g/C Ratio		0.20			0.20		0.05	0.33		0.01	0.30	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		697			709		88	594		18	504	
v/s Ratio Prot		c0.14			c0.13		c0.04	c0.03		0.01	0.00	
v/s Ratio Perm											0.03	
v/c Ratio		0.67			0.65		0.70	0.09		0.72	0.10	
Uniform Delay, d1		23.5			23.5		30.0	14.7		31.6	16.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4			2.2		22.5	0.3		87.1	0.1	
Delay (s)		25.9			25.7		52.5	15.1		118.7	16.1	
Level of Service		C			C		D	B		F	B	
Approach Delay (s)		25.9			25.7			33.1			31.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	64.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	16	227	224	12	32	35
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	29	39	8	3	6
Mvmt Flow	19	264	260	14	37	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	274	0	-	0	568	267
Stage 1	-	-	-	-	267	-
Stage 2	-	-	-	-	301	-
Follow-up Headway	2.2	-	-	-	3.527	3.354
Pot Capacity-1 Maneuver	1301	-	-	-	483	762
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	748	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1301	-	-	-	475	762
Mov Capacity-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1301	-	-	-	475	762
HCM Lane V/C Ratio	0.014	-	-	-	0.078	0.053
HCM Control Delay (s)	7.807	0	-	-	13.2	10
HCM Lane LOS	A	A			B	B
HCM 95th %tile Q(veh)	0.044	-	-	-	0.254	0.169

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	282	0	0	196	203	13	0	170	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	12	10	2	2	26	20	23	2	27	2	2	2
Mvmt Flow	27	300	0	0	209	216	14	0	181	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	424	0	0	300	0	0	457	777	150
Stage 1	-	-	-	-	-	-	353	353	-
Stage 2	-	-	-	-	-	-	104	424	-
Follow-up Headway	2.32	-	-	2.22	-	-	3.73	4.02	3.57
Pot Capacity-1 Maneuver	1064	-	-	1258	-	-	482	327	796
Stage 1	-	-	-	-	-	-	624	629	-
Stage 2	-	-	-	-	-	-	850	585	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	1064	-	-	1258	-	-	470	0	796
Mov Capacity-2 Maneuver	-	-	-	-	-	-	470	0	-
Stage 1	-	-	-	-	-	-	608	0	-
Stage 2	-	-	-	-	-	-	850	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	10.9
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	470	796	1064	-	-	1258	-	-
HCM Lane V/C Ratio	0.029	0.227	0.025	-	-	-	-	-
HCM Control Delay (s)	12.9	10.8	8.47	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.091	0.872	0.077	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	10.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	71	25	163	46	0	0	0	0	236	0	26
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	-	-	-	0	-	-	-	-	-	600	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	7	16	31	7	2	2	2	2	13	0	4
Mvmt Flow	0	80	28	183	52	0	0	0	0	265	0	29

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	52	0	0	108	0	0				458	526	26
Stage 1	-	-	-	-	-	-				418	418	-
Stage 2	-	-	-	-	-	-				40	108	-
Follow-up Headway	2.22	-	-	2.51	-	-				3.63	4	3.34
Pot Capacity-1 Maneuver	1552	-	-	1292	-	-				504	460	1037
Stage 1	-	-	-	-	-	-				601	594	-
Stage 2	-	-	-	-	-	-				946	810	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1552	-	-	1292	-	-				433	0	1037
Mov Capacity-2 Maneuver	-	-	-	-	-	-				433	0	-
Stage 1	-	-	-	-	-	-				516	0	-
Stage 2	-	-	-	-	-	-				946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.4	17.1
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1552	-	-	1292	-	-	433	506
HCM Lane V/C Ratio	-	-	-	0.142	-	-	0.408	0.232
HCM Control Delay (s)	0	-	-	8.246	-	-	18.9	14.3
HCM Lane LOS	A			A			C	B
HCM 95th %tile Q(veh)	0	-	-	0.494	-	-	1.951	0.892

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	42	30	24	56	40	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	51	37	29	68	49	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	193	63	0	0	98	0
Stage 1	63	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	785	988	-	-	1470	-
Stage 1	947	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	758	988	-	-	1470	-
Mov Capacity-2 Maneuver	758	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	854	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.5
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	758	988	1470	-
HCM Lane V/C Ratio	-	-	0.068	0.037	0.033	-
HCM Control Delay (s)	-	-	10.1	8.8	7.533	0
HCM Lane LOS			B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.217	0.115	0.103	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	33	477	424	49	19	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	60	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	795	707	82	32	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	707	0	-	0	1135	353
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	428	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	887	-	-	-	228	643
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	590	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	887	-	-	-	214	643
Mov Capacity-2 Maneuver	-	-	-	-	214	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	18.6
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	887	-	-	-	333
HCM Lane V/C Ratio	0.062	-	-	-	0.205
HCM Control Delay (s)	9.327	-	-	-	18.6
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0.198	-	-	-	0.757

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	617	367	7	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	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	0	693	412	8	9	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	412	0	-	0	759	412
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	347	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	1147	-	-	-	358	639
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	688	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1147	-	-	-	358	639
Mov Capacity-2 Maneuver	-	-	-	-	358	-
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.3
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1147	-	-	-	358
HCM Lane V/C Ratio	-	-	-	-	0.025
HCM Control Delay (s)	0	-	-	-	15.3
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0	-	-	-	0.077

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	18	0	147	14	313	0	0	94	274
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
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	0	2	6	40	5	2	2	8	8
Mvmt Flow	0	0	0	20	0	160	15	340	0	0	102	298

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	622	771	340	400	0	0	340	0	0
Stage 1	371	371	-	-	-	-	-	-	-
Stage 2	251	400	-	-	-	-	-	-	-
Follow-up Headway	3.5	4.018	3.354	2.56	-	-	2.218	-	-
Pot Capacity-1 Maneuver	454	331	693	980	-	-	1219	-	-
Stage 1	702	620	-	-	-	-	-	-	-
Stage 2	795	602	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	445	0	693	980	-	-	1219	-	-
Mov Capacity-2 Maneuver	445	0	-	-	-	-	-	-	-
Stage 1	689	0	-	-	-	-	-	-	-
Stage 2	795	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0.4	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	980	-	-	603	693	1219	-	-
HCM Lane V/C Ratio	0.016	-	-	0.121	0.154	-	-	-
HCM Control Delay (s)	8.731	0	-	11.8	11.1	0	-	-
HCM Lane LOS	A	A		B	B	A		
HCM 95th %tile Q(veh)	0.047	-	-	0.41	0.541	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	311	0	34	0	0	0	0	16	5	78	34	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	92	89	92	92	92	92	89	89	89	89	92
Heavy Vehicles, %	6	2	15	2	2	2	2	30	30	21	10	2
Mvmt Flow	349	0	38	0	0	0	0	18	6	88	38	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	234	237	38			38	0	0	24	0	0
Stage 1	213	213	-			-	-	-	-	-	-
Stage 2	21	24	-			-	-	-	-	-	-
Follow-up Headway	3.554	4.018	3.435			2.218	-	-	2.389	-	-
Pot Capacity-1 Maneuver	745	664	998			1572	-	-	1476	-	-
Stage 1	813	726	-			-	-	-	-	-	-
Stage 2	991	875	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	700	0	998			1572	-	-	1476	-	-
Mov Capacity-2 Maneuver	700	0	-			-	-	-	-	-	-
Stage 1	763	0	-			-	-	-	-	-	-
Stage 2	991	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0	5.3
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1572	-	-	707	998	1476	-	-
HCM Lane V/C Ratio	-	-	-	0.512	0.026	0.059	-	-
HCM Control Delay (s)	0	-	-	15.3	8.7	7.593	0	-
HCM Lane LOS	A			C	A	A	A	
HCM 95th %tile Q(veh)	0	-	-	2.949	0.079	0.189	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	81	45	153	142	1
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	86	48	163	151	1

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	411	152	152	0	-	0
Stage 1	152	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	597	894	1429	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	575	894	1429	-	-	-
Mov Capacity-2 Maneuver	575	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	755	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.7	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1429	-	894	-	-
HCM Lane V/C Ratio	0.034	-	0.096	-	-
HCM Control Delay (s)	7.607	0	9.5	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.104	-	0.319	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	147	4	0	168	4
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	87	87	87	87	87	87
Heavy Vehicles, %	2	30	2	2	7	2
Mvmt Flow	1	169	5	0	193	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	396	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Follow-up Headway	3.518	3.57	-	-	2.263	-
Pot Capacity-1 Maneuver	609	1002	-	-	1584	-
Stage 1	1018	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	535	1002	-	-	1584	-
Mov Capacity-2 Maneuver	535	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	7.4
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	996	1584	-
HCM Lane V/C Ratio	-	-	0.171	0.122	-
HCM Control Delay (s)	-	-	9.4	7.588	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.614	0.416	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.7

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	13	68	254	5	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	6	6	2	2	31
Mvmt Flow	15	76	285	6	7	19

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	592	16	26	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Follow-up Headway	3.518	3.354	2.254	-	-	-
Pot Capacity-1 Maneuver	469	1052	1563	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuve	883	1052	1563	-	-	-
Mov Capacity-2 Maneuve	883	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	459	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.9	7.7	0
HCM LOS	A		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1563	-	822	-	-
HCM Lane V/C Ratio	0.183	-	0.111	-	-
HCM Control Delay (s)	7.817	0	9.9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.667	-	0.372	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

2017 Level of Service

Intersection	
Intersection Delay, s/veh	19.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	233	193	48	246	24	157	34	47	23	22	50
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, %	25	18	9	29	26	13	12	9	15	13	21	56
Mvmt Flow	103	248	205	51	262	26	167	36	50	24	23	53
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	14.2	32.2	17.8	14.1
HCM LOS	B	D	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	82%	0%	100%	0%	0%	15%	24%
Vol Thru, %	18%	0%	0%	100%	0%	77%	23%
Vol Right, %	0%	100%	0%	0%	100%	8%	53%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	191	47	97	233	193	318	95
LT Vol	34	0	0	233	0	246	22
Through Vol	0	47	0	0	193	24	50
RT Vol	157	0	97	0	0	48	23
Lane Flow Rate	203	50	103	248	205	338	101
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.487	0.103	0.221	0.487	0.354	0.759	0.241
Departure Headway (Hd)	8.625	7.434	7.711	7.078	6.206	8.072	8.575
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	417	481	465	508	579	447	417
Service Time	6.392	5.2	5.467	4.834	3.962	5.833	6.355
HCM Lane V/C Ratio	0.487	0.104	0.222	0.488	0.354	0.756	0.242
HCM Control Delay	19.4	11.1	12.7	16.4	12.4	32.2	14.1
HCM Lane LOS	C	B	B	C	B	D	B
HCM 95th-tile Q	2.6	0.3	0.8	2.6	1.6	6.4	0.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	83.9
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	389	164	182	393	224	256
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	682	288	319	689	393	449
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	75.2	88.9
HCM LOS	F	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	224	256	195	195	164	190	197	197
LT Vol	0	0	195	195	0	0	197	197
Through Vol	0	256	0	0	164	0	0	0
RT Vol	224	0	0	0	0	190	0	0
Lane Flow Rate	393	449	341	341	288	333	345	345
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	1	1	1	1	0.791	1	1	1
Departure Headway (Hd)	12.824	11.625	12.329	12.329	9.896	12.26	11.761	11.761
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	287	314	297	297	368	300	310	310
Service Time	10.524	9.325	10.029	10.029	7.596	9.96	9.461	9.461
HCM Lane V/C Ratio	1.369	1.43	1.148	1.148	0.783	1.11	1.113	1.113
HCM Control Delay	91.5	86.7	89.5	89.5	41.3	89.2	87.2	87.2
HCM Lane LOS	F	F	F	F	E	F	F	F
HCM 95th-tile Q	10.3	10.8	10.5	10.5	6.7	10.5	10.7	10.7

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	57.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	75	143	94	44	306	70	353	62	61	131	51	125
Peak Hour Factor	0.81	0.90	0.81	0.81	0.90	0.81	0.90	0.81	0.81	0.90	0.81	0.90
Heavy Vehicles, %	15	9	2	2	7	2	2	2	2	2	2	2
Mvmt Flow	93	159	116	54	340	86	392	77	75	146	63	139
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	27.5	68.2	74.7	46.1
HCM LOS	D	F	F	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	74%	100%	0%	100%	0%	43%
Vol Thru, %	13%	0%	60%	0%	81%	17%
Vol Right, %	13%	0%	40%	0%	19%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	476	75	237	44	376	307
LT Vol	62	0	143	0	306	51
Through Vol	61	0	94	0	70	125
RT Vol	353	75	0	44	0	131
Lane Flow Rate	544	93	275	54	426	347
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1	0.26	0.704	0.142	1	0.854
Departure Headway (Hd)	8.698	10.095	9.216	9.419	8.873	8.846
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	419	356	393	380	409	410
Service Time	6.798	7.847	6.968	7.201	6.655	6.892
HCM Lane V/C Ratio	1.298	0.261	0.7	0.142	1.042	0.846
HCM Control Delay	74.7	16.4	31.2	13.8	75.1	46.1
HCM Lane LOS	F	C	D	B	F	E
HCM 95th-tile Q	12.4	1	5.2	0.5	12.3	8.3

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

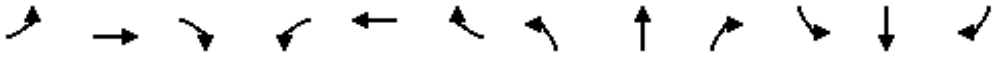
Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	3	6	10	59	112	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	7	11	66	124	11
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	7.5	7.8	8.1
HCM LOS	A	A	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	59	3	6	112	10
LT Vol	0	59	0	0	112	0
Through Vol	0	0	0	6	0	10
RT Vol	10	0	3	0	0	0
Lane Flow Rate	11	66	3	7	124	11
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.016	0.084	0.005	0.008	0.159	0.012
Departure Headway (Hd)	5.117	4.616	5.538	4.335	4.588	3.888
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	699	775	650	831	782	920
Service Time	2.852	2.352	3.238	2.035	2.314	1.613
HCM Lane V/C Ratio	0.016	0.085	0.005	0.008	0.159	0.012
HCM Control Delay	7.9	7.8	8.3	7.1	8.2	6.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0.3	0	0	0.6	0

Notes

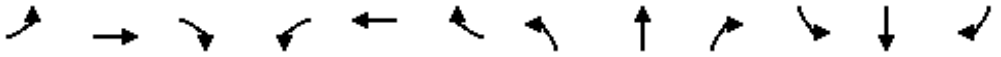
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	856	639	346	588	0	0	0	0	704	0	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.94		1.00	1.00					1.00	0.93	
Flt Protected		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (prot)		3359		1656	1881					1618	1576	
Flt Permitted		1.00		0.95	1.00					0.95	0.97	
Satd. Flow (perm)		3359		1656	1881					1618	1576	
Peak-hour factor, PHF	0.90	0.93	0.93	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.90	0.90
Adj. Flow (vph)	0	920	687	384	653	0	0	0	0	749	0	228
RTOR Reduction (vph)	0	132	0	0	0	0	0	0	0	0	46	0
Lane Group Flow (vph)	0	1475	0	384	653	0	0	0	0	502	429	0
Heavy Vehicles (%)	2%	1%	0%	9%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		29.9		26.1	60.0					22.0	22.0	
Effective Green, g (s)		29.9		26.1	60.0					22.0	22.0	
Actuated g/C Ratio		0.33		0.29	0.67					0.24	0.24	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1115		480	1254					395	385	
v/s Ratio Prot		c0.44		c0.23	0.35					c0.31	0.27	
v/s Ratio Perm												
v/c Ratio		1.32		0.80	0.52					1.27	1.11	
Uniform Delay, d1		30.1		29.5	7.7					34.0	34.0	
Progression Factor		1.00		1.42	1.12					1.00	1.00	
Incremental Delay, d2		151.5		8.0	0.3					140.5	80.5	
Delay (s)		181.6		49.9	8.9					174.5	114.5	
Level of Service		F		D	A					F	F	
Approach Delay (s)		181.6			24.1			0.0			145.3	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM 2000 Control Delay	126.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	816	153	115	534	25	65	57	56	16	62	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.98			0.99		1.00	0.93		1.00	0.95	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3452			3489		1770	1724		1681	1677	
Flt Permitted		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3452			3489		1770	1724		1681	1673	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	36	833	156	117	545	26	66	58	57	16	63	34
RTOR Reduction (vph)	0	21	0	0	4	0	0	40	0	0	21	0
Lane Group Flow (vph)	0	1004	0	0	684	0	66	75	0	14	78	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		16.1			15.5		3.4	21.1		0.8	19.3	
Effective Green, g (s)		16.1			15.5		3.4	21.1		0.8	19.3	
Actuated g/C Ratio		0.23			0.22		0.05	0.30		0.01	0.28	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		799			778		86	523		19	464	
v/s Ratio Prot		c0.29			c0.20		c0.04	c0.04		0.01	0.00	
v/s Ratio Perm											c0.04	
v/c Ratio		1.26			0.88		0.77	0.14		0.74	0.17	
Uniform Delay, d1		26.7			26.1		32.7	17.6		34.2	19.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		125.7			11.1		32.8	0.6		88.4	0.2	
Delay (s)		152.4			37.2		65.5	18.2		122.6	19.2	
Level of Service		F			D		E	B		F	B	
Approach Delay (s)		152.4			37.2			35.4			32.0	
Approach LOS		F			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	95.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	51	256	516	155	56	635	95	241	115	48	90	96
Number		7	4	14	3	8	18	5	2	12	1	6
Initial Q (Qb), veh		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	
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
Adj Sat Flow veh/h/ln		183.3	182.7	190.0	182.7	182.7	182.7	182.7	182.7	190.0	182.7	182.7
Lanes		1	2	0	1	1	1	1	2	0	1	2
Cap, veh/h		329	1437	463	85	735	625	302	558	222	129	228
Arrive On Green		0.19	0.54	0.54	0.05	0.40	0.40	0.17	0.22	0.22	0.07	0.12
Sat Flow, veh/h		1746	2650	853	1740	1827	1553	1740	2490	989	1740	1827
Grp Volume(v), veh/h		305	395	363	67	706	113	287	99	95	107	114
Grp Sat Flow(s),veh/h/ln		1746	1827	1676	1740	1827	1553	1740	1827	1652	1740	1827
Q Serve(g_s), s		24.8	18.2	18.3	5.5	54.3	6.8	23.5	6.4	6.8	8.7	8.4
Cycle Q Clear(g_c), s		24.8	18.2	18.3	5.5	54.3	6.8	23.5	6.4	6.8	8.7	8.4
Prop In Lane		1.00		0.51	1.00		1.00	1.00		0.60	1.00	
Lane Grp Cap(c), veh/h		329	990	909	85	735	625	302	409	370	129	228
V/C Ratio(X)		0.93	0.40	0.40	0.79	0.96	0.18	0.95	0.24	0.26	0.83	0.50
Avail Cap(c_a), veh/h		387	1001	919	145	748	635	302	409	370	193	228
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
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
Uniform Delay (d), s/veh		57.5	19.3	19.3	67.9	42.0	27.8	59.0	45.9	46.0	65.8	58.9
Incr Delay (d2), s/veh		25.9	0.3	0.3	15.0	23.4	0.1	38.8	1.4	1.7	16.8	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	0.0	0.0
%ile Back of Q (50%), veh/ln		13.7	8.4	7.7	2.9	30.3	2.7	14.0	3.2	3.1	4.6	4.5
Lane Grp Delay (d), s/veh		83.5	19.5	19.6	82.9	65.4	27.9	97.8	47.3	47.7	82.6	66.5
Lane Grp LOS		F	B	B	F	E	C	F	D	D	F	E
Approach Vol, veh/h			1063			886			481			433
Approach Delay, s/veh			37.9			61.9			77.5			113.8
Approach LOS			D			E			E			F

Timer												
Assigned Phs		7	4		3	8		5	2		1	6
Phs Duration (G+Y+Rc), s		31.2	82.2		11.0	62.0		29.0	36.3		14.7	22.0
Change Period (Y+Rc), s		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s		32.0	79.0		12.0	59.0		25.0	27.0		16.0	18.0
Max Q Clear Time (g_c+I1), s		26.8	20.3		7.5	56.3		25.5	8.8		10.7	20.0
Green Ext Time (p_c), s		0.4	7.6		0.0	1.7		0.0	1.8		0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.5
HCM 2010 LOS	E

Notes

Movement	SBR
Lane Configurations	
Volume (veh/h)	178
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	190.0
Lanes	0
Cap, veh/h	194
Arrive On Green	0.12
Sat Flow, veh/h	1553
Grp Volume(v), veh/h	212
Grp Sat Flow(s),veh/h/ln	1553
Q Serve(g_s), s	18.0
Cycle Q Clear(g_c), s	18.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	194
V/C Ratio(X)	1.09
Avail Cap(c_a), veh/h	194
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	63.1
Incr Delay (d2), s/veh	91.8
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	12.8
Lane Grp Delay (d), s/veh	154.9
Lane Grp LOS	F
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

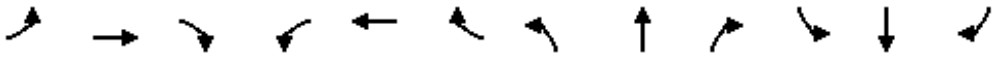
Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	256	1076	70	10	177	419	179	11	98	175	226	85
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	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	
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1		2	1	1	1	3	1	1	3
Cap, veh/h	363	1285	546		310	430	365	23	1611	456	164	2052
Arrive On Green	0.20	0.35	0.35		0.09	0.23	0.23	0.01	0.29	0.29	0.09	0.37
Sat Flow, veh/h	1774	3725	1583		3442	1863	1583	1774	5588	1583	1774	5588
Grp Volume(v), veh/h	324	1133	89		224	530	227	14	124	222	286	108
Grp Sat Flow(s),veh/h/ln	1774	1863	1583		1721	1863	1583	1774	1863	1583	1774	1863
Q Serve(g_s), s	15.4	24.8	3.4		5.5	20.0	11.2	0.7	1.4	10.1	8.0	1.1
Cycle Q Clear(g_c), s	15.4	24.8	3.4		5.5	20.0	11.2	0.7	1.4	10.1	8.0	1.1
Prop In Lane	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	363	1285	546		310	430	365	23	1611	456	164	2052
V/C Ratio(X)	0.89	0.88	0.16		0.72	1.23	0.62	0.60	0.08	0.49	1.75	0.05
Avail Cap(c_a), veh/h	430	1285	546		556	430	365	123	1611	456	164	2052
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
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
Uniform Delay (d), s/veh	33.6	26.7	19.7		38.4	33.4	30.0	42.6	22.5	25.6	39.4	17.7
Incr Delay (d2), s/veh	18.5	7.4	0.1		3.2	124.0	3.2	22.0	0.1	3.7	360.5	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
%ile Back of Q (50%), veh/ln	8.6	12.5	1.3		2.5	24.0	4.7	0.4	0.6	4.3	19.9	0.5
Lane Grp Delay (d), s/veh	52.0	34.2	19.9		41.6	157.4	33.2	64.6	22.6	29.2	399.9	17.8
Lane Grp LOS	D	C	B		D	F	C	E	C	C	F	B
Approach Vol, veh/h		1546				981			360			559
Approach Delay, s/veh		37.1				102.2			28.3			214.1
Approach LOS		D				F			C			F
Timer												
Assigned Phs	7	4			3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	21.7	33.9			11.8	24.0		5.1	29.0		12.0	35.9
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	21.0	27.0			14.0	20.0		6.0	25.0		8.0	27.0
Max Q Clear Time (g_c+I1), s	17.4	26.8			7.5	22.0		2.7	12.1		10.0	8.4
Green Ext Time (p_c), s	0.3	0.1			0.4	0.0		0.0	1.7		0.0	1.9
Intersection Summary												
HCM 2010 Ctrl Delay			83.4									
HCM 2010 LOS			F									
Notes												

Movement	SBR
Lane Configurations	
Volume (veh/h)	130
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	582
Arrive On Green	0.37
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	165
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	6.4
Cycle Q Clear(g_c), s	6.4
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	582
V/C Ratio(X)	0.28
Avail Cap(c_a), veh/h	582
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	19.4
Incr Delay (d2), s/veh	1.2
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	2.6
Lane Grp Delay (d), s/veh	20.6
Lane Grp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

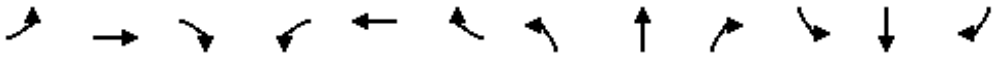


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	561	78	398	479	0	0	0	0	273	0	128
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	187.9	190.0	182.7	188.1	0.0				190.0	182.5	190.0
Lanes	0	3	0	1	1	0				0	1	0
Cap, veh/h	0	1056	146	495	1078	0				324	0	152
Arrive On Green	0.00	0.22	0.22	0.28	0.57	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	4848	670	1740	1881	0				1141	0	534
Grp Volume(v), veh/h	0	594	281	545	656	0				549	0	0
Grp Sat Flow(s),veh/h/ln	0	1879	1761	1740	1881	0				1674	0	0
Q Serve(g_s), s	0.0	8.3	8.4	16.0	12.9	0.0				16.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	8.3	8.4	16.0	12.9	0.0				16.0	0.0	0.0
Prop In Lane	0.00		0.38	1.00		0.00				0.68		0.32
Lane Grp Cap(c), veh/h	0	818	383	495	1078	0				476	0	0
V/C Ratio(X)	0.00	0.73	0.73	1.10	0.61	0.00				1.15	0.00	0.00
Avail Cap(c_a), veh/h	0	1069	501	495	1204	0				476	0	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)	0.00	1.00	1.00	0.20	0.20	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.4	20.5	20.1	7.9	0.0				20.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	3.9	52.3	0.1	0.0				90.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	3.7	3.9	13.7	4.8	0.0				18.2	0.0	0.0
Lane Grp Delay (d), s/veh	0.0	22.2	24.4	72.5	8.0	0.0				110.6	0.0	0.0
Lane Grp LOS		C	C	F	A					F		
Approach Vol, veh/h		875			1201						549	
Approach Delay, s/veh		22.9			37.3						110.6	
Approach LOS		C			D						F	

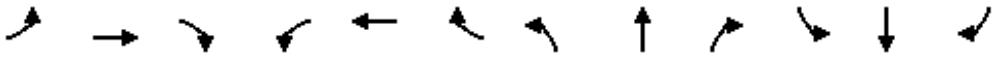
Timer				
Assigned Phs	4	3	8	6
Phs Duration (G+Y+Rc), s	16.2	20.0	36.2	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	16.0	36.0	16.0
Max Q Clear Time (g_c+I1), s	10.4	18.0	14.9	18.0
Green Ext Time (p_c), s	1.9	0.0	4.4	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.8
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	704	0	0	822	387	55	0	345	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow veh/h/ln	190.0	184.5	0.0	0.0	183.3	190.0	190.0	184.5	177.6			
Lanes	1	2	0	0	2	0	0	1	1			
Cap, veh/h	121	2152	0	0	1071	492	498	0	428			
Arrive On Green	0.07	0.58	0.00	0.00	0.45	0.45	0.28	0.00	0.28			
Sat Flow, veh/h	1810	3689	0	0	2381	1093	1757	0	1509			
Grp Volume(v), veh/h	162	880	0	0	786	726	69	0	431			
Grp Sat Flow(s),veh/h/ln	1810	1845	0	0	1833	1640	1757	0	1509			
Q Serve(g_s), s	4.0	7.8	0.0	0.0	24.7	26.2	1.8	0.0	17.0			
Cycle Q Clear(g_c), s	4.0	7.8	0.0	0.0	24.7	26.2	1.8	0.0	17.0			
Prop In Lane	1.00		0.00	0.00		0.67	1.00		1.00			
Lane Grp Cap(c), veh/h	121	2152	0	0	825	738	498	0	428			
V/C Ratio(X)	1.34	0.41	0.00	0.00	0.95	0.98	0.14	0.00	1.01			
Avail Cap(c_a), veh/h	121	2152	0	0	825	738	498	0	428			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.0	6.8	0.0	0.0	15.9	16.3	16.0	0.0	21.5			
Incr Delay (d2), s/veh	186.5	0.1	0.0	0.0	20.6	29.1	0.6	0.0	45.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile Back of Q (50%), veh/ln	8.0	2.8	0.0	0.0	14.5	15.2	0.8	0.0	11.3			
Lane Grp Delay (d), s/veh	214.5	6.9	0.0	0.0	36.5	45.3	16.6	0.0	67.0			
Lane Grp LOS	F	A			D	D	B		F			
Approach Vol, veh/h		1042			1512			500				
Approach Delay, s/veh		39.2			40.7			60.0				
Approach LOS		D			D			E				
Timer												
Assigned Phs	7	4			8			2				
Phs Duration (G+Y+Rc), s	8.0	39.0			31.0			21.0				
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0				
Max Green Setting (Gmax), s	4.0	35.0			27.0			17.0				
Max Q Clear Time (g_c+I1), s	16.0	9.8			28.2			19.0				
Green Ext Time (p_c), s	0.0	13.2			0.0			0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.4									
HCM 2010 LOS			D									
Notes												

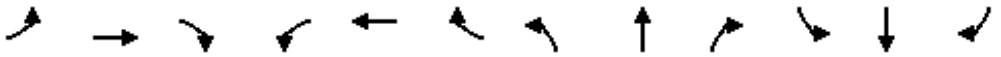


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	410	59	10	547	59	84	24	19	104	41	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	76	540	459	20	854	91	120	300	233	151	606	515
Arrive On Green	0.04	0.29	0.29	0.01	0.26	0.26	0.07	0.31	0.31	0.08	0.33	0.33
Sat Flow, veh/h	1774	1863	1583	1774	3308	354	1774	973	757	1774	1863	1583
Grp Volume(v), veh/h	57	461	66	11	346	335	94	0	48	117	46	103
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1800	1774	0	1729	1774	1863	1583
Q Serve(g_s), s	1.7	12.2	1.6	0.3	8.8	8.9	2.7	0.0	1.0	3.4	0.9	2.5
Cycle Q Clear(g_c), s	1.7	12.2	1.6	0.3	8.8	8.9	2.7	0.0	1.0	3.4	0.9	2.5
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	76	540	459	20	481	464	120	0	533	151	606	515
V/C Ratio(X)	0.75	0.85	0.14	0.55	0.72	0.72	0.78	0.00	0.09	0.78	0.08	0.20
Avail Cap(c_a), veh/h	136	570	485	136	570	551	238	0	533	271	606	515
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	17.5	13.8	25.7	17.7	17.7	24.0	0.0	12.9	23.4	12.2	12.7
Incr Delay (d2), s/veh	13.4	11.6	0.1	21.4	3.6	3.8	10.4	0.0	0.3	8.3	0.2	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	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.0	7.0	0.6	0.3	4.2	4.1	1.5	0.0	0.4	1.7	0.4	1.0
Lane Grp Delay (d), s/veh	38.1	29.1	13.9	47.1	21.3	21.5	34.4	0.0	13.2	31.7	12.5	13.6
Lane Grp LOS	D	C	B	D	C	C	C		B	C	B	B
Approach Vol, veh/h		584			692			142			266	
Approach Delay, s/veh		28.3			21.8			27.3			21.4	
Approach LOS		C			C			C			C	

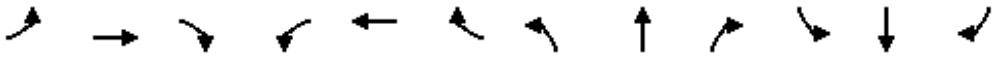
Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	6.3	19.2		4.6	17.5		7.5	20.1		8.4	21.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	4.0	16.0		4.0	16.0		7.0	16.0		8.0	17.0	
Max Q Clear Time (g_c+I1), s	3.7	14.2		2.3	10.9		4.7	3.0		5.4	4.5	
Green Ext Time (p_c), s	0.0	0.9		0.0	2.2		0.0	0.5		0.1	0.5	

Intersection Summary		
HCM 2010 Ctrl Delay	24.4	
HCM 2010 LOS	C	

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	355	1205	0	0	628	379	306	0	404	0	0	0
Number	7	4	14	3	8	18	5	2	12			
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			
Adj Sat Flow veh/h/ln	188.1	181.0	0.0	0.0	181.0	182.7	190.0	186.3	179.2			
Lanes	1	2	0	0	2	1	0	1	1			
Cap, veh/h	390	2002	0	0	1040	446	621	0	534			
Arrive On Green	0.43	1.00	0.00	0.00	0.29	0.00	0.35	0.00	0.35			
Sat Flow, veh/h	1792	3619	0	0	3619	1553	1774	0	1524			
Grp Volume(v), veh/h	390	1268	0	0	675	0	336	0	444			
Grp Sat Flow(s),veh/h/ln	1792	1810	0	0	1810	1553	1774	0	1524			
Q Serve(g_s), s	18.0	0.0	0.0	0.0	13.5	0.0	12.6	0.0	22.1			
Cycle Q Clear(g_c), s	18.0	0.0	0.0	0.0	13.5	0.0	12.6	0.0	22.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	390	2002	0	0	1040	446	621	0	534			
V/C Ratio(X)	1.00	0.63	0.00	0.00	0.65	0.00	0.54	0.00	0.83			
Avail Cap(c_a), veh/h	390	2317	0	0	1355	581	621	0	534			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.4	0.0	0.0	0.0	25.8	0.0	21.6	0.0	24.7			
Incr Delay (d2), s/veh	14.0	0.0	0.0	0.0	0.7	0.0	3.4	0.0	14.1			
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 Back of Q (50%), veh/ln	7.7	0.0	0.0	0.0	6.0	0.0	5.9	0.0	10.2			
Lane Grp Delay (d), s/veh	37.4	0.0	0.0	0.0	26.5	0.0	24.9	0.0	38.7			
Lane Grp LOS	F	A			C		C		D			
Approach Vol, veh/h		1658			675			780				
Approach Delay, s/veh		8.8			26.5			32.8				
Approach LOS		A			C			C				
Timer												
Assigned Phs	7	4			8			2				
Phs Duration (G+Y+Rc), s	22.0	49.8			27.8			33.0				
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0				
Max Green Setting (Gmax), s	18.0	53.0			31.0			29.0				
Max Q Clear Time (g_c+I1), s	20.0	2.0			15.5			24.1				
Green Ext Time (p_c), s	0.0	12.7			8.3			1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			18.7									
HCM 2010 LOS			B									
Notes												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	95	911	73	22	531	66	17	11	17	100	31	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	1	0	1	1
Cap, veh/h	127	1211	97	38	993	124	560	738	627	557	156	627
Arrive On Green	0.07	0.36	0.36	0.02	0.31	0.31	0.40	0.40	0.00	0.40	0.40	0.40
Sat Flow, veh/h	1774	3405	273	1774	3250	404	1252	1863	1583	1102	394	1583
Grp Volume(v), veh/h	99	519	506	23	316	306	18	11	0	136	0	101
Grp Sat Flow(s),veh/h/ln	1774	1863	1815	1774	1863	1791	1252	1863	1583	1496	0	1583
Q Serve(g_s), s	2.9	13.2	13.2	0.7	7.5	7.6	0.5	0.2	0.0	2.4	0.0	2.2
Cycle Q Clear(g_c), s	2.9	13.2	13.2	0.7	7.5	7.6	3.6	0.2	0.0	3.1	0.0	2.2
Prop In Lane	1.00		0.15	1.00		0.23	1.00		1.00	0.76		1.00
Lane Grp Cap(c), veh/h	127	663	646	38	569	548	560	738	627	713	0	627
V/C Ratio(X)	0.78	0.78	0.78	0.60	0.56	0.56	0.03	0.01	0.00	0.19	0.00	0.16
Avail Cap(c_a), veh/h	268	773	753	167	668	642	560	738	627	713	0	627
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	0.00	1.00
Uniform Delay (d), s/veh	24.2	15.3	15.3	25.7	15.4	15.4	11.8	9.7	0.0	10.5	0.0	10.3
Incr Delay (d2), s/veh	9.7	4.6	4.7	14.0	0.9	0.9	0.1	0.0	0.0	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.6	6.3	6.2	0.4	3.3	3.2	0.2	0.1	0.0	1.2	0.0	0.8
Lane Grp Delay (d), s/veh	33.9	19.8	19.9	39.7	16.2	16.3	11.9	9.8	0.0	11.1	0.0	10.9
Lane Grp LOS	C	B	B	D	B	B	B	A		B		B
Approach Vol, veh/h		1124			645			29			237	
Approach Delay, s/veh		21.1			17.1			11.1			11.0	
Approach LOS		C			B			B			B	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	7.8	22.9		5.1	20.2			25.0			25.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	3.8	22.0		5.0	19.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s	4.9	15.2		2.7	9.6			5.6			5.1	
Green Ext Time (p_c), s	0.0	3.7		0.0	4.5			0.7			0.7	

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	458	87	84	587	46	42
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	1	2	1	1
Cap, veh/h	1285	546	131	2101	258	230
Arrive On Green	0.34	0.34	0.07	0.56	0.15	0.15
Sat Flow, veh/h	3725	1583	1774	3725	1774	1583
Grp Volume(v), veh/h	509	97	93	652	51	47
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	2.9	1.2	1.4	2.5	0.7	0.7
Cycle Q Clear(g_c), s	2.9	1.2	1.4	2.5	0.7	0.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1285	546	131	2101	258	230
V/C Ratio(X)	0.40	0.18	0.71	0.31	0.20	0.20
Avail Cap(c_a), veh/h	2571	1093	644	4466	1224	1093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	6.3	12.5	3.2	10.4	10.4
Incr Delay (d2), s/veh	0.2	0.2	6.9	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.0	0.3	0.7	0.6	0.3	0.2
Lane Grp Delay (d), s/veh	7.0	6.4	19.3	3.3	10.7	10.8
Lane Grp LOS	A	A	B	A	B	B
Approach Vol, veh/h	606			745	98	
Approach Delay, s/veh	6.9			5.3	10.8	
Approach LOS	A			A	B	

Timer						
Assigned Phs	4		3	8		
Phs Duration (G+Y+Rc), s	13.5		6.0	19.5		
Change Period (Y+Rc), s	4.0		4.0	4.0		
Max Green Setting (Gmax), s	9.6		10.0	33.0		
Max Q Clear Time (g_c+I1), s	4.9		3.4	4.5		
Green Ext Time (p_c), s	4.6		0.1	5.7		

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (veh/h)	80	72	1008	435	17	112	647	40	157	38	31	43
Number		7	4	14		3	8	18	5	2	12	1
Initial Q (Qb), veh		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
Parking Bus Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		182.7	182.7	182.7		182.7	182.7	190.0	182.7	182.7	190.0	182.7
Lanes		1	2	1		1	2	0	2	1	0	1
Cap, veh/h		100	1487	632		154	1491	93	1084	298	246	559
Arrive On Green		0.06	0.41	0.00		0.09	0.44	0.44	0.32	0.32	0.32	0.32
Sat Flow, veh/h		1740	3654	1553		1740	3404	213	3375	927	765	1740
Grp Volume(v), veh/h		77	1072	0		119	369	362	167	0	73	46
Grp Sat Flow(s),veh/h/ln		1740	1827	1553		1740	1827	1789	1688	0	1692	1740
Q Serve(g_s), s		2.9	16.1	0.0		4.4	9.3	9.3	2.3	0.0	2.0	1.2
Cycle Q Clear(g_c), s		2.9	16.1	0.0		4.4	9.3	9.3	2.3	0.0	2.0	1.2
Prop In Lane		1.00		1.00		1.00		0.12	1.00		0.45	1.00
Lane Grp Cap(c), veh/h		100	1487	632		154	800	784	1084	0	543	559
V/C Ratio(X)		0.77	0.72	0.00		0.77	0.46	0.46	0.15	0.00	0.13	0.08
Avail Cap(c_a), veh/h		585	2291	974		426	978	958	1084	0	543	559
HCM Platoon Ratio		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	0.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		30.4	16.3	0.0		29.2	12.9	12.9	15.9	0.0	15.7	15.5
Incr Delay (d2), s/veh		11.8	0.7	0.0		8.0	0.4	0.4	0.3	0.0	0.5	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
%ile Back of Q (50%), veh/ln		1.5	6.8	0.0		2.2	3.9	3.8	1.0	0.0	0.9	0.5
Lane Grp Delay (d), s/veh		42.2	17.0	0.0		37.1	13.4	13.4	16.2	0.0	16.3	15.5
Lane Grp LOS		D	B			D	B	B	B		B	B
Approach Vol, veh/h			1149				850			240		
Approach Delay, s/veh			18.6				16.7			16.2		
Approach LOS			B				B			B		

Timer												
Assigned Phs		7	4			3	8			2		
Phs Duration (G+Y+Rc), s		7.7	30.6			9.8	32.6			25.0		
Change Period (Y+Rc), s		4.0	4.0			4.0	4.0			4.0		
Max Green Setting (Gmax), s		22.0	41.0			16.0	35.0			21.0		
Max Q Clear Time (g_c+I1), s		4.9	18.1			6.4	11.3			4.3		
Green Ext Time (p_c), s		0.1	8.5			0.2	8.6			1.7		

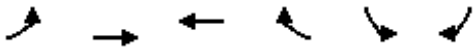
Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Notes

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	117	119
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus Adj	1.00	1.00
Adj Sat Flow veh/h/ln	182.7	190.0
Lanes	2	0
Cap, veh/h	587	499
Arrive On Green	0.32	0.32
Sat Flow, veh/h	1827	1553
Grp Volume(v), veh/h	124	127
Grp Sat Flow(s),veh/h/ln	1827	1553
Q Serve(g_s), s	3.2	4.0
Cycle Q Clear(g_c), s	3.2	4.0
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	587	499
V/C Ratio(X)	0.21	0.25
Avail Cap(c_a), veh/h	587	499
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	16.2	16.4
Incr Delay (d2), s/veh	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0
%ile Back of Q (50%), veh/ln	1.4	1.5
Lane Grp Delay (d), s/veh	16.3	16.7
Lane Grp LOS	B	B
Approach Vol, veh/h	297	
Approach Delay, s/veh	16.4	
Approach LOS	B	

Timer	
Assigned Phs	6
Phs Duration (G+Y+Rc), s	25.0
Change Period (Y+Rc), s	4.0
Max Green Setting (Gmax), s	16.0
Max Q Clear Time (g_c+I1), s	6.0
Green Ext Time (p_c), s	1.4

Intersection Summary

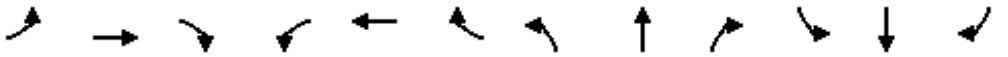


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	175	629	639	104	119	96
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	179.2	181.0	180.2	190.0	169.6	169.6
Lanes	1	2	2	0	1	1
Cap, veh/h	242	1828	877	143	563	502
Arrive On Green	0.14	0.51	0.29	0.29	0.35	0.35
Sat Flow, veh/h	1707	3619	3024	494	1616	1442
Grp Volume(v), veh/h	194	699	423	403	132	107
Grp Sat Flow(s),veh/h/ln	1707	1810	1802	1715	1616	1442
Q Serve(g_s), s	6.0	6.5	11.9	11.9	3.2	2.9
Cycle Q Clear(g_c), s	6.0	6.5	11.9	11.9	3.2	2.9
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	242	1828	523	497	563	502
V/C Ratio(X)	0.80	0.38	0.81	0.81	0.23	0.21
Avail Cap(c_a), veh/h	375	2189	562	534	563	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	8.3	18.0	18.0	12.6	12.5
Incr Delay (d2), s/veh	6.7	0.1	8.2	8.6	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.9	2.4	6.0	5.8	1.3	0.1
Lane Grp Delay (d), s/veh	29.4	8.4	26.2	26.6	13.6	13.5
Lane Grp LOS	C	A	C	C	B	B
Approach Vol, veh/h		893	826		239	
Approach Delay, s/veh		13.0	26.4		13.5	
Approach LOS		B	C		B	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	11.7	31.6	19.8			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	12.0	33.0	17.0			
Max Q Clear Time (g_c+I1), s	8.0	8.5	13.9			
Green Ext Time (p_c), s	0.2	6.8	1.9			

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	149	15	1	0	15	37	2	108	0	76	129	99
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	3	0	1	3	1
Cap, veh/h	307	323	274	307	323	274	6	2454	0	138	2869	813
Arrive On Green	0.17	0.17	0.17	0.00	0.17	0.17	0.00	0.44	0.00	0.08	0.51	0.51
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5588	0	1774	5588	1583
Grp Volume(v), veh/h	213	21	1	0	21	53	3	154	0	109	184	141
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	4.4	0.4	0.0	0.0	0.4	1.1	0.1	0.6	0.0	2.3	0.6	1.8
Cycle Q Clear(g_c), s	4.4	0.4	0.0	0.0	0.4	1.1	0.1	0.6	0.0	2.3	0.6	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	323	274	307	323	274	6	2454	0	138	2869	813
V/C Ratio(X)	0.69	0.07	0.00	0.00	0.07	0.19	0.52	0.06	0.00	0.79	0.06	0.17
Avail Cap(c_a), veh/h	733	770	654	733	770	654	183	2454	0	229	2869	813
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	13.4	13.2	0.0	13.4	13.7	19.3	6.3	0.0	17.5	4.7	5.0
Incr Delay (d2), s/veh	2.8	0.1	0.0	0.0	0.1	0.3	56.5	0.0	0.0	9.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.0	0.2	0.0	0.0	0.2	0.4	0.1	0.2	0.0	1.2	0.2	0.5
Lane Grp Delay (d), s/veh	17.8	13.5	13.2	0.0	13.5	14.0	75.7	6.3	0.0	27.3	4.8	5.5
Lane Grp LOS	B	B	B		B	B	E	A		C	A	A
Approach Vol, veh/h		235			74			157			434	
Approach Delay, s/veh		17.4			13.9			7.6			10.7	
Approach LOS		B			B			A			B	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		10.7			10.7		4.1	21.0		7.0	23.9	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0			16.0		4.0	17.0		5.0	18.0	
Max Q Clear Time (g_c+I1), s		6.4			3.1		2.1	2.6		4.3	3.8	
Green Ext Time (p_c), s		0.6			0.7		0.0	1.5		0.0	1.5	

Intersection Summary		
HCM 2010 Ctrl Delay		12.2
HCM 2010 LOS		B

Notes

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	17	279	274	12	32	36
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	29	39	8	3	6
Mvmt Flow	20	324	319	14	37	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	333	0	-	0	690	326
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	364	-
Follow-up Headway	2.2	-	-	-	3.527	3.354
Pot Capacity-1 Maneuver	1238	-	-	-	409	706
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	701	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1238	-	-	-	401	706
Mov Capacity-2 Maneuver	-	-	-	-	401	-
Stage 1	-	-	-	-	729	-
Stage 2	-	-	-	-	687	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.5
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1238	-	-	-	401	706
HCM Lane V/C Ratio	0.016	-	-	-	0.093	0.059
HCM Control Delay (s)	7.955	0	-	-	14.9	10.4
HCM Lane LOS	A	A			B	B
HCM 95th %tile Q(veh)	0.049	-	-	-	0.305	0.189

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	25	309	0	0	225	228	14	0	214	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	12	10	2	2	26	20	23	2	27	2	2	2
Mvmt Flow	27	329	0	0	239	243	15	0	228	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	482	0	0	329	0	0	502	864	164
Stage 1	-	-	-	-	-	-	382	382	-
Stage 2	-	-	-	-	-	-	120	482	-
Follow-up Headway	2.32	-	-	2.22	-	-	3.73	4.02	3.57
Pot Capacity-1 Maneuver	1010	-	-	1227	-	-	450	291	779
Stage 1	-	-	-	-	-	-	601	611	-
Stage 2	-	-	-	-	-	-	833	552	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	1010	-	-	1227	-	-	438	0	779
Mov Capacity-2 Maneuver	-	-	-	-	-	-	438	0	-
Stage 1	-	-	-	-	-	-	585	0	-
Stage 2	-	-	-	-	-	-	833	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.6	0	11.6
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	438	779	1010	-	-	1227	-	-
HCM Lane V/C Ratio	0.034	0.292	0.026	-	-	-	-	-
HCM Control Delay (s)	13.5	11.5	8.661	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.105	1.217	0.081	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	12.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	71	25	190	49	0	0	0	0	263	0	26
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	-	-	-	0	-	-	-	-	-	600	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	7	16	31	7	2	2	2	2	13	0	4
Mvmt Flow	0	80	28	213	55	0	0	0	0	296	0	29

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	55	0	0	108	0	0				522	590	28
Stage 1	-	-	-	-	-	-				482	482	-
Stage 2	-	-	-	-	-	-				40	108	-
Follow-up Headway	2.22	-	-	2.51	-	-				3.63	4	3.34
Pot Capacity-1 Maneuver	1548	-	-	1292	-	-				458	423	1034
Stage 1	-	-	-	-	-	-				556	557	-
Stage 2	-	-	-	-	-	-				946	810	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1548	-	-	1292	-	-				382	0	1034
Mov Capacity-2 Maneuver	-	-	-	-	-	-				382	0	-
Stage 1	-	-	-	-	-	-				464	0	-
Stage 2	-	-	-	-	-	-				946	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.6	21
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1548	-	-	1292	-	-	382	446
HCM Lane V/C Ratio	-	-	-	0.165	-	-	0.516	0.286
HCM Control Delay (s)	0	-	-	8.337	-	-	24	16.3
HCM Lane LOS	A			A			C	C
HCM 95th %tile Q(veh)	0	-	-	0.591	-	-	2.845	1.169

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	44	31	24	56	40	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	54	38	29	68	49	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	63	0	0	98	0
Stage 1	63	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	783	988	-	-	1470	-
Stage 1	947	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	756	988	-	-	1470	-
Mov Capacity-2 Maneuver	756	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.4
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	756	988	1470	-
HCM Lane V/C Ratio	-	-	0.071	0.038	0.033	-
HCM Control Delay (s)	-	-	10.1	8.8	7.533	0
HCM Lane LOS			B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.229	0.119	0.103	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	33	620	558	49	19	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	70	70	60	60	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	886	797	82	32	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	797	0	-	0	1261	399
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	464	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	821	-	-	-	192	601
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	565	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	821	-	-	-	179	601
Mov Capacity-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	527	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	21
HCM LOS			C

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	821	-	-	-	298
HCM Lane V/C Ratio	0.067	-	-	-	0.246
HCM Control Delay (s)	9.7	-	-	-	21
HCM Lane LOS	A				C
HCM 95th %tile Q(veh)	0.215	-	-	-	0.947

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	1487	785	8	8	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	95	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1565	882	9	9	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	882	0	-	0	1665	882
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	783	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	767	-	-	-	97	344
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	412	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	767	-	-	-	97	344
Mov Capacity-2 Maneuver	-	-	-	-	97	-
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	412	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	45.9
HCM LOS			E

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	767	-	-	-	97
HCM Lane V/C Ratio	-	-	-	-	0.093
HCM Control Delay (s)	0	-	-	-	45.9
HCM Lane LOS	A				E
HCM 95th %tile Q(veh)	0	-	-	-	0.298

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	125	0	242	57	562	0	0	263	472
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
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	0	2	5	11	5	2	2	5	5
Mvmt Flow	0	0	0	136	0	263	62	611	0	0	286	513

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1277	1534	611	799	0	0	611	0	0
Stage 1	735	735	-	-	-	-	-	-	-
Stage 2	542	799	-	-	-	-	-	-	-
Follow-up Headway	3.5	4.018	3.345	2.299	-	-	2.218	-	-
Pot Capacity-1 Maneuver	185	116	488	785	-	-	968	-	-
Stage 1	478	425	-	-	-	-	-	-	-
Stage 2	587	398	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	163	0	488	785	-	-	968	-	-
Mov Capacity-2 Maneuver	163	0	-	-	-	-	-	-	-
Stage 1	421	0	-	-	-	-	-	-	-
Stage 2	587	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.9	0.9	0
HCM LOS	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	785	-	-	221	488	968	-	-
HCM Lane V/C Ratio	0.079	-	-	1.012	0.359	-	-	-
HCM Control Delay (s)	9.979	0	-	110	16.5	0	-	-
HCM Lane LOS	A	A		F	C	A		
HCM 95th %tile Q(veh)	0.256	-	-	9.317	1.616	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	179.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	538	0	248	0	0	0	0	81	31	112	276	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	92	89	92	92	92	92	89	89	89	89	92
Heavy Vehicles, %	4	2	7	2	2	2	2	7	7	7	7	2
Mvmt Flow	604	0	279	0	0	0	0	91	35	126	310	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	670	688	310			310	0	0	126	0	0
Stage 1	562	562	-			-	-	-	-	-	-
Stage 2	108	126	-			-	-	-	-	-	-
Follow-up Headway	3.536	4.018	3.363			2.218	-	-	2.263	-	-
Pot Capacity-1 Maneuver	# 419	369	719			1250	-	-	1430	-	-
Stage 1	# 567	510	-			-	-	-	-	-	-
Stage 2	911	792	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	# 375	0	719			1250	-	-	1430	-	-
Mov Capacity-2 Maneuver	# 375	0	-			-	-	-	-	-	-
Stage 1	# 507	0	-			-	-	-	-	-	-
Stage 2	911	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	291.9	0	2.2
HCM LOS	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1250	-	-	401	719	1430	-	-
HCM Lane V/C Ratio	-	-	-	1.739	0.258	0.088	-	-
HCM Control Delay (s)	0	-	-	$ 366.5	11.7	7.76	0	-
HCM Lane LOS	A			F	B	A	A	
HCM 95th %tile Q(veh)	0	-	-	43.113	1.029	0.289	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	67	18	45	66	2
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	71	19	48	70	2

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	157	71	72	0	-	0
Stage 1	71	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	834	991	1528	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	823	991	1528	-	-	-
Mov Capacity-2 Maneuver	823	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	2.1	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1528	-	988	-	-
HCM Lane V/C Ratio	0.013	-	0.073	-	-
HCM Control Delay (s)	7.386	0	8.9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.038	-	0.237	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.4

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	27	4	0	135	4
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	87	87	87	87	87	87
Heavy Vehicles, %	2	30	2	2	7	2
Mvmt Flow	1	31	5	0	155	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	320	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Follow-up Headway	3.518	3.57	-	-	2.263	-
Pot Capacity-1 Maneuver	673	1002	-	-	1584	-
Stage 1	1018	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	607	1002	-	-	1584	-
Mov Capacity-2 Maneuver	607	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	8.8	0	7.3
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	979	1584	-
HCM Lane V/C Ratio	-	-	0.033	0.098	-
HCM Control Delay (s)	-	-	8.8	7.519	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.102	0.325	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.3

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	15	50	34	6	7	19
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	89	89	89	89	89	89
Heavy Vehicles, %	2	6	6	2	2	31
Mvmt Flow	17	56	38	7	8	21

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	102	19	29	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Follow-up Headway	3.518	3.354	2.254	-	-	-
Pot Capacity-1 Maneuver	896	1048	1559	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	874	1048	1559	-	-	-
Mov Capacity-2 Maneuver	874	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	8.9	6.3	0
HCM LOS	A		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1559	-	1002	-	-
HCM Lane V/C Ratio	0.025	-	0.073	-	-
HCM Control Delay (s)	7.367	0	8.9	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.075	-	0.235	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	40.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	61	268	166	61	277	22	228	29	65	36	36	86
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, %	44	33	19	8	28	32	19	19	8	6	6	19
Mvmt Flow	68	298	184	68	308	24	253	32	72	40	40	96
Number of Lanes	1	1	1	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	3
HCM Control Delay	24.1	76.7	35.5	21.1
HCM LOS	C	F	E	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	SBLn1
Vol Left, %	89%	0%	100%	0%	0%	17%	23%
Vol Thru, %	11%	0%	0%	100%	0%	77%	23%
Vol Right, %	0%	100%	0%	0%	100%	6%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	257	65	61	268	166	360	158
LT Vol	29	0	0	268	0	277	36
Through Vol	0	65	0	0	166	22	86
RT Vol	228	0	61	0	0	61	36
Lane Flow Rate	286	72	68	298	184	400	176
Geometry Grp	8	8	7	7	7	8	8
Degree of Util (X)	0.789	0.176	0.179	0.728	0.401	1	0.479
Departure Headway (Hd)	9.949	8.763	9.51	8.798	7.827	9.308	9.814
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	368	412	382	414	463	392	372
Service Time	7.592	6.45	7.167	6.478	5.538	7.008	7.443
HCM Lane V/C Ratio	0.777	0.175	0.178	0.72	0.397	1.02	0.473
HCM Control Delay	41.1	13.3	14.2	31.6	15.7	76.7	21.1
HCM Lane LOS	E	B	B	D	C	F	C
HCM 95th-tile Q	6.6	0.6	0.6	5.7	1.9	12	2.5

Notes

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Intersection	
Intersection Delay, s/veh	22.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	47	42	357	70	29	310
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	51	430	84	35	373
Number of Lanes	2	1	1	2	1	1

Approach	EB	NB
Opposing Approach	WB	
Opposing Lanes	3	0
Conflicting Approach Left		EB
Conflicting Lanes Left	0	3
Conflicting Approach Right	NB	WB
Conflicting Lanes Right	2	3
HCM Control Delay	9.3	16.6
HCM LOS	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	0%	0%	0%	0%	100%	0%	0%
Vol Thru, %	0%	0%	100%	100%	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	310	24	24	42	367	35	35
LT Vol	0	0	24	24	0	0	35	35
Through Vol	0	310	0	0	42	0	0	0
RT Vol	29	0	0	0	0	367	0	0
Lane Flow Rate	35	373	28	28	51	442	42	42
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.068	0.604	0.057	0.057	0.067	0.822	0.072	0.072
Departure Headway (Hd)	7.017	5.823	7.269	7.269	4.776	6.689	6.18	6.18
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	509	616	490	490	742	539	579	579
Service Time	4.783	3.588	5.051	5.051	2.555	4.438	3.929	3.929
HCM Lane V/C Ratio	0.069	0.606	0.057	0.057	0.069	0.82	0.073	0.073
HCM Control Delay	10.3	17.2	10.5	10.5	7.9	33.4	9.4	9.4
HCM Lane LOS	B	C	B	B	A	D	A	A
HCM 95th-tile Q	0.2	4	0.2	0.2	0.2	8.2	0.2	0.2

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	70.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	150	458	458	183	255	177	151	133	115	149	121	98
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	7	3	2	2	3	2	2	2	2	2	2	2
Mvmt Flow	167	509	509	203	283	197	168	148	128	166	134	109
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	69.4	62.1	78	78.1
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	38%	100%	0%	100%	0%	40%
Vol Thru, %	33%	0%	50%	0%	59%	33%
Vol Right, %	29%	0%	50%	0%	41%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	399	150	916	183	432	368
LT Vol	133	0	458	0	255	121
Through Vol	115	0	458	0	177	98
RT Vol	151	150	0	183	0	149
Lane Flow Rate	443	167	1018	203	480	409
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1	0.477	1	0.578	1	1
Departure Headway (Hd)	9.526	10.313	9.396	10.228	9.459	9.544
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	386	352	397	356	389	384
Service Time	7.526	8.013	7.096	7.928	7.159	7.544
HCM Lane V/C Ratio	1.148	0.474	2.564	0.57	1.234	1.065
HCM Control Delay	78	22.1	77.1	26	77.4	78.1
HCM Lane LOS	F	C	F	D	F	F
HCM 95th-tile Q	11.9	2.5	12	3.5	11.9	11.9

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

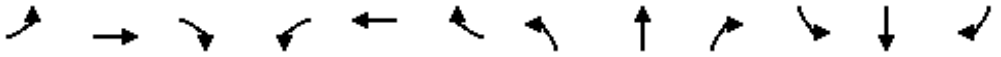
Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	10	43	13	163	67	8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	51	15	192	79	9
Number of Lanes	1	1	1	1	1	1

Approach	SE	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	2	2
Conflicting Approach Left	SW	SE	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NE		SE
Conflicting Lanes Right	2	0	2
HCM Control Delay	7.8	8.9	8
HCM LOS	A	A	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1	SWLn2
Vol Left, %	100%	0%	100%	0%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	163	10	43	67	8
LT Vol	0	163	0	0	67	0
Through Vol	0	0	0	43	0	8
RT Vol	13	0	10	0	0	0
Lane Flow Rate	15	192	12	51	79	9
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.022	0.25	0.019	0.064	0.106	0.011
Departure Headway (Hd)	5.187	4.686	5.747	4.544	4.85	4.147
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	684	757	626	793	743	866
Service Time	2.966	2.465	3.451	2.247	2.558	1.856
HCM Lane V/C Ratio	0.022	0.254	0.019	0.064	0.106	0.01
HCM Control Delay	8.1	9	8.6	7.6	8.1	6.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	1	0.1	0.2	0.4	0

Notes

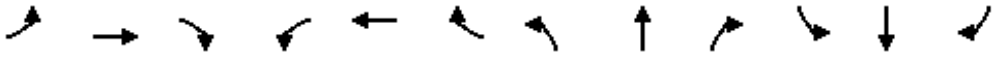
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	797	387	401	1430	0	0	0	0	519	0	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.95		1.00	1.00					0.95	0.95	
Frt		0.95		1.00	1.00					1.00	0.87	
Flt Protected		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (prot)		3388		1736	1881					1618	1533	
Flt Permitted		1.00		0.95	1.00					0.95	0.99	
Satd. Flow (perm)		3388		1736	1881					1618	1533	
Peak-hour factor, PHF	0.84	0.95	0.95	0.95	0.99	0.90	0.90	0.90	0.90	0.95	0.95	0.95
Adj. Flow (vph)	0	839	407	422	1444	0	0	0	0	546	0	409
RTOR Reduction (vph)	0	66	0	0	0	0	0	0	0	0	44	0
Lane Group Flow (vph)	0	1180	0	422	1444	0	0	0	0	491	420	0
Heavy Vehicles (%)	2%	2%	0%	4%	1%	2%	2%	2%	2%	6%	2%	1%
Turn Type		NA		Prot	NA					Split	NA	
Protected Phases		4		3	8					6	6	
Permitted Phases												
Actuated Green, G (s)		31.0		22.0	57.0					25.0	25.0	
Effective Green, g (s)		31.0		22.0	57.0					25.0	25.0	
Actuated g/C Ratio		0.34		0.24	0.63					0.28	0.28	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1166		424	1191					449	425	
v/s Ratio Prot		0.35		0.24	c0.77					c0.30	0.27	
v/s Ratio Perm												
v/c Ratio		1.01		1.00	1.21					1.09	0.99	
Uniform Delay, d1		29.5		33.9	16.5					32.5	32.4	
Progression Factor		1.00		0.89	1.59					1.00	1.00	
Incremental Delay, d2		29.5		12.0	96.4					70.2	40.8	
Delay (s)		59.0		42.3	122.6					102.7	73.2	
Level of Service		E		D	F					F	E	
Approach Delay (s)		59.0			104.5			0.0			88.3	
Approach LOS		E			F			A			F	

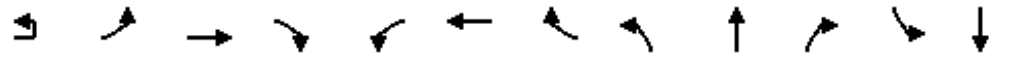
Intersection Summary			
HCM 2000 Control Delay	86.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	864	137	96	829	23	182	131	186	41	129	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		0.95	0.95	
Frt		0.98			1.00		1.00	0.91		1.00	0.98	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3462			3509		1770	1699		1681	1732	
Flt Permitted		1.00			0.99		0.95	1.00		0.95	0.99	
Satd. Flow (perm)		3462			3509		1770	1699		1681	1725	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	51	949	151	105	911	25	200	144	204	45	142	22
RTOR Reduction (vph)	0	16	0	0	2	0	0	63	0	0	6	0
Lane Group Flow (vph)	0	1135	0	0	1039	0	200	285	0	40	163	0
Turn Type	Split	NA		Split	NA		Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		18.0			16.0		9.0	22.0		4.6	22.2	
Effective Green, g (s)		18.0			16.0		9.0	22.0		4.6	22.2	
Actuated g/C Ratio		0.23			0.21		0.12	0.29		0.06	0.29	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		813			732		207	487		100	500	
v/s Ratio Prot		c0.33			c0.30		c0.11	c0.17		0.02	0.02	
v/s Ratio Perm											0.07	
v/c Ratio		1.40			1.42		0.97	0.59		0.40	0.33	
Uniform Delay, d1		29.3			30.3		33.6	23.4		34.7	21.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		185.7			196.5		52.4	5.1		2.6	0.4	
Delay (s)		215.0			226.8		86.0	28.5		37.3	21.7	
Level of Service		F			F		F	C		D	C	
Approach Delay (s)		215.0			226.8			49.5			24.7	
Approach LOS		F			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	174.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	46	209	822	294	92	499	76	278	164	117	150	141
Number		7	4	14	3	8	18	5	2	12	1	6
Initial Q (Qb), veh		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	
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
Adj Sat Flow veh/h/ln		186.3	186.3	190.0	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3
Lanes		1	2	0	1	1	1	1	2	0	1	2
Cap, veh/h		248	1068	382	119	623	530	319	544	364	185	346
Arrive On Green		0.14	0.41	0.41	0.07	0.33	0.33	0.18	0.26	0.26	0.10	0.19
Sat Flow, veh/h		1774	2623	937	1774	1863	1583	1774	2085	1394	1774	1863
Grp Volume(v), veh/h		211	589	538	93	504	77	281	147	137	152	142
Grp Sat Flow(s),veh/h/ln		1774	1863	1697	1774	1863	1583	1774	1863	1617	1774	1863
Q Serve(g_s), s		11.6	27.3	27.4	5.1	24.6	3.4	15.4	6.3	6.8	8.4	6.7
Cycle Q Clear(g_c), s		11.6	27.3	27.4	5.1	24.6	3.4	15.4	6.3	6.8	8.4	6.7
Prop In Lane		1.00		0.55	1.00		1.00	1.00		0.86	1.00	
Lane Grp Cap(c), veh/h		248	759	691	119	623	530	319	486	422	185	346
V/C Ratio(X)		0.85	0.78	0.78	0.78	0.81	0.15	0.88	0.30	0.32	0.82	0.41
Avail Cap(c_a), veh/h		445	1046	953	231	822	699	498	486	422	338	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
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
Uniform Delay (d), s/veh		41.9	25.6	25.6	45.8	30.3	23.2	39.8	29.6	29.8	43.7	35.8
Incr Delay (d2), s/veh		8.0	2.5	2.8	10.7	4.6	0.1	11.0	1.6	2.0	8.6	3.6
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
%ile Back of Q (50%), veh/ln		5.8	13.1	12.0	2.7	12.3	1.3	7.9	3.2	3.0	4.2	3.5
Lane Grp Delay (d), s/veh		49.9	28.1	28.5	56.5	34.8	23.3	50.8	31.2	31.8	52.3	39.4
Lane Grp LOS		D	C	C	E	C	C	D	C	C	D	D
Approach Vol, veh/h			1338			674			565			445
Approach Delay, s/veh			31.7			36.5			41.1			45.0
Approach LOS			C			D			D			D

Timer												
Assigned Phs		7	4		3	8		5	2		1	6
Phs Duration (G+Y+Rc), s		17.9	44.6		10.7	37.4		21.9	30.0		14.4	22.5
Change Period (Y+Rc), s		4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s		25.0	56.0		13.0	44.0		28.0	26.0		19.0	17.0
Max Q Clear Time (g_c+I1), s		13.6	29.4		7.1	26.6		17.4	8.8		10.4	10.6
Green Ext Time (p_c), s		0.4	7.8		0.1	6.7		0.5	1.9		0.2	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	36.5
HCM 2010 LOS	D

Notes

Movement	SBR
Lane Configurations	
Volume (veh/h)	149
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	190.0
Lanes	0
Cap, veh/h	294
Arrive On Green	0.19
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	151
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	8.6
Cycle Q Clear(g_c), s	8.6
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	294
V/C Ratio(X)	0.51
Avail Cap(c_a), veh/h	294
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	36.6
Incr Delay (d2), s/veh	6.3
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	4.0
Lane Grp Delay (d), s/veh	42.9
Lane Grp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

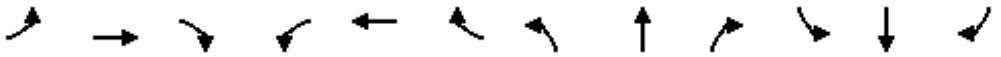
Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (veh/h)	116	732	50	14	342	1223	236	85	95	186	187	109
Number	7	4	14		3	8	18	5	2	12	1	6
Initial Q (Qb), veh	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	
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3		186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	2	1		2	1	1	1	3	1	1	3
Cap, veh/h	156	1265	538		468	722	614	116	1529	433	121	1545
Arrive On Green	0.09	0.34	0.34		0.14	0.39	0.39	0.07	0.27	0.27	0.07	0.28
Sat Flow, veh/h	1774	3725	1583		3442	1863	1583	1774	5588	1583	1774	5588
Grp Volume(v), veh/h	125	762	54		368	1274	254	91	102	200	201	117
Grp Sat Flow(s),veh/h/ln	1774	1863	1583		1721	1863	1583	1774	1863	1583	1774	1863
Q Serve(g_s), s	6.1	14.9	2.0		9.1	34.0	10.3	4.4	1.2	9.2	6.0	1.4
Cycle Q Clear(g_c), s	6.1	14.9	2.0		9.1	34.0	10.3	4.4	1.2	9.2	6.0	1.4
Prop In Lane	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	156	1265	538		468	722	614	116	1529	433	121	1545
V/C Ratio(X)	0.80	0.60	0.10		0.79	1.76	0.41	0.78	0.07	0.46	1.66	0.08
Avail Cap(c_a), veh/h	202	1265	538		824	722	614	142	1529	433	121	1545
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
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
Uniform Delay (d), s/veh	39.2	24.0	19.8		36.7	26.9	19.6	40.4	23.6	26.5	40.9	23.4
Incr Delay (d2), s/veh	15.8	0.8	0.1		3.0	349.8	0.4	20.5	0.1	3.5	329.0	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
%ile Back of Q (50%), veh/ln	3.4	6.9	0.8		4.1	85.4	3.9	2.6	0.5	4.0	13.7	0.6
Lane Grp Delay (d), s/veh	55.0	24.9	19.9		39.6	376.6	20.0	60.8	23.7	30.0	369.9	23.5
Lane Grp LOS	E	C	B		D	F	C	E	C	C	F	C
Approach Vol, veh/h		941				1896			393			496
Approach Delay, s/veh		28.6				263.4			35.5			165.7
Approach LOS		C				F			D			F
Timer												
Assigned Phs	7	4			3	8		5	2		1	6
Phs Duration (G+Y+Rc), s	11.7	33.8			15.9	38.0		9.7	28.0		10.0	28.3
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0		4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	10.0	23.0			21.0	34.0		7.0	24.0		6.0	23.0
Max Q Clear Time (g_c+I1), s	8.1	16.9			11.1	36.0		6.4	11.2		8.0	10.0
Green Ext Time (p_c), s	0.0	4.9			0.9	0.0		0.0	1.7		0.0	1.7
Intersection Summary												
HCM 2010 Ctrl Delay			167.1									
HCM 2010 LOS			F									
Notes												

Movement	SBR
Lane Configurations	
Volume (veh/h)	166
Number	16
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus Adj	1.00
Adj Sat Flow veh/h/ln	186.3
Lanes	1
Cap, veh/h	438
Arrive On Green	0.28
Sat Flow, veh/h	1583
Grp Volume(v), veh/h	178
Grp Sat Flow(s),veh/h/ln	1583
Q Serve(g_s), s	8.0
Cycle Q Clear(g_c), s	8.0
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	438
V/C Ratio(X)	0.41
Avail Cap(c_a), veh/h	438
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	25.9
Incr Delay (d2), s/veh	2.8
Initial Q Delay(d3),s/veh	0.0
%ile Back of Q (50%), veh/ln	3.5
Lane Grp Delay (d), s/veh	28.7
Lane Grp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	

Timer
Assigned Phs
Phs Duration (G+Y+Rc), s
Change Period (Y+Rc), s
Max Green Setting (Gmax), s
Max Q Clear Time (g_c+I1), s
Green Ext Time (p_c), s

Intersection Summary

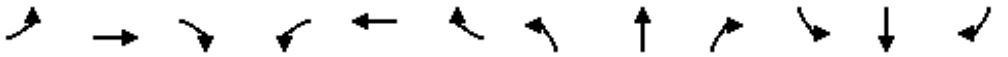


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	365	25	390	359	0	0	0	0	480	0	106
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow veh/h/ln	0.0	190.0	190.0	186.3	186.3	0.0				190.0	182.5	190.0
Lanes	0	3	0	1	1	0				0	1	0
Cap, veh/h	0	705	48	530	957	0				452	0	100
Arrive On Green	0.00	0.13	0.13	0.30	0.51	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5274	362	1774	1863	0				1393	0	308
Grp Volume(v), veh/h	0	278	137	415	382	0				624	0	0
Grp Sat Flow(s),veh/h/ln	0	1900	1836	1774	1863	0				1701	0	0
Q Serve(g_s), s	0.0	3.4	3.4	10.6	6.2	0.0				16.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.4	3.4	10.6	6.2	0.0				16.0	0.0	0.0
Prop In Lane	0.00		0.20	1.00		0.00				0.82		0.18
Lane Grp Cap(c), veh/h	0	508	245	530	957	0				552	0	0
V/C Ratio(X)	0.00	0.55	0.56	0.78	0.40	0.00				1.13	0.00	0.00
Avail Cap(c_a), veh/h	0	1232	595	935	1736	0				552	0	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)	0.00	1.00	1.00	0.09	0.09	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	20.0	15.8	7.3	0.0				16.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	2.0	0.2	0.0	0.0				79.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.0	1.5	1.6	4.2	2.2	0.0				18.2	0.0	0.0
Lane Grp Delay (d), s/veh	0.0	20.9	22.0	16.1	7.4	0.0				96.6	0.0	0.0
Lane Grp LOS		C	C	B	A					F		
Approach Vol, veh/h		415			797						624	
Approach Delay, s/veh		21.3			11.9						96.6	
Approach LOS		C			B						F	

Timer				
Assigned Phs	4	3	8	6
Phs Duration (G+Y+Rc), s	10.6	18.8	29.3	20.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	26.0	46.0	16.0
Max Q Clear Time (g_c+I1), s	5.4	12.6	8.2	18.0
Green Ext Time (p_c), s	1.2	2.2	2.6	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.8
HCM 2010 LOS	D

Notes

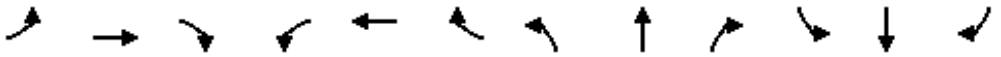


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	101	744	0	0	707	362	42	0	688	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	190.0	184.5	0.0	0.0	188.1	190.0	190.0	190.0	181.0			
Lanes	1	2	0	0	2	0	0	1	1			
Cap, veh/h	135	1634	0	0	731	374	801	0	681			
Arrive On Green	0.07	0.44	0.00	0.00	0.31	0.31	0.44	0.00	0.44			
Sat Flow, veh/h	1810	3689	0	0	2349	1201	1810	0	1538			
Grp Volume(v), veh/h	105	775	0	0	589	524	44	0	717			
Grp Sat Flow(s),veh/h/ln	1810	1845	0	0	1881	1669	1810	0	1538			
Q Serve(g_s), s	4.0	10.4	0.0	0.0	21.8	21.8	1.0	0.0	31.0			
Cycle Q Clear(g_c), s	4.0	10.4	0.0	0.0	21.8	21.8	1.0	0.0	31.0			
Prop In Lane	1.00		0.00	0.00		0.72	1.00		1.00			
Lane Grp Cap(c), veh/h	135	1634	0	0	585	520	801	0	681			
V/C Ratio(X)	0.78	0.47	0.00	0.00	1.01	1.01	0.05	0.00	1.05			
Avail Cap(c_a), veh/h	155	1634	0	0	585	520	801	0	681			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.84	0.84	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.8	13.8	0.0	0.0	24.1	24.1	11.1	0.0	19.5			
Incr Delay (d2), s/veh	16.8	0.8	0.0	0.0	38.7	41.6	0.1	0.0	49.1			
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 Back of Q (50%), veh/ln	2.4	4.5	0.0	0.0	16.1	14.7	0.4	0.0	20.1			
Lane Grp Delay (d), s/veh	48.6	14.6	0.0	0.0	62.8	65.7	11.3	0.0	68.6			
Lane Grp LOS	D	B			F	F	B		F			
Approach Vol, veh/h		880			1113			761				
Approach Delay, s/veh		18.6			64.2			65.3				
Approach LOS		B			E			E				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	9.2	35.0			25.8			35.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	5.0	31.0			21.0			31.0	
Max Q Clear Time (g_c+I1), s	6.0	12.4			23.8			33.0	
Green Ext Time (p_c), s	0.0	8.2			0.0			0.0	

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Notes

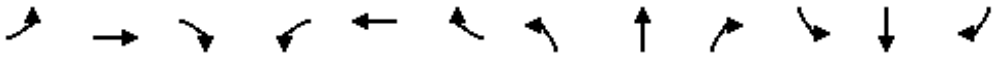


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	593	71	20	539	106	65	27	19	84	25	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	190.0
Lanes	1	1	1	1	2	0	1	1	0	1	2	0
Cap, veh/h	72	722	614	35	1110	217	86	268	191	112	521	443
Arrive On Green	0.04	0.39	0.39	0.02	0.37	0.37	0.05	0.26	0.26	0.06	0.28	0.28
Sat Flow, veh/h	1774	1863	1583	1774	3029	592	1774	1012	723	1774	1863	1583
Grp Volume(v), veh/h	57	618	74	21	344	327	68	0	48	88	26	51
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1758	1774	0	1735	1774	1863	1583
Q Serve(g_s), s	1.9	18.4	1.8	0.7	8.7	8.7	2.3	0.0	1.3	3.0	0.6	1.4
Cycle Q Clear(g_c), s	1.9	18.4	1.8	0.7	8.7	8.7	2.3	0.0	1.3	3.0	0.6	1.4
Prop In Lane	1.00		1.00	1.00		0.34	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	72	722	614	35	683	644	86	0	459	112	521	443
V/C Ratio(X)	0.79	0.86	0.12	0.60	0.50	0.51	0.79	0.00	0.10	0.78	0.05	0.12
Avail Cap(c_a), veh/h	176	832	707	176	832	785	147	0	459	147	521	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	17.0	11.9	29.4	14.9	14.9	28.5	0.0	16.8	27.9	15.9	16.2
Incr Delay (d2), s/veh	17.0	7.9	0.1	15.5	0.6	0.6	14.9	0.0	0.5	18.2	0.2	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 Back of Q (50%), veh/ln	1.2	9.5	0.6	0.5	3.8	3.7	1.3	0.0	0.6	1.8	0.3	0.6
Lane Grp Delay (d), s/veh	45.7	24.8	12.0	44.9	15.5	15.5	43.3	0.0	17.3	46.1	16.1	16.7
Lane Grp LOS	D	C	B	D	B	B	D		B	D	B	B
Approach Vol, veh/h		749			692			116			165	
Approach Delay, s/veh		25.2			16.4			32.5			32.3	
Approach LOS		C			B			C			C	

Timer												
Assigned Phs	7	4		3	8		5	2		1	6	
Phs Duration (G+Y+Rc), s	6.5	27.4		5.2	26.2		6.9	20.0		7.8	20.9	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s	6.0	27.0		6.0	27.0		5.0	16.0		5.0	16.0	
Max Q Clear Time (g_c+I1), s	3.9	20.4		2.7	10.7		4.3	3.3		5.0	3.4	
Green Ext Time (p_c), s	0.0	3.1		0.0	4.9		0.0	0.3		0.0	0.3	

Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C

Notes

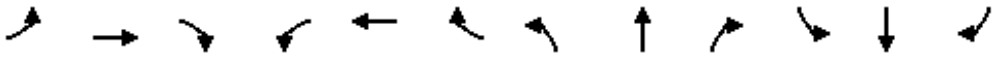


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	288	1028	0	0	1055	635	776	0	595	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow veh/h/ln	182.7	182.7	0.0	0.0	182.7	182.7	190.0	186.3	177.6			
Lanes	1	2	0	0	2	1	0	1	1			
Cap, veh/h	271	1746	0	0	1015	431	769	0	654			
Arrive On Green	0.31	0.96	0.00	0.00	0.28	0.00	0.43	0.00	0.43			
Sat Flow, veh/h	1740	3654	0	0	3654	1553	1774	0	1509			
Grp Volume(v), veh/h	306	1071	0	0	1077	0	808	0	633			
Grp Sat Flow(s),veh/h/ln	1740	1827	0	0	1827	1553	1774	0	1509			
Q Serve(g_s), s	14.0	2.8	0.0	0.0	25.0	0.0	39.0	0.0	36.8			
Cycle Q Clear(g_c), s	14.0	2.8	0.0	0.0	25.0	0.0	39.0	0.0	36.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	271	1746	0	0	1015	431	769	0	654			
V/C Ratio(X)	1.13	0.61	0.00	0.00	1.06	0.00	1.05	0.00	0.97			
Avail Cap(c_a), veh/h	271	1746	0	0	1015	431	769	0	654			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.0	1.1	0.0	0.0	32.5	0.0	25.5	0.0	24.9			
Incr Delay (d2), s/veh	63.6	0.1	0.0	0.0	45.9	0.0	46.7	0.0	28.1			
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 Back of Q (50%), veh/ln	9.9	0.5	0.0	0.0	17.8	0.0	26.4	0.0	18.3			
Lane Grp Delay (d), s/veh	94.6	1.2	0.0	0.0	78.4	0.0	72.2	0.0	53.0			
Lane Grp LOS	F	A			F		F		D			
Approach Vol, veh/h		1377			1077			1441				
Approach Delay, s/veh		21.9			78.4			63.8				
Approach LOS		C			E			E				

Timer									
Assigned Phs	7	4			8			2	
Phs Duration (G+Y+Rc), s	18.0	47.0			29.0			43.0	
Change Period (Y+Rc), s	4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	14.0	43.0			25.0			39.0	
Max Q Clear Time (g_c+I1), s	16.0	4.8			27.0			41.0	
Green Ext Time (p_c), s	0.0	13.8			0.0			0.0	

Intersection Summary	
HCM 2010 Ctrl Delay	53.0
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	71	750	28	17	950	91	61	44	14	82	24	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	190.0	186.3	186.3	190.0	186.3	186.3	186.3	190.0	186.3	186.3
Lanes	1	2	0	1	2	0	1	1	1	0	1	1
Cap, veh/h	97	1396	52	31	1186	114	534	688	585	510	138	585
Arrive On Green	0.05	0.39	0.39	0.02	0.35	0.35	0.37	0.37	0.00	0.37	0.37	0.37
Sat Flow, veh/h	1774	3568	134	1774	3348	321	1279	1863	1583	1063	373	1583
Grp Volume(v), veh/h	76	417	411	18	562	546	65	47	0	113	0	83
Grp Sat Flow(s),veh/h/ln	1774	1863	1839	1774	1863	1806	1279	1863	1583	1436	0	1583
Q Serve(g_s), s	2.3	9.5	9.5	0.5	15.1	15.1	2.0	0.9	0.0	2.1	0.0	1.9
Cycle Q Clear(g_c), s	2.3	9.5	9.5	0.5	15.1	15.1	5.0	0.9	0.0	3.0	0.0	1.9
Prop In Lane	1.00		0.07	1.00		0.18	1.00		1.00	0.77		1.00
Lane Grp Cap(c), veh/h	97	729	720	31	660	640	534	688	585	648	0	585
V/C Ratio(X)	0.79	0.57	0.57	0.58	0.85	0.85	0.12	0.07	0.00	0.17	0.00	0.14
Avail Cap(c_a), veh/h	262	826	815	131	688	667	534	688	585	648	0	585
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	0.00	1.00
Uniform Delay (d), s/veh	25.3	12.9	12.9	26.4	16.2	16.2	13.4	11.0	0.0	11.7	0.0	11.4
Incr Delay (d2), s/veh	13.1	0.7	0.7	15.9	9.8	10.1	0.5	0.2	0.0	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.8	4.0	3.9	0.4	8.0	7.9	0.6	0.4	0.0	1.1	0.0	0.7
Lane Grp Delay (d), s/veh	38.3	13.6	13.7	42.3	25.9	26.2	13.9	11.2	0.0	12.3	0.0	11.9
Lane Grp LOS	D	B	B	D	C	C	B	B		B		B
Approach Vol, veh/h		904			1126			112			196	
Approach Delay, s/veh		15.7			26.3			12.8			12.1	
Approach LOS		B			C			B			B	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	6.9	25.2		4.9	23.2			24.0			24.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	3.0	24.0		4.0	20.0			20.0			20.0	
Max Q Clear Time (g_c+I1), s	4.3	11.5		2.5	17.1			7.0			5.0	
Green Ext Time (p_c), s	0.0	6.3		0.0	2.1			0.7			0.8	

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Notes

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	867	62	97	576	108	153
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	2	1	1	2	1	1
Cap, veh/h	1578	671	134	2272	299	267
Arrive On Green	0.42	0.42	0.08	0.61	0.17	0.17
Sat Flow, veh/h	3725	1583	1774	3725	1774	1583
Grp Volume(v), veh/h	942	67	105	626	117	166
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1863	1774	1583
Q Serve(g_s), s	7.0	0.9	2.1	2.8	2.1	3.5
Cycle Q Clear(g_c), s	7.0	0.9	2.1	2.8	2.1	3.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1578	671	134	2272	299	267
V/C Ratio(X)	0.60	0.10	0.79	0.28	0.39	0.62
Avail Cap(c_a), veh/h	2373	1009	442	3715	786	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	6.3	16.4	3.3	13.4	13.9
Incr Delay (d2), s/veh	0.4	0.1	9.7	0.1	0.8	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	2.4	0.3	1.2	0.8	0.9	1.3
Lane Grp Delay (d), s/veh	8.4	6.3	26.1	3.4	14.2	16.3
Lane Grp LOS	A	A	C	A	B	B
Approach Vol, veh/h	1009			731	283	
Approach Delay, s/veh	8.3			6.6	15.4	
Approach LOS	A			A	B	

Timer				
Assigned Phs	4	3	8	
Phs Duration (G+Y+Rc), s	39.3	6.7	26.0	
Change Period (Y+Rc), s	4.0	4.0	4.0	
Max Green Setting (Gmax), s	23.6	9.0	36.0	
Max Q Clear Time (g_c+I1), s	9.0	4.1	4.8	
Green Ext Time (p_c), s	6.3	0.1	8.4	

Intersection Summary	
HCM 2010 Ctrl Delay	8.7
HCM 2010 LOS	A

Notes

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Volume (veh/h)	137	181	929	332	13	85	926	71	484	133	127	78
Number		7	4	14		3	8	18	5	2	12	1
Initial Q (Qb), veh		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
Parking Bus Adj		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln		186.3	186.3	186.3		186.3	186.3	190.0	186.3	186.3	190.0	186.3
Lanes		1	2	1		1	2	0	2	1	0	1
Cap, veh/h		241	1697	721		115	1315	101	1011	259	245	521
Arrive On Green		0.14	0.46	0.00		0.07	0.38	0.38	0.29	0.29	0.29	0.29
Sat Flow, veh/h		1774	3725	1583		1774	3417	262	3442	880	835	1774
Grp Volume(v), veh/h		189	968	0		89	526	513	504	0	271	81
Grp Sat Flow(s),veh/h/ln		1774	1863	1583		1774	1863	1817	1721	0	1715	1774
Q Serve(g_s), s		6.7	12.4	0.0		3.2	15.7	15.7	7.8	0.0	8.6	2.2
Cycle Q Clear(g_c), s		6.7	12.4	0.0		3.2	15.7	15.7	7.8	0.0	8.6	2.2
Prop In Lane		1.00		1.00		1.00		0.14	1.00		0.49	1.00
Lane Grp Cap(c), veh/h		241	1697	721		115	717	699	1011	0	504	521
V/C Ratio(X)		0.78	0.57	0.00		0.77	0.73	0.73	0.50	0.00	0.54	0.16
Avail Cap(c_a), veh/h		768	2708	1151		329	893	871	1011	0	504	521
HCM Platoon Ratio		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	0.00		1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		27.0	12.9	0.0		29.8	17.1	17.1	18.9	0.0	19.1	16.9
Incr Delay (d2), s/veh		5.6	0.3	0.0		10.3	2.4	2.5	1.8	0.0	4.1	0.1
Initial Q Delay(d3),s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln		3.2	5.3	0.0		1.7	7.1	6.9	3.4	0.0	4.0	0.9
Lane Grp Delay (d), s/veh		32.6	13.3	0.0		40.1	19.5	19.5	20.6	0.0	23.2	17.0
Lane Grp LOS		C	B			D	B	B	C		C	B
Approach Vol, veh/h			1157				1128			775		
Approach Delay, s/veh			16.4				21.1			21.5		
Approach LOS			B				C			C		

Timer												
Assigned Phs		7	4			3	8			2		
Phs Duration (G+Y+Rc), s		12.8	33.5			8.2	28.9			23.0		
Change Period (Y+Rc), s		4.0	4.0			4.0	4.0			4.0		
Max Green Setting (Gmax), s		28.0	47.0			12.0	31.0			19.0		
Max Q Clear Time (g_c+I1), s		8.7	14.4			5.2	17.7			10.6		
Green Ext Time (p_c), s		0.4	10.7			0.1	7.2			2.8		

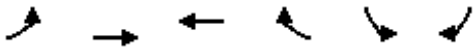
Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Notes

Movement	SBT	SBR
Lane Configurations		
Volume (veh/h)	93	162
Number	6	16
Initial Q (Qb), veh	0	0
Ped-Bike Adj(A_pbT)		1.00
Parking Bus Adj	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	190.0
Lanes	2	0
Cap, veh/h	547	465
Arrive On Green	0.29	0.29
Sat Flow, veh/h	1863	1583
Grp Volume(v), veh/h	97	169
Grp Sat Flow(s),veh/h/ln	1863	1583
Q Serve(g_s), s	2.5	5.5
Cycle Q Clear(g_c), s	2.5	5.5
Prop In Lane		1.00
Lane Grp Cap(c), veh/h	547	465
V/C Ratio(X)	0.18	0.36
Avail Cap(c_a), veh/h	547	465
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	1.00	1.00
Uniform Delay (d), s/veh	17.0	18.0
Incr Delay (d2), s/veh	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0
%ile Back of Q (50%), veh/ln	1.1	2.1
Lane Grp Delay (d), s/veh	17.2	18.5
Lane Grp LOS	B	B
Approach Vol, veh/h	347	
Approach Delay, s/veh	17.8	
Approach LOS	B	

Timer	
Assigned Phs	6
Phs Duration (G+Y+Rc), s	23.0
Change Period (Y+Rc), s	4.0
Max Green Setting (Gmax), s	16.0
Max Q Clear Time (g_c+I1), s	7.5
Green Ext Time (p_c), s	2.8

Intersection Summary

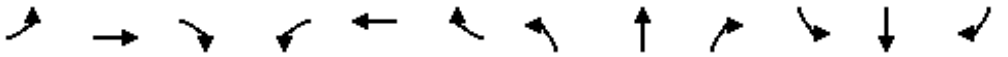


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	113	860	750	176	129	209
Number	7	4	8	18	1	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	179.2	184.5	184.5	190.0	186.3	179.2
Lanes	1	2	2	0	1	1
Cap, veh/h	157	1746	892	209	677	581
Arrive On Green	0.09	0.47	0.31	0.31	0.38	0.38
Sat Flow, veh/h	1707	3689	2892	678	1774	1524
Grp Volume(v), veh/h	123	935	520	486	140	227
Grp Sat Flow(s),veh/h/ln	1707	1845	1845	1725	1774	1524
Q Serve(g_s), s	3.9	9.8	14.9	14.9	2.9	6.0
Cycle Q Clear(g_c), s	3.9	9.8	14.9	14.9	2.9	6.0
Prop In Lane	1.00			0.39	1.00	1.00
Lane Grp Cap(c), veh/h	157	1746	569	532	677	581
V/C Ratio(X)	0.78	0.54	0.91	0.91	0.21	0.39
Avail Cap(c_a), veh/h	310	2078	570	533	677	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	10.2	18.3	18.3	11.4	12.4
Incr Delay (d2), s/veh	8.3	0.3	19.2	20.2	0.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.9	3.8	9.4	8.9	1.3	0.3
Lane Grp Delay (d), s/veh	32.7	10.5	37.5	38.5	12.1	14.3
Lane Grp LOS	C	B	D	D	B	B
Approach Vol, veh/h		1058	1006		367	
Approach Delay, s/veh		13.1	38.0		13.5	
Approach LOS		B	D		B	

Timer						
Assigned Phs	7	4	8			
Phs Duration (G+Y+Rc), s	9.1	30.0	21.0			
Change Period (Y+Rc), s	4.0	4.0	4.0			
Max Green Setting (Gmax), s	10.0	31.0	17.0			
Max Q Clear Time (g_c+I1), s	5.9	11.8	16.9			
Green Ext Time (p_c), s	0.1	8.6	0.1			

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	10	2	1	25	118	2	56	0	68	103	133
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	190.0	186.3	186.3	186.3
Lanes	1	1	1	1	1	1	1	3	0	1	3	1
Cap, veh/h	253	266	226	253	266	226	5	2676	0	105	2995	849
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.00	0.48	0.00	0.06	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	5588	0	1774	5588	1583
Grp Volume(v), veh/h	111	11	2	1	29	136	2	64	0	78	118	153
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	2.2	0.2	0.0	0.0	0.5	3.0	0.0	0.2	0.0	1.6	0.4	1.9
Cycle Q Clear(g_c), s	2.2	0.2	0.0	0.0	0.5	3.0	0.0	0.2	0.0	1.6	0.4	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	266	226	253	266	226	5	2676	0	105	2995	849
V/C Ratio(X)	0.44	0.04	0.01	0.00	0.11	0.60	0.42	0.02	0.00	0.74	0.04	0.18
Avail Cap(c_a), veh/h	755	793	674	755	793	674	189	2676	0	189	2995	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	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	14.7	13.9	13.8	13.8	14.0	15.1	18.7	5.2	0.0	17.4	4.1	4.5
Incr Delay (d2), s/veh	1.2	0.1	0.0	0.0	0.2	2.6	50.7	0.0	0.0	9.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.9	0.1	0.0	0.0	0.2	1.1	0.1	0.1	0.0	0.9	0.1	0.5
Lane Grp Delay (d), s/veh	15.9	14.0	13.8	13.8	14.2	17.7	69.4	5.2	0.0	27.2	4.2	4.9
Lane Grp LOS	B	B	B	B	B	B	E	A		C	A	A
Approach Vol, veh/h		124			166			66			349	
Approach Delay, s/veh		15.7			17.1			7.1			9.7	
Approach LOS		B			B			A			A	

Timer												
Assigned Phs		4			8		5	2		1	6	
Phs Duration (G+Y+Rc), s		9.4			9.4		4.1	22.0		6.2	24.1	
Change Period (Y+Rc), s		4.0			4.0		4.0	4.0		4.0	4.0	
Max Green Setting (Gmax), s		16.0			16.0		4.0	18.0		4.0	18.0	
Max Q Clear Time (g_c+I1), s		4.2			5.0		2.0	2.2		3.6	3.9	
Green Ext Time (p_c), s		0.6			0.6		0.0	1.0		0.0	0.9	

Intersection Summary		
HCM 2010 Ctrl Delay	12.2	
HCM 2010 LOS	B	

Notes

Intersection	
Intersection Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	52	322	326	25	12	33
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	25
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	31	47	8	0	3
Mvmt Flow	60	370	375	29	14	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	403	0	-	0	879	389
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	490	-
Follow-up Headway	2.2	-	-	-	3.5	3.327
Pot Capacity-1 Maneuver	1167	-	-	-	321	657
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	620	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1167	-	-	-	300	657
Mov Capacity-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	580	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.6
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1167	-	-	-	300	657
HCM Lane V/C Ratio	0.051	-	-	-	0.046	0.058
HCM Control Delay (s)	8.251	0	-	-	17.6	10.8
HCM Lane LOS	A	A			C	B
HCM 95th %tile Q(veh)	0.162	-	-	-	0.144	0.183

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	31	304	0	0	267	324	30	0	191	0	0	0
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	0	-	-	-	-	-	0	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	94	91	94	94	94
Heavy Vehicles, %	3	17	2	2	29	17	10	2	45	2	2	2
Mvmt Flow	34	334	0	0	293	356	33	0	210	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	649	0	0	334	0	0	549	1051	167
Stage 1	-	-	-	-	-	-	402	402	-
Stage 2	-	-	-	-	-	-	147	649	-
Follow-up Headway	2.23	-	-	2.22	-	-	3.6	4.02	3.75
Pot Capacity-1 Maneuver	926	-	-	1222	-	-	447	225	728
Stage 1	-	-	-	-	-	-	621	599	-
Stage 2	-	-	-	-	-	-	842	464	-
Time blocked-Platoon, %		-	-		-	-			
Mov Capacity-1 Maneuver	926	-	-	1222	-	-	431	0	728
Mov Capacity-2 Maneuver	-	-	-	-	-	-	431	0	-
Stage 1	-	-	-	-	-	-	598	0	-
Stage 2	-	-	-	-	-	-	842	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	12.2
HCM LOS			B

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	431	728	926	-	-	1222	-	-
HCM Lane V/C Ratio	0.076	0.288	0.037	-	-	-	-	-
HCM Control Delay (s)	14	11.9	9.036	-	-	0	-	-
HCM Lane LOS	B	B	A			A		
HCM 95th %tile Q(veh)	0.247	1.193	0.114	-	-	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	14.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	62	11	228	69	0	0	0	0	273	0	25
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	-	-	-	0	-	-	-	-	-	600	-	-
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	7	16	18	4	2	2	2	2	17	0	8
Mvmt Flow	0	67	12	245	74	0	0	0	0	294	0	27

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	74	0	0	78	0	0				598	643	37
Stage 1	-	-	-	-	-	-				565	565	-
Stage 2	-	-	-	-	-	-				33	78	-
Follow-up Headway	2.22	-	-	2.38	-	-				3.67	4	3.38
Pot Capacity-1 Maneuver	1524	-	-	1409	-	-				400	394	1008
Stage 1	-	-	-	-	-	-				492	511	-
Stage 2	-	-	-	-	-	-				943	834	-
Time blocked-Platoon, %		-	-		-	-						
Mov Capacity-1 Maneuver	1524	-	-	1409	-	-				330	0	1008
Mov Capacity-2 Maneuver	-	-	-	-	-	-				330	0	-
Stage 1	-	-	-	-	-	-				406	0	-
Stage 2	-	-	-	-	-	-				943	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	6.2	26
HCM LOS			D

Minor Lane / Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1524	-	-	1409	-	-	330	386
HCM Lane V/C Ratio	-	-	-	0.174	-	-	0.593	0.323
HCM Control Delay (s)	0	-	-	8.092	-	-	30.6	18.7
HCM Lane LOS	A			A			D	C
HCM 95th %tile Q(veh)	0	-	-	0.629	-	-	3.6	1.374

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	50	44	13	36	37	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	7	7	2	6	6	2
Mvmt Flow	57	50	15	41	42	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	143	35	0	0	56	0
Stage 1	35	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Follow-up Headway	3.563	3.363	-	-	2.254	-
Pot Capacity-1 Maneuver	838	1024	-	-	1523	-
Stage 1	975	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	815	1024	-	-	1523	-
Mov Capacity-2 Maneuver	815	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	4.7
HCM LOS	A		

Minor Lane / Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	815	1024	1523	-
HCM Lane V/C Ratio	-	-	0.07	0.049	0.028	-
HCM Control Delay (s)	-	-	9.7	8.7	7.431	0
HCM Lane LOS			A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.224	0.154	0.085	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	13	354	413	52	36	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Stop	-	None
Storage Length	120	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	407	475	60	41	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	475	0	-	0	668	237
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	193	-
Follow-up Headway	2.22	-	-	-	3.67	3.32
Pot Capacity-1 Maneuver	1083	-	-	-	421	764
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	782	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	1083	-	-	-	415	764
Mov Capacity-2 Maneuver	-	-	-	-	415	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	13.2
HCM LOS			B

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1083	-	-	-	508
HCM Lane V/C Ratio	0.014	-	-	-	0.136
HCM Control Delay (s)	8.371	-	-	-	13.2
HCM Lane LOS	A				B
HCM 95th %tile Q(veh)	0.042	-	-	-	0.467

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	1	1177	1812	7	7	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yeild	-	None
Storage Length	0	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	96	99	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1226	1830	8	8	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1830	0	-	0	2445	1830
Stage 1	-	-	-	-	1830	-
Stage 2	-	-	-	-	615	-
Follow-up Headway	2.218	-	-	-	3.519	3.319
Pot Capacity-1 Maneuver	333	-	-	-	30	95
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	503	-
Time blocked-Platoon, %		-	-	-		
Mov Capacity-1 Maneuver	333	-	-	-	30	95
Mov Capacity-2 Maneuver	-	-	-	-	30	-
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	501	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	134.5
HCM LOS			F

Minor Lane / Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	333	-	-	-	38
HCM Lane V/C Ratio	0.003	-	-	-	0.289
HCM Control Delay (s)	15.847	-	-	-	134.5
HCM Lane LOS	C				F
HCM 95th %tile Q(veh)	0.01	-	-	-	0.952

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	70.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	30	0	168	270	805	0	0	337	622
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	92	95	95	95	92	92	95	95
Heavy Vehicles, %	2	2	2	15	2	5	15	5	2	2	4	4
Mvmt Flow	0	0	0	32	0	177	284	847	0	0	355	655

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2098	2425	847	1009	0	0	847	0	0
Stage 1	1416	1416	-	-	-	-	-	-	-
Stage 2	682	1009	-	-	-	-	-	-	-
Follow-up Headway	3.635	4.018	3.345	2.335	-	-	2.218	-	-
Pot Capacity-1 Maneuver	52	32	357	638	-	-	790	-	-
Stage 1	210	203	-	-	-	-	-	-	-
Stage 2	479	318	-	-	-	-	-	-	-
Time blocked-Platoon, %					-	-		-	-
Mov Capacity-1 Maneuver	# 8	0	357	638	-	-	790	-	-
Mov Capacity-2 Maneuver	# 8	0	-	-	-	-	-	-	-
Stage 1	33	0	-	-	-	-	-	-	-
Stage 2	479	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 776	3.8	0
HCM LOS	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	638	-	-	22	357	790	-	-
HCM Lane V/C Ratio	0.445	-	-	4.115	0.33	-	-	-
HCM Control Delay (s)	15.096	0	$	1760.6	20	0	-	-
HCM Lane LOS	C	A		F	C	A		
HCM 95th %tile Q(veh)	2.291	-	-	11.514	1.412	0	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	911

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	655	0	72	0	0	0	0	420	138	292	75	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	-	-	None
Storage Length	-	-	25	-	-	-	-	-	-	-	-	-
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, %	5	2	15	2	2	2	2	5	15	4	15	2
Mvmt Flow	712	0	78	0	0	0	0	457	150	317	82	0

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	1248	1323	82			82	0	0	607	0	0
Stage 1	716	716	-			-	-	-	-	-	-
Stage 2	532	607	-			-	-	-	-	-	-
Follow-up Headway	3.545	4.018	3.435			2.218	-	-	2.236	-	-
Pot Capacity-1 Maneuver	# 189	156	943			1515	-	-	962	-	-
Stage 1	# 479	434	-			-	-	-	-	-	-
Stage 2	# 583	486	-			-	-	-	-	-	-
Time blocked-Platoon, %							-	-		-	-
Mov Capacity-1 Maneuver	124	0	943			1515	-	-	962	-	-
Mov Capacity-2 Maneuver	124	0	-			-	-	-	-	-	-
Stage 1	# 314	0	-			-	-	-	-	-	-
Stage 2	# 583	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	2065.9	0	8.4
HCM LOS	F		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	128	943	962	-	-
HCM Lane V/C Ratio	-	-	-	5.766	0.055	0.33	-	-
HCM Control Delay (s)	0	-	$	2211.3	9	10.574	0	-
HCM Lane LOS	A			F	A	B	A	
HCM 95th %tile Q(veh)	0	-	-	79.727	0.175	1.451	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	18	31	102	36	0
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	21	36	117	41	0

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	230	41	41	0	-	0
Stage 1	41	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	758	1030	1568	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	739	1030	1568	-	-	-
Mov Capacity-2 Maneuver	739	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.7	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1568	-	1009	-	-
HCM Lane V/C Ratio	0.023	-	0.022	-	-
HCM Control Delay (s)	7.349	0	8.6	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.07	-	0.066	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7

Movement	NWL	NWR	NET	NER	SWL	SWT
Vol, veh/h	1	49	10	1	72	4
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	58	12	1	86	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	189	13	0	0	13	0
Stage 1	13	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	800	1067	-	-	1606	-
Stage 1	1010	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Time blocked-Platoon, %			-	-		-
Mov Capacity-1 Maneuver	757	1067	-	-	1606	-
Mov Capacity-2 Maneuver	757	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	809	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	8.6	0	7
HCM LOS	A		

Minor Lane / Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	1058	1606	-
HCM Lane V/C Ratio	-	-	0.056	0.053	-
HCM Control Delay (s)	-	-	8.6	7.368	0
HCM Lane LOS			A	A	A
HCM 95th %tile Q(veh)	-	-	0.179	0.169	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.6

Movement	SEL	SER	NEL	NET	SWT	SWR
Vol, veh/h	30	104	61	21	16	28
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	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	117	69	24	18	31

Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	195	34	49	0	-	0
Stage 1	34	-	-	-	-	-
Stage 2	161	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	794	1039	1558	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	758	1039	1558	-	-	-
Mov Capacity-2 Maneuver	758	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	9.5	5.5	0
HCM LOS	A		

Minor Lane / Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	1558	-	959	-	-
HCM Lane V/C Ratio	0.044	-	0.157	-	-
HCM Control Delay (s)	7.417	0	9.5	-	-
HCM Lane LOS	A	A	A		
HCM 95th %tile Q(veh)	0.138	-	0.556	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Existing Queue

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	90	113	108	238	150	62	134
Average Queue (ft)	60	81	61	128	83	22	75
95th Queue (ft)	103	126	114	244	151	58	137
Link Distance (ft)		102	102	792	842		735
Upstream Blk Time (%)	0	4	4				
Queuing Penalty (veh)	0	8	8				
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	0	4			0		
Queuing Penalty (veh)	1	4			0		

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	WB	WB	NB	NB	B9
Directions Served	L	T	T	T	TR	L	R	T
Maximum Queue (ft)	28	71	30	13	6	60	230	10
Average Queue (ft)	5	14	7	1	1	19	117	1
95th Queue (ft)	22	74	32	17	7	60	265	13
Link Distance (ft)	340	340	340	102	102	377	377	915
Upstream Blk Time (%)							4	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	SB	SB
Directions Served	T	TR	L	L	LTR
Maximum Queue (ft)	18	32	69	89	174
Average Queue (ft)	2	4	24	24	92
95th Queue (ft)	14	22	73	82	164
Link Distance (ft)	84	84	340		1394
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				600	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Zone Summary

Zone wide Queuing Penalty: 20

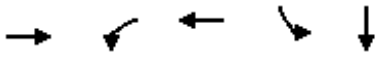
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	545	403	540	344
v/c Ratio	0.55	0.78	0.52	0.58
Control Delay	22.0	25.1	8.8	18.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.0	25.1	8.8	18.5
Queue Length 50th (ft)	63	71	79	81
Queue Length 95th (ft)	67	118	126	116
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1372	527	1128	593
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.76	0.48	0.58

Intersection Summary

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	46	666	1250	44	280
v/c Ratio	0.38	0.38	0.84	0.07	0.39
Control Delay	41.4	3.9	18.7	15.8	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	3.9	18.7	15.8	5.8
Queue Length 50th (ft)	17	34	165	12	9
Queue Length 95th (ft)	m35	22	192	29	44
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	120	2044	1601	652	716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.33	0.78	0.07	0.39

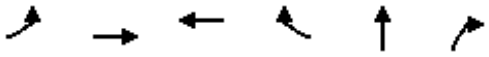
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	524	312	290	222	211
v/c Ratio	0.73	0.76	0.32	0.32	0.30
Control Delay	34.1	63.5	17.2	21.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.1	63.5	17.2	21.8	15.8
Queue Length 50th (ft)	127	202	76	89	56
Queue Length 95th (ft)	171	289	55	190	145
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	904	625	1254	693	713
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.23	0.32	0.30

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	142	553	509	319	87	249
v/c Ratio	0.58	0.40	0.67	0.54	0.10	0.28
Control Delay	49.0	29.0	36.3	6.9	14.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.0	29.0	36.3	6.9	14.5	3.2
Queue Length 50th (ft)	91	144	146	0	25	0
Queue Length 95th (ft)	154	180	184	63	65	47
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	357	2024	1184	744	900	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.27	0.43	0.43	0.10	0.28

Intersection Summary

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	100	140	138	719	294	146	230
Average Queue (ft)	59	105	89	460	139	34	106
95th Queue (ft)	119	144	145	880	296	135	219
Link Distance (ft)		102	102	794	840		735
Upstream Blk Time (%)	2	13	13	10			
Queuing Penalty (veh)	0	28	28	0			
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	2	13			12		
Queuing Penalty (veh)	3	9			5		

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (ft)	33	99	50	40	14	84	288
Average Queue (ft)	14	21	11	4	1	35	157
95th Queue (ft)	38	78	51	31	18	80	329
Link Distance (ft)	335	335	335	102	102	383	383
Upstream Blk Time (%)							1
Queuing Penalty (veh)							0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	SB	SB
Directions Served	T	TR	L	L	LTR
Maximum Queue (ft)	32	46	60	109	206
Average Queue (ft)	5	5	20	24	114
95th Queue (ft)	24	31	59	91	196
Link Distance (ft)	84	84	335		1394
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)				600	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Zone Summary

Zone wide Queuing Penalty: 74

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	158	222	203	465
v/c Ratio	0.29	0.63	0.30	0.50
Control Delay	25.9	23.7	7.7	12.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.9	23.7	7.7	12.3
Queue Length 50th (ft)	20	97	27	101
Queue Length 95th (ft)	38	m143	m25	220
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1249	606	1197	937
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.37	0.17	0.50

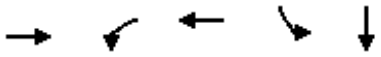
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	16	545	687	40	484
v/c Ratio	0.16	0.45	0.71	0.04	0.54
Control Delay	40.5	16.2	19.1	7.7	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	16.2	19.1	7.7	9.9
Queue Length 50th (ft)	5	103	86	8	88
Queue Length 95th (ft)	m17	66	146	21	168
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	103	1201	974	979	896
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.45	0.71	0.04	0.54

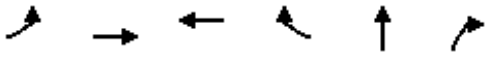
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	503	267	706	293	281
v/c Ratio	0.72	0.74	0.83	0.39	0.37
Control Delay	37.3	52.5	44.8	20.5	16.1
Queue Delay	0.0	0.0	1.0	0.0	0.0
Total Delay	37.3	52.5	45.8	20.5	16.1
Queue Length 50th (ft)	138	163	425	115	83
Queue Length 95th (ft)	165	226	352	214	170
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	904	482	1086	744	757
Starvation Cap Reductn	0	0	169	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.55	0.77	0.39	0.37

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	110	646	533	380	240	484
v/c Ratio	0.56	0.52	0.69	0.59	0.24	0.53
Control Delay	58.0	26.9	37.0	7.3	13.0	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	26.9	37.0	7.3	13.0	12.4
Queue Length 50th (ft)	71	120	153	0	74	120
Queue Length 95th (ft)	128	186	202	72	134	241
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	231	1504	887	679	982	905
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	8	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.43	0.60	0.56	0.25	0.53

Intersection Summary

2015 Queue

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	679	479	577	411
v/c Ratio	0.60	0.88	0.51	0.79
Control Delay	21.5	34.0	9.0	29.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.5	34.0	9.0	29.6
Queue Length 50th (ft)	76	96	98	111
Queue Length 95th (ft)	80	#250	135	148
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1374	546	1128	519
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.88	0.51	0.79

Intersection Summary

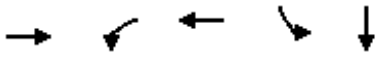
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	94	751	1369	56	394
v/c Ratio	0.78	0.39	0.88	0.10	0.63
Control Delay	70.8	2.9	21.7	16.6	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	2.9	21.7	16.6	14.8
Queue Length 50th (ft)	34	27	198	15	59
Queue Length 95th (ft)	m#76	24	228	35	116
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	120	2044	1592	566	624
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.37	0.86	0.10	0.63

Intersection Summary

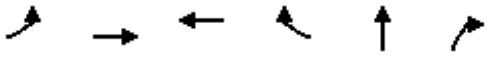
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	685	352	326	267	254
v/c Ratio	0.80	0.78	0.32	0.45	0.40
Control Delay	33.4	63.0	9.4	27.5	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	63.0	9.4	27.5	20.8
Queue Length 50th (ft)	160	228	40	126	87
Queue Length 95th (ft)	218	320	60	245	192
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	951	625	1254	600	628
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.56	0.26	0.45	0.40

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	158	688	568	345	102	313
v/c Ratio	0.61	0.47	0.70	0.55	0.12	0.36
Control Delay	44.8	29.5	35.8	6.5	16.0	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	29.5	35.8	6.5	16.0	6.4
Queue Length 50th (ft)	101	190	162	0	32	23
Queue Length 95th (ft)	m153	230	200	63	77	96
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	357	2024	1184	761	856	859
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.34	0.48	0.45	0.12	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

2: Harlan & Roth Rd Performance by movement

7: NB Offramp/NB Onramp & Roth Rd Performance by movement

10: SB Onramp/SB Offramp & Roth Rd Performance by movement

13: Manthey Rd & Roth Rd Performance by movement

Total Network Performance

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	102	124	118	473	164	118	123
Average Queue (ft)	64	93	80	243	85	36	64
95th Queue (ft)	113	142	127	575	164	107	125
Link Distance (ft)		103	103	792	842		735
Upstream Blk Time (%)	1	7	9				
Queuing Penalty (veh)	0	17	21				
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	1	7			1		
Queuing Penalty (veh)	2	7			1		

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	NB	NB
Directions Served	L	T	T	L	R
Maximum Queue (ft)	27	103	61	64	272
Average Queue (ft)	8	27	10	18	136
95th Queue (ft)	30	93	45	55	267
Link Distance (ft)	340	340	340	377	377
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	SB	SB
Directions Served	T	TR	L	L	LTR
Maximum Queue (ft)	20	56	70	142	254
Average Queue (ft)	2	13	19	42	137
95th Queue (ft)	14	57	61	137	243
Link Distance (ft)	84	84	340		1394
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)				600	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 13: Manthey Rd & Roth Rd

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	59	55	10	47
Average Queue (ft)	30	27	1	6
95th Queue (ft)	58	60	13	33
Link Distance (ft)	84	84	812	850
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 49

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	204	346	248	529
v/c Ratio	0.35	0.73	0.30	0.65
Control Delay	26.6	19.8	3.8	20.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.6	19.8	3.8	20.1
Queue Length 50th (ft)	27	160	18	149
Queue Length 95th (ft)	47	m172	m14	#365
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1182	632	1197	812
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.17	0.55	0.21	0.65

Intersection Summary

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

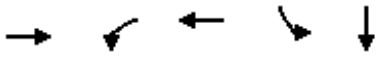
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	28	611	879	42	607
v/c Ratio	0.22	0.48	0.96	0.04	0.70
Control Delay	46.6	16.4	43.6	8.2	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	16.4	43.6	8.2	15.2
Queue Length 50th (ft)	11	63	163	8	151
Queue Length 95th (ft)	m27	95	#287	22	276
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	128	1263	919	954	866
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.48	0.96	0.04	0.70

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

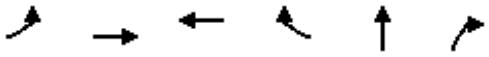


Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	630	357	773	331	316
v/c Ratio	0.75	0.74	0.73	0.62	0.56
Control Delay	30.7	34.9	29.5	31.8	23.7
Queue Delay	0.0	0.0	1.3	0.0	0.0
Total Delay	30.7	34.9	30.9	31.8	23.7
Queue Length 50th (ft)	136	181	404	142	100
Queue Length 95th (ft)	174	m232	363	#302	#227
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	876	694	1279	533	568
Starvation Cap Reductn	0	0	295	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.51	0.79	0.62	0.56

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	124	744	700	467	310	560
v/c Ratio	0.63	0.56	0.82	0.64	0.34	0.68
Control Delay	50.4	22.2	35.9	7.0	13.6	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	22.2	35.9	7.0	13.6	17.6
Queue Length 50th (ft)	67	112	166	0	92	169
Queue Length 95th (ft)	m102	208	#240	73	153	302
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	208	1480	879	742	900	820
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	22	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.50	0.80	0.63	0.35	0.68

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	111	169	135	942	488	235	256
Average Queue (ft)	69	128	85	724	266	90	154
95th Queue (ft)	135	165	149	1202	565	267	283
Link Distance (ft)		112	112	895	1776		736
Upstream Blk Time (%)	0	27	9	45			
Queuing Penalty (veh)	0	63	22	0			
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	0	27			35		
Queuing Penalty (veh)	1	18			24		

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	WB	WB	NB	NB	B9
Directions Served	L	T	T	T	TR	L	R	T
Maximum Queue (ft)	40	168	78	43	19	145	479	338
Average Queue (ft)	11	63	12	7	2	33	280	117
95th Queue (ft)	41	171	60	40	25	142	580	539
Link Distance (ft)	335	335	335	112	112	383	383	915
Upstream Blk Time (%)							26	6
Queuing Penalty (veh)							0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	TR	L	T	L	LTR
Maximum Queue (ft)	4	45	66	11	159	259
Average Queue (ft)	0	7	20	1	43	128
95th Queue (ft)	6	32	60	15	170	273
Link Distance (ft)	84	84	335	335		1394
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)					600	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Manthey Rd & Roth Rd

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	61	63	31
Average Queue (ft)	31	34	6
95th Queue (ft)	60	70	25
Link Distance (ft)	84	84	850
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 128

2017 Queue

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	875	545	656	549
v/c Ratio	0.69	1.10	0.58	1.06
Control Delay	22.4	84.3	10.3	79.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.4	84.3	10.3	79.4
Queue Length 50th (ft)	101	~239	131	~207
Queue Length 95th (ft)	106	m#269	m146	#266
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1373	497	1128	517
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	1.10	0.58	1.06

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

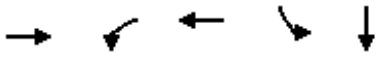
Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	162	880	1512	69	431
v/c Ratio	1.35	0.43	0.95	0.14	0.81
Control Delay	219.9	2.0	30.1	17.0	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	219.9	2.0	30.1	17.0	27.2
Queue Length 50th (ft)	~83	20	246	19	96
Queue Length 95th (ft)	m#133	m22	#288	41	#188
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	120	2044	1585	496	535
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.35	0.43	0.95	0.14	0.81

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

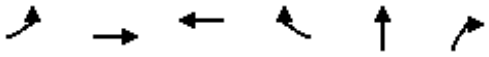


Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1607	384	653	502	475
v/c Ratio	1.29	0.80	0.52	1.27	1.10
Control Delay	162.2	52.1	10.3	172.0	104.2
Queue Delay	0.0	0.0	0.4	0.0	0.0
Total Delay	162.2	52.1	10.6	172.0	104.2
Queue Length 50th (ft)	~606	249	141	~397	~309
Queue Length 95th (ft)	#835	342	262	#607	#518
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	1246	625	1254	395	431
Starvation Cap Reductn	0	0	196	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.29	0.61	0.62	1.27	1.10

Intersection Summary

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

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



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	390	1268	675	416	336	444
v/c Ratio	1.09	0.71	0.72	0.57	0.48	0.70
Control Delay	82.3	24.6	33.5	5.8	24.8	28.5
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	82.3	25.3	33.5	5.8	24.8	28.5
Queue Length 50th (ft)	~274	337	190	0	146	186
Queue Length 95th (ft)	m201	m251	228	63	257	#385
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	357	2024	1184	807	693	634
Starvation Cap Reductn	0	383	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.77	0.57	0.52	0.48	0.70

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	102	130	122	844	161	76	199
Average Queue (ft)	76	106	95	598	89	35	84
95th Queue (ft)	128	143	143	982	158	76	178
Link Distance (ft)		102	102	789	1776		736
Upstream Blk Time (%)	2	14	20	22			
Queuing Penalty (veh)	0	39	56	0			
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	2	14			0		
Queuing Penalty (veh)	4	14			0		

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	WB	WB	NB	NB	B9
Directions Served	L	T	T	T	TR	L	R	T
Maximum Queue (ft)	43	158	126	36	14	65	416	156
Average Queue (ft)	9	45	42	4	1	20	320	65
95th Queue (ft)	36	137	160	35	19	62	615	245
Link Distance (ft)	335	335	335	102	102	383	383	915
Upstream Blk Time (%)				0			31	
Queuing Penalty (veh)				0			0	
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	SB	SB
Directions Served	T	TR	L	L	LTR
Maximum Queue (ft)	9	42	74	225	313
Average Queue (ft)	1	12	26	87	173
95th Queue (ft)	9	40	73	250	322
Link Distance (ft)	84	84	335		1394
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)				600	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 13: Manthey Rd & Roth Rd

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	55	55	40
Average Queue (ft)	29	23	7
95th Queue (ft)	58	54	33
Link Distance (ft)	84	84	850
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 113

Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	415	415	382	624
v/c Ratio	0.52	0.77	0.40	0.92
Control Delay	28.4	17.2	1.9	43.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.4	17.2	1.9	43.3
Queue Length 50th (ft)	61	197	14	233
Queue Length 95th (ft)	87	m200	m10	#543
Internal Link Dist (ft)	173		480	1637
Turn Bay Length (ft)				
Base Capacity (vph)	1184	666	1224	681
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.62	0.31	0.92

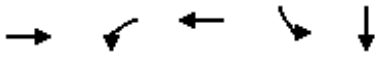
Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBT	NBR
Lane Group Flow (vph)	105	775	1113	44	717
v/c Ratio	0.68	0.50	1.00	0.06	0.97
Control Delay	60.5	18.9	51.4	11.5	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	18.9	51.4	11.5	45.0
Queue Length 50th (ft)	49	96	~235	11	263
Queue Length 95th (ft)	m77	m116	#381	28	#509
Internal Link Dist (ft)		480	152	1703	
Turn Bay Length (ft)					500
Base Capacity (vph)	154	1552	1110	799	741
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.50	1.00	0.06	0.97

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



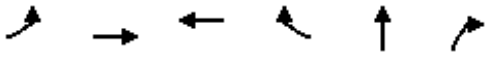
Lane Group	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1246	422	1444	491	464
v/c Ratio	1.01	1.00	1.21	1.09	0.99
Control Delay	56.8	45.0	122.8	103.2	69.2
Queue Delay	0.0	0.0	1.1	0.0	0.0
Total Delay	56.8	45.0	124.0	103.2	69.2
Queue Length 50th (ft)	~369	254	~1018	~348	255
Queue Length 95th (ft)	#527	m228	m#873	#556	#476
Internal Link Dist (ft)	161		424		1554
Turn Bay Length (ft)				350	
Base Capacity (vph)	1232	424	1191	449	469
Starvation Cap Reductn	0	0	261	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.01	1.00	1.55	1.09	0.99

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	306	1071	1077	676	808	633
v/c Ratio	1.13	0.65	1.12	0.74	1.05	0.92
Control Delay	107.1	21.2	98.9	7.8	74.5	42.9
Queue Delay	0.0	0.4	0.0	0.0	20.4	0.0
Total Delay	107.1	21.6	98.9	7.8	94.9	42.9
Queue Length 50th (ft)	~222	228	~389	0	~528	316
Queue Length 95th (ft)	m#206	m219	#519	102	#759	#555
Internal Link Dist (ft)		424	165		1456	
Turn Bay Length (ft)						550
Base Capacity (vph)	270	1658	964	919	767	688
Starvation Cap Reductn	0	184	0	0	0	0
Spillback Cap Reductn	0	0	0	0	236	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.73	1.12	0.74	1.52	0.92

Intersection Summary

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Intersection: 2: Harlan & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	SB
Directions Served	L	T	R	LTR	LT	R	LTR
Maximum Queue (ft)	105	182	128	849	644	236	252
Average Queue (ft)	66	138	82	718	342	124	146
95th Queue (ft)	134	184	140	1053	738	310	358
Link Distance (ft)		106	106	788	1776		735
Upstream Blk Time (%)	1	40	7	60			
Queuing Penalty (veh)	0	110	18	0			
Storage Bay Dist (ft)	165					190	
Storage Blk Time (%)	1	40			47	0	
Queuing Penalty (veh)	2	27			34	0	

Intersection: 7: NB Offramp/NB Onramp & Roth Rd

Movement	EB	EB	EB	WB	NB	NB	B9
Directions Served	L	T	T	TR	L	R	T
Maximum Queue (ft)	44	224	67	8	39	568	907
Average Queue (ft)	9	110	15	1	12	446	387
95th Queue (ft)	38	253	62	11	41	718	1005
Link Distance (ft)	335	335	335	106	383	383	915
Upstream Blk Time (%)		1				70	18
Queuing Penalty (veh)		1				0	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: SB Onramp/SB Offramp & Roth Rd

Movement	EB	EB	WB	SB	SB
Directions Served	T	TR	L	L	LTR
Maximum Queue (ft)	8	48	71	183	278
Average Queue (ft)	1	9	26	60	164
95th Queue (ft)	8	43	69	179	285
Link Distance (ft)	84	84	335		1394
Upstream Blk Time (%)		1			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)				600	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 13: Manthey Rd & Roth Rd

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	58	62	8	22
Average Queue (ft)	29	28	1	3
95th Queue (ft)	55	67	15	18
Link Distance (ft)	84	84	1704	850
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 193