

March 24, 2022

Mr. Mark DiLungo The Bluffs, LLC c/o DFG Electric, Inc. 218 Foxon Road East Haven, CT 06513

Re: **Traffic Study** The Bluffs

161 Foxon Road (Route 80) and 31 and 100 Sperry Lane

East Haven, Connecticut SLR #141.15956.00001

Dear Mr. DiLungo,

At your request, we have prepared this traffic study with respect to your 380-unit elderly residential community development, including four multifamily buildings, to be located at the former Girl Scouts campgrounds on Sperry Lane, north of Foxon Road (Route 80) in East Haven, Connecticut.

Primary access will be via a new driveway at 161 Foxon Road, which for reference is approximately 600 feet west of Sperry Lane. Note that Sperry Lane is to remain for a handful of existing houses that have access on it but will not provide site access for The Bluffs. Ultimately, the handful of existing Sperry Lane houses may be given access via The Bluffs' site driveway to/from Foxon Road, and the existing Sperry Lane connection to Foxon Road could be closed if so desired. The site location and area roadways are shown in Figure 1.

The study involved field reconnaissance and inventory of current roadway and traffic conditions; collection of traffic volume data, crash data, and other pertinent information; a determination of future roadway traffic before the proposed development is opened (background traffic); an estimation of site traffic volumes generated by the proposed development; review of the sight line visibility at Foxon Road from the proposed site access driveway; and analysis of the signalized intersections of Foxon Road at Wheelbarrow Lane/River Road and at Totoket Road and the unsignalized intersections of Foxon Road at North High Street and at Branhaven Drive as well as the proposed development site driveway access at Foxon Road both without and with The Bluffs.

#### **Study Area Roadway and Site Environs**

Foxon Road (also known as Route 80) is a principal arterial that runs east-west, south of the site. The roadway has 12-foot travel lanes, an 8-foot shoulder, buffer strip, and concrete sidewalks in both



directions. Connecticut Transit bus service routes 212 and 213 travel east/west on Foxon Road in the study area and have several nonsheltered stop locations in this area. The posted speed limit on Route 80 is 45 miles per hour (mph). As measured by the Connecticut Department of Transportation (CTDOT) in 2021, the 85th percentile speed for this segment of Route 80 is 52.2 mph in the eastbound direction and 49.0 mph in the westbound direction.

Foxon Road has a signalized intersection with Wheelbarrow Lane/River Road (west of the site driveway). The east approach of this intersection has a dedicated left-turn lane and two through lanes. The west approach has a dedicated left-turn lane and one through lane. The south and north approaches have a left/through lane and a dedicated right-turn lane. The north and south approaches have a posted speed limit of 25 mph.

Foxon Road also has another signalized intersection, near the site, with Totoket Road east of the site. The west, north, and south approaches have a single multipurpose lane, and the east approach has a dedicated left-turn lane and one through lane. The north and south approaches have a posted speed limit of 25 mph.

Two unsignalized intersections are also included in the study area that are present on Foxon Road at Branhaven Drive and Foxon Road at North High Street (Route 100). For the Foxon Road at North High Street intersection, the south and west approaches have a single multipurpose lane, and the east approach has a dedicated left-turn lane and one through lane. The south approach has a posted speed limit of 35 mph. At the intersection of Foxon Road and Branhaven Drive, the east and west approaches have a single multipurpose lane, and the north and south approaches are unmarked with a posted speed limit of 25 mph.

The surrounding area is a mixture of commercial, residential, and institutional uses, with larger shopping centers within 2 miles to the west toward Interstate 91.

#### **Area Traffic Volumes**

Review was made of available traffic data from CTDOT. The state maintains traffic monitoring locations to the east on Route 80 at the East Haven-North Branford town line. The available state data from 2021 at this location indicates two-way Annualized Average Daily Traffic (AADT) of 9,700 vehicles at the East Haven/North Branford town line. It shows traffic peaking in the afternoon when 992 vehicles were counted on February 4, 2021.

To supplement the data obtained from CTDOT, manual turning movement counts were performed at the intersections of Route 80 at North High Street, Route 80 at Wheelbarrow Lane/River Road, Route 80 at Branhaven Drive, and Route 80 at Totoket Road on Thursday, January 13, 2022, during the typical commuter peak periods. CTDOT's Bureau of Policy and Planning advised no adjustments to the counts were necessary to account for COVID-19 traffic impacts. However, after comparing the manual turning movement counts to previous May 2017 counts collected at some of the study intersections and finding



that the older counts were higher, we increased the 2022 counts by 15 percent to account for the difference and any seasonal influences on traffic volumes as an added conservative measure. Figure 2 shows the overall peak-hour traffic volumes for the weekday morning (7:00 a.m. to 8:00 a.m.) and afternoon (4:45 p.m. to 5:45 p.m.).

#### Crashes

Information on crash data for Foxon Road (Route 80) between North High Street and Totoket Road was obtained from the University of Connecticut's Connecticut Crash Data Repository for the period of January 1, 2019, to December 31, 2021. The data collected for this period is shown in Table 1, summarized by location, collision type, and crash severity.

In the vicinity of the site driveway between Sperry Lane and Wheelbarrow Lane, there was only one crash, which resulted in property damage.

There were 13 crashes reported at the signalized intersection of Route 80 at Wheelbarrow Lane/River Road; seven were property damage only, and six were possible or suspected injuries. Of these crashes, six were rear-end-type collisions, five were collisions at an angle, and the rest of them were fixed-object collisions.

The section of Route 80 from Branhaven Drive to the intersection of Totoket Road had a total of 31 crashes, which is roughly one-third of the total crashes. Sixty-seven percent of them resulted in property damage only.

There was one crash that occurred during the study period that resulted in a fatality along Route 80 between Wheelbarrow Lane/River Road and North High Street at approximately 4:20 a.m. on December 23, 2021, where a motorist traveling eastbound lost control and struck a business sign. Two additional fatal crashes occurred prior to the 3-year study period but within the past 10 years. One fatal crash occurred on April 24, 2018, at 6:30 a.m., when a motorcyclist travelling eastbound was rear-ended at the intersection of Route 80 and Totoket Road. The other fatal crash occurred on July 18, 2014, at approximately 7:45 p.m., when a motorcyclist headed westbound was involved in a sideswipe with an eastbound-headed vehicle, east of Circle Drive and Sperry Lane. In all of the cases, the weather conditions were clear and dry, and the crashes occurred at different times of the day.

Overall, within the study area, there was a total of 67 crashes that occurred during the recent 3-year period. Most of the crashes were rear-end collisions (49 percent), followed by angle collisions (19 percent), which unfortunately are quite common at intersections. The majority of the crashes involved property damage only.



**Table 1 Crash Summary** 

|                                                                           |       |              | TY      | PE OF    | COLLISI                       | ON                        |          |       |              | CR              | ASH S                | EVER                   | TY                       |       |
|---------------------------------------------------------------------------|-------|--------------|---------|----------|-------------------------------|---------------------------|----------|-------|--------------|-----------------|----------------------|------------------------|--------------------------|-------|
| LOCATION                                                                  | ANGLE | FIXED-OBJECT | HEAD-ON | REAR-END | SIDESWIPE, OPPOSITE DIRECTION | SIDESWIPE, SAME DIRECTION | WILDLIFE | TOTAL | FATAL INJURY | POSSIBLE INJURY | PROPERTY DAMAGE ONLY | SUSPECTED MINOR INJURY | SUSPECTED SERIOUS INJURY | TOTAL |
| Route 80 at North High Street                                             | 1     |              |         | 7        |                               |                           |          | 8     |              | 2               | 5                    | 1                      |                          | 8     |
| Route 80 between North High<br>Street and River Road/<br>Wheelbarrow Lane | 1     | 1            |         | 1        |                               |                           |          | 3     | 1            |                 | 1                    | 1                      |                          | 3     |
| Route 80 at River Road/<br>Wheelbarrow Lane                               | 5     | 2            |         | 6        |                               |                           |          | 13    |              | 2               | 7                    | 4                      |                          | 13    |
| Route 80 between River Road/<br>Wheelbarrow Lane and Sperry<br>Lane       |       |              |         |          |                               |                           | 1        | 1     |              |                 | 1                    |                        |                          | 1     |
| Route 80 at Sperry Lane                                                   |       | 1            |         |          |                               | 1                         |          | 2     |              |                 | 2                    |                        |                          | 2     |
| Route 80 between Sperry Lane and Branhaven Drive                          |       | 1            | 2       |          |                               |                           | 1        | 4     |              | 1               | 2                    | 1                      |                          | 4     |
| Route 80 at Branhaven Drive                                               |       | 1            |         | 4        |                               |                           |          | 5     |              |                 | 4                    | 1                      |                          | 5     |
| Route 80 between Branhaven<br>Drive and Totoket Road                      | 3     | 2            | 2       | 8        | 2                             |                           | 2        | 19    |              | 3               | 11                   | 4                      | 1                        | 19    |
| Route 80 at Totoket Road                                                  | 3     | 1            |         | 7        | 1                             |                           |          | 12    |              | 3               | 9                    |                        |                          | 12    |
| Grand Total                                                               | 13    | 9            | 4       | 33       | 3                             | 1                         | 4        | 67    | 1            | 11              | 42                   | 12                     | 1                        | 67    |

Source: University of Connecticut's Connecticut Crash Data Repository from January 1, 2019, to December 31, 2021

#### **Proposed Development**

The proposed development will be located on the former Girl Scouts campgrounds north of Foxon Road and east of East Haven High School. Planned are 380 dwelling units in four multistory buildings (260 dwelling units across three of the buildings; 120 units in the fourth building). Vehicle access to/from the development will be via a new driveway at 161 Foxon Road approximately 600 feet west of Sperry Lane.



The site access drive will be designed with one entrance lane and one exit lane. Site egress to Foxon Road will be stop-sign controlled for motorists exiting the development. An existing emergency access for The Bluffs via the East Haven High School access road (Wheelbarrow Lane) is also proposed.

Speed data was collected by CTDOT for Foxon Road during February 2021. The location of speed collection aligns within feet of the proposed access at 161 Foxon Road. The 85th percentile speeds for this location are 52.2 mph eastbound and 49.0 mph westbound, which require 580 feet and 545 feet, respectively, of Intersection Sight Distance (ISD) for passenger cars. The available ISD from the proposed access point exceeds CTDOT guidelines in both travel directions for the posted speed limit of 45 mph as well as the 85th percentile speeds.

#### **Site Traffic and Distribution**

Multifamily Housing (Mid-Rise), 380 Units

The site traffic for the proposed senior housing development was estimated based on review of statistical data published by the Institute of Transportation Engineers (ITE). Based on ITE land use code #221, Multifamily Housing (Mid-Rise), Table 2 below summarizes the peak-hour traffic that is estimated to be generated by The Bluffs.

98

133

89

59

**Table 2 Trip Generation Estimate** 

Trip Generation, 11th Edition. Institute of Transportation Engineers, 2021 (ITE #221)

The land use code used in this study is for general multifamily housing and provides a conservative estimate of trip generation since it reflects residents who are more active and generate more trips than a typical elderly housing community. For comparison, trips were also estimated using the Senior Adult Housing – Multifamily (ITE #252) land use code. The total trips generated during the morning and afternoon peak hours were found to be 110 and 114, respectively. This study uses the higher trip numbers shown in Table 2 to be conservative. As discussed later in the Capacity Analysis section of this document, the conservative trip estimates produce no notable traffic impact on the study area.

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The geographic distribution of the site-generated traffic was estimated based on review of Census Journey-to-Work data and our understanding of the surrounding roadway system. It is estimated that approximately 20 percent of the new site traffic will access the site via Foxon Road to/from the east, made up of 5 percent each north and south on Totoket Road and 10 percent east on Foxon Road. It is estimated

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that approximately 80 percent of the site-generated traffic will access the site via Foxon Road to/from the west, including 5 percent using River Road, 25 percent using North High Street, and 50 percent to/from the west on Foxon Road.

Figures 3 and 4 illustrate the site-generated traffic volume distribution and site-generated trips for the proposed development during the weekday morning and afternoon peak hours, respectively.

#### **Future Traffic**

For the purpose of this study, a future horizon year of 2023 was used for analysis. The existing traffic volumes were projected to year 2023 using an annual growth rate of 1.0 percent, which was suggested by CTDOT's Bureau of Policy and Planning. Discussions with CTDOT and the Towns of East Haven and North Branford indicate that there are no approved significant developments within the study area at this time to include in the background traffic volumes. The future background (no-build) volumes for the weekday morning and afternoon peak periods, which do not include site-generated traffic, are shown in Figure 5.

The estimated site traffic volumes generated by the proposed development were added to the 2023 background traffic volumes to derive the future combined (build) traffic volumes. The combined traffic volumes reflect future roadway traffic volumes with the proposed development in place and are used in analyses to determine roadway adequacy. Figure 6 depicts the 2023 combined traffic volumes for the weekday morning and weekday afternoon peak hours along the adjacent roads.

#### **Capacity Analysis**

The study intersections were evaluated by means of capacity analysis techniques. Levels of Service (LOS) were then determined, which are qualitative measures of the efficiency of operations in terms of delay and inconvenience to motorists. A description of the various LOS designations, A through F, is given in the Appendix. LOS A describes operations with very low average control delay per vehicle while LOS F describes operations with long average delays. The analysis worksheets are also enclosed in the Appendix. Table 3 summarizes the findings of future LOS at the study intersections without (background conditions) and with (combined conditions) the estimated new traffic from The Bluffs.

As can be seen in Table 3, most movements at the study intersections are expected to operate at LOS C or better. One traffic movement, the northbound left/through at River Road, shows a degradation in LOS from C to D with the addition of the proposed site traffic during the afternoon peak hour. However, this is the result of a negligible increase in delay, which would be imperceptible to motorists. The same is true for the degradation of overall LOS from B to C at this intersection during the morning peak hour. While a minor timing change could reverse this result, the small increase in delay, the day-to-day variability of traffic, and the conservative approach we used leads us to not recommend any modifications to signal timing. Elsewhere, traffic capacity will be imperceptibly affected by traffic from The Bluffs as well. Thus, The Bluffs is not expected to have any notable traffic impact.



**Table 3 Capacity Analysis Summary** 

|                                        |                     | LEVEL OF | SERVICE              |          |
|----------------------------------------|---------------------|----------|----------------------|----------|
| INTERSECTION                           | WEEKDAY N<br>PEAK H |          | WEEKDAY AF<br>PEAK H |          |
|                                        | BACKGROUND          | COMBINED | BACKGROUND           | COMBINED |
|                                        | SIGNAL              | IZED     |                      |          |
| Route 80 at Wheelbarrow Lane/River Roa | d                   |          |                      |          |
| Eastbound Left                         | В                   | В        | А                    | А        |
| Eastbound Through/Right                | С                   | С        | В                    | В        |
| Westbound Left                         | В                   | В        | A                    | А        |
| Westbound Through/Right                | С                   | С        | В                    | В        |
| Northbound Left/Through                | С                   | С        | С                    | D        |
| Northbound Right                       | Α                   | Α        | A                    | А        |
| Southbound Left/Through                | С                   | С        | С                    | С        |
| Southbound Right                       | Α                   | Α        | А                    | А        |
| Overall LOS                            | В                   | С        | В                    | В        |
| Route 80 at Totoket Road               |                     |          |                      |          |
| Eastbound Left/Through/Right           | С                   | С        | D                    | D        |
| Westbound Left                         | Α                   | А        | В                    | В        |
| Westbound Through/Right                | A                   | А        | В                    | В        |
| Northbound Left/Through/Right          | С                   | С        | D                    | D        |
| Southbound Left/Through/Right          | С                   | С        | С                    | С        |
| Overall LOS                            | С                   | С        | С                    | С        |
|                                        | UNSIGNA             | ALIZED   |                      |          |
| Proposed Access Road at Route 80       |                     |          |                      |          |
| Eastbound Left from Route 80           |                     | А        |                      | А        |
| Southbound Left/Right from site drive  |                     | В        |                      | С        |
| Route 80 at North High Street          |                     |          |                      |          |
| Westbound Left                         | А                   | А        | А                    | А        |
| Northbound Left/Right                  | С                   | С        | С                    | С        |
| Branhaven Drive at Route 80            |                     |          |                      | •        |
| Eastbound Left/Though/Right            | А                   | А        | А                    | А        |
| Westbound Left/Through/Right           | А                   | А        | Α                    | А        |
| Northbound Left/Through/Right          | С                   | С        | С                    | С        |
| Southbound Left/Through/Right          | С                   | С        | D                    | D        |

#### **Summary**

A study was conducted to assess the traffic impact of the proposed multifamily housing development to be located at the former Girl Scouts campgrounds north of Route 80 (Foxon Road) in East Haven,



Connecticut. A study of existing traffic conditions was undertaken through a detailed field reconnaissance and data assembly effort. Traffic generated by The Bluffs was estimated based on review of industry standard data. Future traffic conditions were estimated with and without the development in place, and capacity analysis of future scenarios was performed. No notable impacts to motorist delay and vehicle queueing at the study intersections are expected to be caused by The Bluffs.

Based on our analysis, it is our opinion that the surrounding roadway system will be able to accommodate new traffic that would be generated by The Bluffs. We hope this study is useful to you and the Town of East Haven in assessing the traffic aspects of this proposed development. If you have any questions or need any further information, please do not hesitate to contact me.

Sincerely,

**SLR International Corporation** 

David G. Sullivan, PE

US Manager of Traffic & Transportation Planning

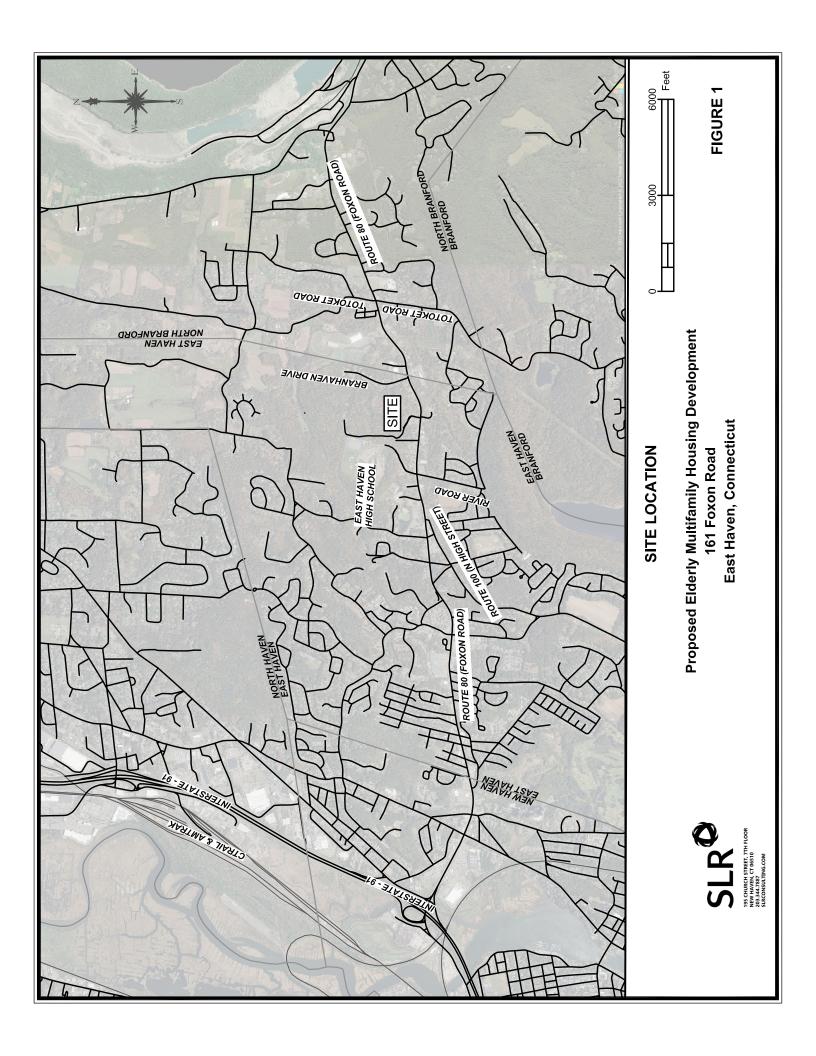
#### **Figures**

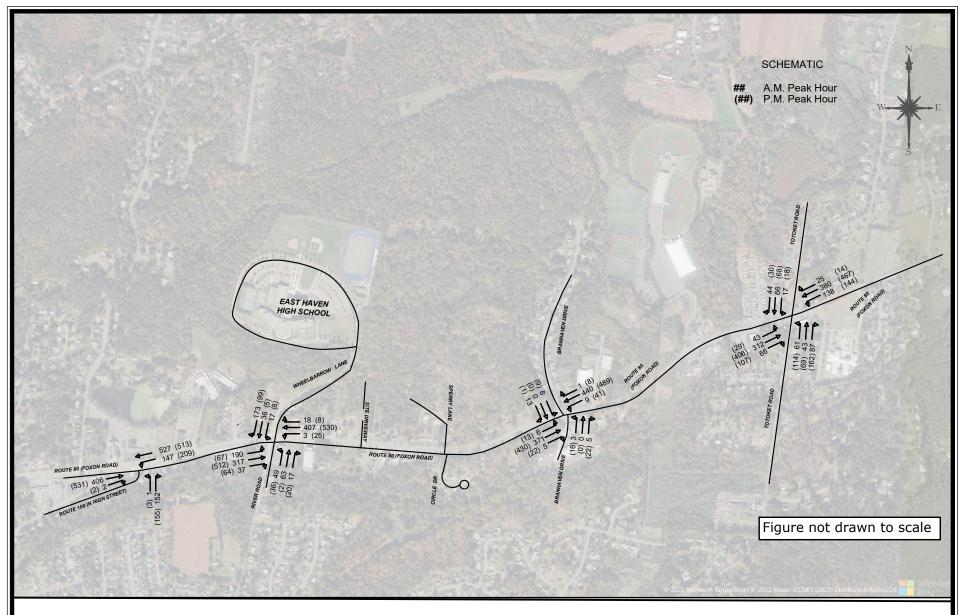
- Figure 1 Site Location Map
- Figure 2 Existing Peak-Hour Traffic Volumes
- Figure 3 Proposed Development Site-Generated Traffic Volume Distribution
- Figure 4 Proposed Development Site-Generated Trips Assignment
- Figure 5 Background (2023) Conditions Peak-Hour Traffic Volumes
- Figure 6 Combined (2023) Conditions Peak-Hour Traffic Volumes

#### **Appendix**

- Peak-Hour Traffic Counts
- LOS Designation Descriptions
- Synchro Analysis Worksheets

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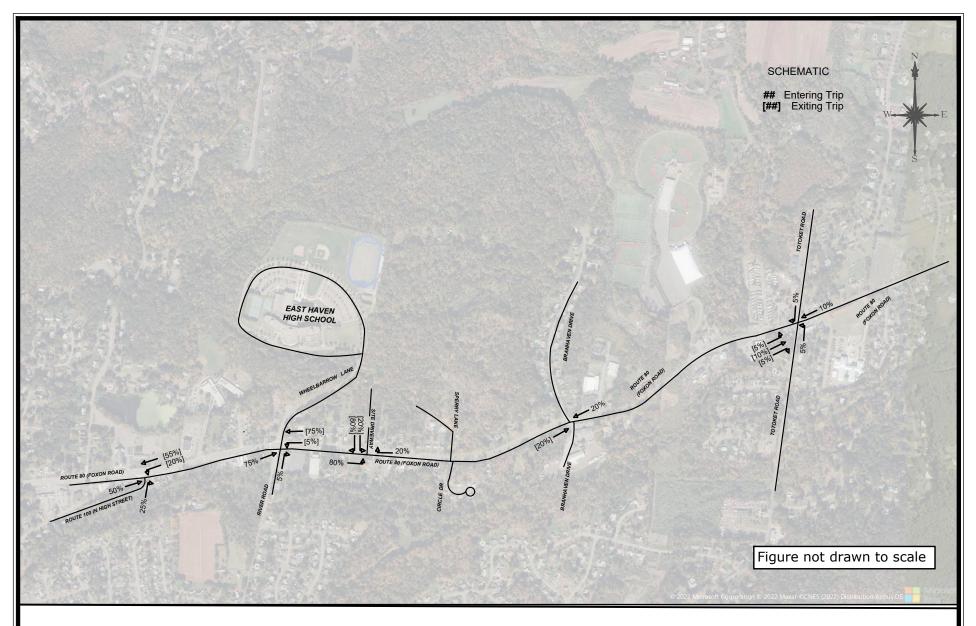




#### **EXISTING PEAK HOUR TRAFFIC VOLUMES (2022)**



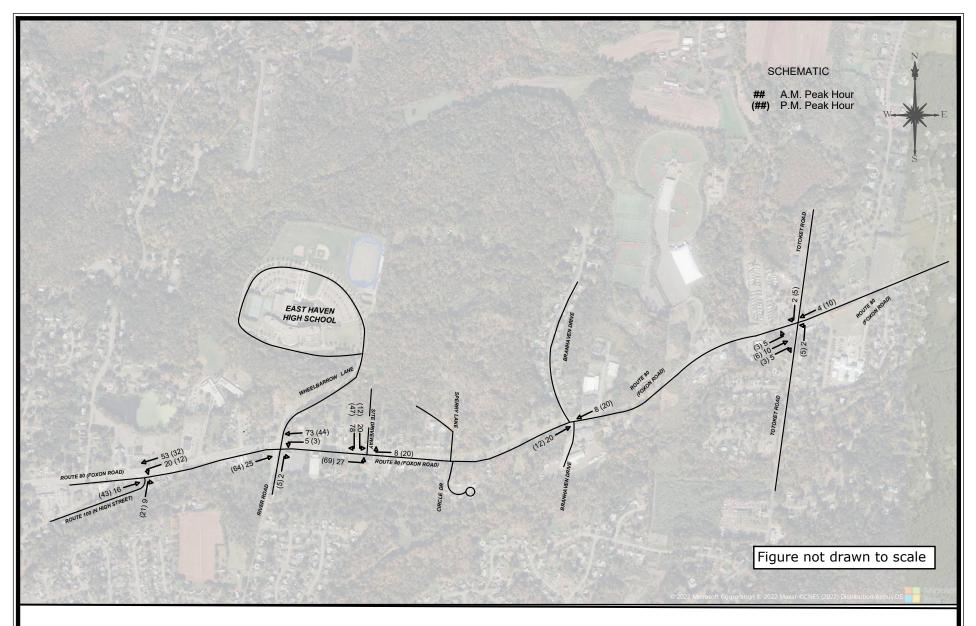
Proposed Elderly Multifamily Housing Development 161 Foxon Road East Haven, Connecticut



#### SITE-GENERATED TRAFFIC VOLUME DISTRIBUTION



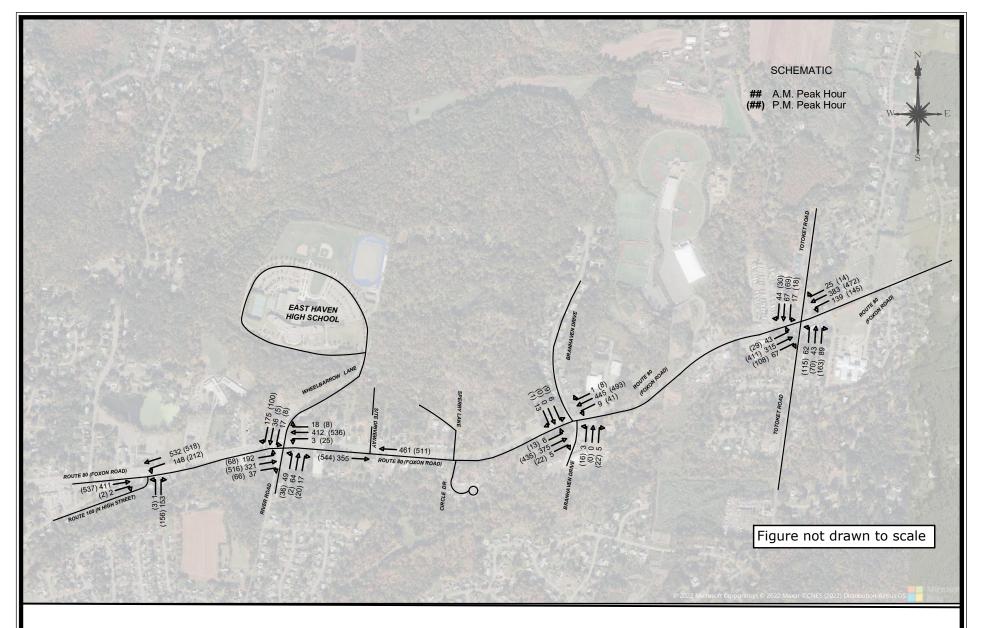
Proposed Elderly Multifamily Housing Development 161 Foxon Road East Haven, Connecticut



#### SITE-GENERATED TRAFFIC VOLUMES



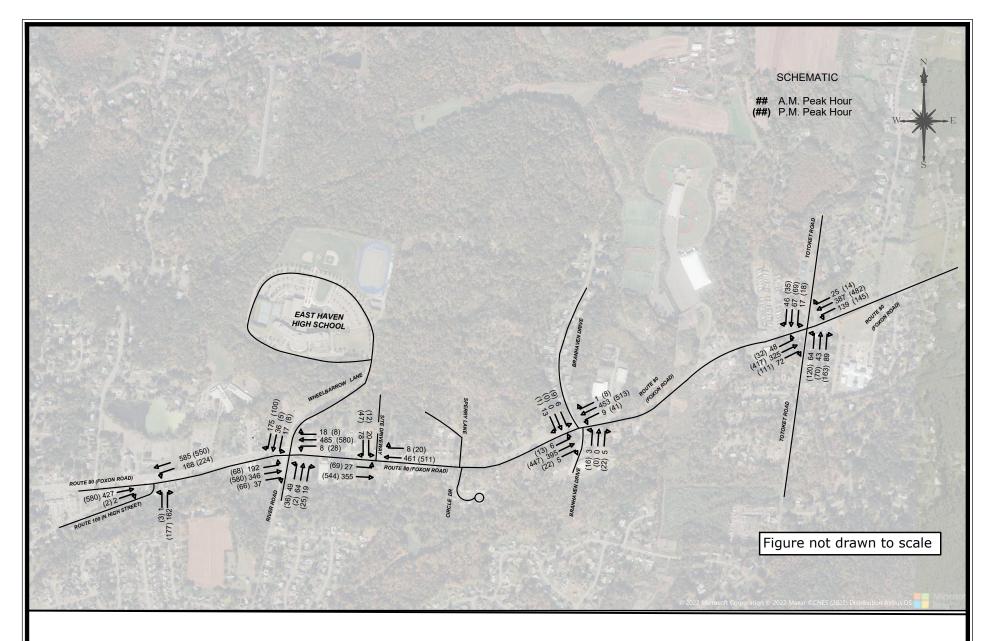
Proposed Elderly Multifamily Housing Development 161 Foxon Road East Haven, Connecticut



#### **NO-BUILD PEAK HOUR TRAFFIC VOLUMES (2023)**



Proposed Elderly Multifamily Housing Development 161 Foxon Road East Haven, Connecticut



#### **BUILD PEAK HOUR TRAFFIC VOLUMES (2023)**



Proposed Elderly Multifamily Housing Development 161 Foxon Road East Haven, Connecticut

### **APPENDIX**

Intersection: Route 80 at North High Street Start Date: 1/13/2022 Start Time: 7:00:00 AM End Time: 5:45:00 PM Comment 1: TRAFFIC COUNTS Comment 2: PEAK HOUR

| _        | Omment 2. I | PEAK HOUR | `     |      |      |       |       |            |                |       |        |      |           |       |       |      |  |
|----------|-------------|-----------|-------|------|------|-------|-------|------------|----------------|-------|--------|------|-----------|-------|-------|------|--|
|          |             |           |       |      |      | RTE   |       |            | NORTH HIGH ST. |       |        |      | FOXON RD. |       |       |      |  |
|          |             | SOUTHE    | BOUND |      |      | WESTE | OUND  |            |                | NORTH | IBOUND |      |           | EASTB | OUND  |      |  |
| Start    |             |           | D: 11 |      |      |       | D: 11 | <b>D</b> 1 |                |       | D: 11  |      |           |       | D: 11 | D 1  |  |
| Time     | Left        | Thru      | Right | Peds | Left | Thru  | Right | Peds       | Left           | Thru  | Right  | Peds | Left      | Thru  | Right | Peds |  |
| 07:00 AM | 0           | 0         | 0     |      | 20   | 100   | 0     | 0          |                | 1     |        | 0    | 0         |       | 1     | 0    |  |
| 07:15 AM | 0           | 0         | 0     | 0    | 53   | 137   | 3     | 0          |                | 0     |        | 0    | 0         | 96    | 1     | 0    |  |
| 07:30 AM | 0           | 0         | 0     | 0    | 22   | 119   | 0     | 0          |                | 0     |        | 0    | 0         | 72    | 0     | 0    |  |
| 07:45 AM | 0           | 0         | 0     | 0    | 28   | 93    | 0     | 0          | 1              | 0     |        | 0    | 0         | 94    | 0     | 0    |  |
| 08:00 AM | 0           | 0         | 0     | 0    | 18   | 97    | 0     | 0          | 0              | 0     |        | 0    | 0         | 81    | 0     | 0    |  |
| 08:15 AM | 0           | 0         | 0     | 0    | 10   | 91    | 0     | 0          | 0              | 0     |        | 0    | 0         | 102   | 1     | 0    |  |
| 08:30 AM | 0           | 0         | 0     | 0    | 23   | 91    | 0     | 0          | 0              | 0     |        | 0    | 0         | 108   | 0     | 0    |  |
| 08:45 AM | 0           | 0         | 0     | 0    | 29   | 133   | 0     | 0          | 0              | 0     |        | 0    | 0         | 91    | 0     | 0    |  |
| 09:00 AM | 0           | 0         | 0     | 0    | 4    | 14    | 0     | 0          | 0              | 0     |        | 0    | 0         | 9     | 0     | 0    |  |
| 09:15 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | -              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 09:30 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 09:45 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 10:00 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 10:15 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 10:30 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 10:45 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 11:00 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          |                | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 11:15 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | -              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 11:30 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 11:45 AM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 12:00 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 12:15 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 12:30 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 12:45 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 01:00 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 01:15 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 01:30 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 01:45 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 02:00 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 02:15 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 02:30 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 02:45 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     |        | 0    | 0         | 0     | 0     | 0    |  |
| 03:00 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | -              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 03:15 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | -              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 03:30 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 03:45 PM | 0           | 0         | 0     | 0    | 0    | 0     | 0     | 0          | 0              | 0     | -      | 0    | 0         | 0     | 0     | 0    |  |
| 04:00 PM | 0           | 0         | 0     | 0    | 35   | 101   | 0     | 0          | 1              | 0     |        | 0    | 0         | 109   | 0     | 0    |  |
| 04:15 PM | 0           | 0         | 0     | 0    | 32   | 114   | 0     | 0          | 3              |       | 34     | 0    | 0         | 93    | 0     | 0    |  |
| 04:30 PM | 0           | 0         | 0     | 0    | 34   | 98    | 0     | 0          | 0              | 0     |        | 0    | 0         | 96    | 1     | 0    |  |
| 04:45 PM | 0           | 0         | 0     | 0    | 45   | 111   | 0     | 0          | 1              | 0     |        | 0    | 0         | 121   | 1     | 0    |  |
| 05:00 PM | 0           | 0         | 0     | 0    | 42   | 109   | 0     | 0          | 0              | 0     |        | 0    | 0         | 111   | 0     | 0    |  |
| 05:15 PM | 0           | 0         | 0     | 0    | 61   | 105   | 0     | 0          | 1              | 0     |        | 0    | 0         | 119   | 0     | 0    |  |
| 05:30 PM | 0           | 0         | 0     | 0    | 34   | 118   | 0     | 0          | 1              | 0     |        | 0    | 0         | 108   | 1     | 0    |  |
| 05:45 PM | 0           | 0         | 0     | 0    | 26   | 99    | 0     | 0          | 2              | 0     | 27     | 0    | 0         | 103   | 0     | 0    |  |

Intersection: Route 80 at River Rd/Wheelbarrow Lane Start Date: 1/13/2022 Start Time: 7:00:00 AM End Time: 5:45:00 PM Comment 1: TRAFFIC COUNTS Comment 2: PEAK HOUR

| ,                | Comment 2: | PEAK HOUR  |             |           |        |            |         |           |        |            |         |           |            |            |          |           |
|------------------|------------|------------|-------------|-----------|--------|------------|---------|-----------|--------|------------|---------|-----------|------------|------------|----------|-----------|
|                  |            | WHEELBAR   |             |           |        | RTE        |         |           |        | RIVER      |         |           |            | FOXO       |          |           |
|                  |            | SOUTHB     | OUND        |           |        | WESTB      | OUND    |           |        | NORTH      | BOUND   |           |            | EASTB      | OUND     |           |
| Start            |            |            | D: 14       | Б.        |        |            | D: 11   |           |        |            | D: 14   |           |            |            | D: 11    |           |
| 7ime<br>07:00 AM | Left 5     | Thru<br>14 | Right<br>33 | Peds<br>0 | Left 1 | Thru<br>80 | Right 3 | Peds<br>0 | Left 5 | Thru<br>20 | Right 4 | Peds<br>0 | Left<br>50 | Thru<br>53 | Right 12 | Peds<br>0 |
| 07:00 AM         | 6          | 16         | 84          | 1         | 0      | 80         | 3       | 0         | 6      | 33         | 5       | 0         | 81         | 59         | 13       | 0         |
| 07:15 AM         | 2          | 10         | 23          | 0         | 1      | 92         | 5       | 0         | 19     | აა<br>1    | 4       | 0         | 23         | 74         | 3        | 0         |
| 07:45 AM         | 2          | 0          | 9           | 0         | 1      | 95         | 5       | 0         | 12     | 0          | 2       | 0         | 11         | 87         | 4        | 0         |
| 08:00 AM         | 0          | 0          | 10          | 0         | 1      | 92         | 3       | 0         | 13     | 0          | 1       | 0         | 11         | 81         | 4        | 0         |
| 08:15 AM         | 0          | 0          | 9           | 0         | 1      | 83         | 3       | 0         | 8      | 0          | 6       | 0         | 7          | 111        | 7        | 0         |
| 08:30 AM         | 0          | 0          | 5           | 0         | 2      | 92         | 0       | 0         | 13     | 0          | 2       | 0         | 12         | 83         | 6        | 0         |
| 08:45 AM         | 0          | 0          | 11          | 0         | 3      | 85         | 2       | 0         | 13     | 1          | 1       | 0         | 30         | 72         | 5        | 0         |
| 09:00 AM         | 0          | 0          | 1           | 0         | 0      | 3          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 4          | 0        | 0         |
| 09:00 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 09:30 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 09:45 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 10:00 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 10:00 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 10:30 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 10:45 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 11:00 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 11:15 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 11:30 AM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 11:45 AM         | ő          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 12:00 PM         | Ö          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 12:15 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 12:30 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 12:45 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 01:00 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 01:15 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 01:30 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 01:45 PM         | Ö          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 02:00 PM         | Ō          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 02:15 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 02:30 PM         | Ö          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 02:45 PM         | 0          | Ö          | 0           | 0         | Ő      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 03:00 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 03:15 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 03:30 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 03:45 PM         | 0          | 0          | 0           | 0         | 0      | 0          | 0       | 0         | 0      | 0          | 0       | 0         | 0          | 0          | 0        | 0         |
| 04:00 PM         | 3          | 0          | 10          | 0         | 1      | 100        | 1       | 0         | 5      | 0          | 4       | 0         | 8          | 119        | 13       | 0         |
| 04:15 PM         | 0          | 0          | 11          | 0         | 7      | 102        | 1       | 0         | 5      | 0          | 6       | 0         | 15         | 105        | 12       | 0         |
| 04:30 PM         | 5          | 0          | 13          | 0         | 7      | 108        | 1       | 0         | 4      | 0          | 4       | 0         | 8          | 93         | 15       | 0         |
| 04:45 PM         | 2          | 0          | 14          | 0         | 6      | 117        | 2       | 0         | 12     | 0          | 4       | 0         | 12         | 120        | 12       | 0         |
| 05:00 PM         | 2          | 4          | 18          | 0         | 6      | 113        | 2       | 0         | 7      | 2          | 5       | 0         | 20         | 102        | 9        | 0         |
| 05:15 PM         | 0          | 0          | 35          | 0         | 6      | 107        | 2       | 0         | 7      | 0          | 2       | 0         | 20         | 117        | 16       | 0         |
| 05:30 PM         | 3          | 0          | 19          | 0         | 4      | 121        | 1       | 0         | 5      | 0          | 6       | 0         | 6          | 104        | 19       | 0         |
| 05:45 PM         | 2          | 0          | 4           | 0         | 3      | 108        | 1       | 0         | 9      | 0          | 1       | 0         | 5          | 104        | 13       | 0         |

Intersection: Route 80 at Branhaven Drive Start Date: 1/13/2022 Start Time: 7:00:00 AM End Time: 5:45:00 PM Comment 1: TRAFFIC COUNTS Comment 2: PEAK HOUR

| Signt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | C           | omment 2: | PEAK HOUR |         |      |      |       |       |      |      |          |          |      |      |       |       |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|-----------|---------|------|------|-------|-------|------|------|----------|----------|------|------|-------|-------|------|
| State   Left   Time   Right   Peds   Left   Time   Right   Right   Peds   Left   Time   Right   Right   Peds   Left   Time   Right   Rig |             |           | BRANHA\   | /EN DR. |      |      |       |       |      | ANTI | HONY JOH | NS DRIVE | WAY  |      |       |       |      |
| Third                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |           | SOUTHE    | BOUND   |      |      | WESTB | OUND  |      |      | NORTH    | BOUND    |      |      | EASTB | OUND  |      |
| 07:00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Start       |           |           |         |      |      |       |       |      |      |          |          |      |      |       |       |      |
| 07:00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Time        | Left      | Thru      | Right   | Peds | Left | Thru  | Right | Peds | Left | Thru     | Right    | Peds | Left | Thru  | Right | Peds |
| 07-15 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 07:00 AM    | 4         | 0         | 4       | 0    | 1    | 89    | 0     | 0    | 0    | 0        |          | 0    | 1    | 80    | 1     | 0    |
| 07-30 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      | 0    |       |       |      |      |          | 1        |      | 0    |       | 0     | 0    |
| 07-45 AM 0 0 0 1 0 1 0 1 103 1 0 0 1 0 0 1 0 0 1 92 1 0 0 800 AM 0 0 0 1 1 0 0 1 1 84 0 0 0 0 0 1 1 0 0 74 1 0 0 8815 AM 0 0 0 1 1 0 0 1 1 0 0 0 74 1 1 0 0 8815 AM 0 0 0 1 1 0 0 0 79 1 0 0 0 0 1 1 0 0 0 74 1 1 0 0 8830 AM 0 0 0 1 1 0 0 0 79 0 0 0 0 0 0 0 0 0 0 5 68 0 0 0 8845 AM 1 1 0 0 1 1 0 0 2 2 75 0 0 0 0 0 0 0 0 0 0 0 0 5 68 0 0 0 8845 AM 1 1 0 0 1 1 0 0 2 2 75 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |           |           |         |      |      |       |       |      |      |          |          | -    | -    |       | 1     | n    |
| 08:00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             | ·         |           | 1       |      |      |       |       | -    | -    | -        | 1        | 0    | 1    |       | 1     | n    |
| 08:15 AM 0 0 0 2 2 0 2 777 0 0 0 1 0 0 1 0 0 0 110 0 0 10 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |           | -         |         | -    | -    |       |       | -    |      | -        | 1        | •    |      |       | 1     | •    |
| 08:30 AM 0 0 0 1 0 0 79 0 0 0 0 0 0 0 0 5 688 0 0 0 0 0 80:45 AM 1 0 0 1 1 0 2 75 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |           |           |         |      |      |       |       | -    | •    | -        | 1        | •    | -    |       |       | •    |
| 0845 AM 0 0 0 1 0 0 2 75 0 0 0 0 0 0 0 0 0 0 63 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |           | -         |         |      |      |       |       |      |      | -        | ,        | •    |      |       | -     | •    |
| 09:00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      |      |       |       | -    | •    | -        | •        | -    | -    |       | -     |      |
| 09:15 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |           |           |         |      |      |       |       | -    | -    | -        | -        | -    | -    |       |       | -    |
| 09:30 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |           |           |         |      | -    |       | -     | -    | -    | -        | -        | -    |      | -     |       | -    |
| 09:45 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |           |           |         |      | -    | -     |       | •    | -    | -        | -        | -    | Ū    | -     |       | •    |
| 0.00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |           |           |         |      | -    | -     |       | •    | -    | -        | •        | -    | -    | -     |       |      |
| 10:15 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           | -         |         |      | -    | -     |       | -    | -    | -        | -        | -    | -    | -     | -     | -    |
| 10:30 AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |           |           | -       | -    | -    | -     |       | -    | -    | -        | -        | -    | -    | -     | -     | -    |
| 10:45 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      |      |       |       | -    | •    | -        | -        | -    | -    | -     | -     | -    |
| 11:00 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      |      | -     | -     |      | •    | -        | -        | -    | -    | -     | -     |      |
| 11:15 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      |      | -     | -     | -    | •    | -        | -        | -    | -    | •     | -     |      |
| 11:30 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      | -    | -     |       | -    | -    | -        | -        | -    | -    | -     | -     | -    |
| 11:45 AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      | -    | -     |       | -    | -    | -        | •        | •    | Ū    | -     | -     |      |
| 12:00 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           |           |         |      |      | -     |       | -    | -    | -        | •        | •    | •    |       | -     |      |
| 12:15 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           | -         |         |      |      | -     |       | -    | •    | -        | •        | •    | Ū    | •     | -     |      |
| 12:30 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |           | -         | -       | -    | -    | -     | -     | -    | -    | -        | -        | •    | -    | -     | -     | -    |
| 12:45 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12:15 PM    | 0         | 0         | 0       |      | -    | 0     |       | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
| 01:00 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12:30 PM    | 0         | 0         | 0       |      |      | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     |      |
| 01:15 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12:45 PM    | 0         | 0         |         |      | -    | •     | -     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | -    |
| 01:30 PM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 01:00 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
| 01:45 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 01:15 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
| 02:00 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 01:30 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
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| 02:30 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 02:00 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
| 02:45 PM         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 02:15 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
| 03:00 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 02:30 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
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| 03:45 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 03:30 PM    | 0         | 0         | 0       | 0    | 0    | 0     | 0     | 0    | 0    | 0        | 0        | 0    | 0    | 0     | 0     | 0    |
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| 04:15 PM 0 0 2 0 9 105 0 0 4 0 3 0 3 106 3 0 0 0:30 PM 2 0 1 0 3 109 0 0 1 0 1 0 3 0 3 94 2 0 0 0:45 PM 2 0 0 0 4 114 0 0 1 0 6 0 4 115 1 0 0 0:50 PM 1 0 0 0 1 1 0 4 0 4 0 3 85 4 0 0 0:515 PM 4 0 1 0 1 0 13 105 5 0 5 0 5 0 7 0 1 83 9 0 0 0:530 PM 1 0 0 0 0 5 98 1 0 3 0 2 0 3 90 3 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |           | 0         | 0       | 0    |      | 106   | 3     | 0    | 2    | 0        | 3        | 0    | 2    | 110   | 3     | 0    |
| 04:30 PM 2 0 1 0 3 109 0 0 1 0 3 0 3 94 2 0 04:45 PM 2 0 0 0 0 4 114 0 0 1 0 6 0 4 115 1 0 05:00 PM 1 0 0 0 11 106 1 0 4 0 4 0 3 85 4 0 05:15 PM 4 0 1 0 13 105 5 0 5 0 5 0 7 0 1 83 9 0 05:30 PM 1 0 0 0 5 98 1 0 3 0 2 0 3 90 3 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             | 0         | 0         | 2       | 0    |      |       |       | 0    |      | 0        | 3        | 0    |      |       | 3     | 0    |
| 04:45 PM 2 0 0 0 4 114 0 0 1 0 6 0 4 115 1 0 05:00 PM 1 0 0 0 11 106 1 0 4 0 4 0 3 85 4 0 05:15 PM 4 0 1 0 1 0 13 105 5 0 5 0 7 0 1 83 9 0 05:30 PM 1 0 0 0 5 98 1 0 3 0 2 0 3 90 3 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |           | -         |         |      |      |       | -     | -    | 1    | -        | -        | n    |      |       |       | -    |
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| 05:15 PM 4 0 1 0 13 105 5 0 5 0 7 0 1 83 9 0 0 5:30 PM 1 0 0 5 98 1 0 3 0 2 0 3 90 3 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |           | -         |         |      |      |       |       |      |      |          |          | -    |      |       |       |      |
| 05:30 PM 1 0 0 0 5 98 1 0 3 0 2 0 3 90 3 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             | -         |           |         |      |      |       | •     | -    |      | -        |          | •    | -    |       |       | -    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             | •         |           |         | -    |      |       | -     | -    |      | -        | -        | •    |      |       |       | -    |
| 1 0 1 0 4 50 4 0 0 0 0 2 64 7 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |           |           |         |      |      |       |       | -    |      |          |          |      |      |       |       |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 00.40 F IVI | ļ         | U         | į       | U    | 4    | 90    | 4     | U    | 0    | U        | 0        | U    | 2    | 04    | ,     | U    |

Intersection: Route 80 at Totoket Road Start Date: 1/13/2022 Start Time: 7:00:00 AM End Time: 5:45:00 PM Comment 1: TRAFFIC COUNTS Comment 2: PEAK HOUR

| C         | omment 2. F | EAK HOUR |       |      |      |       |       |      |      |       |       |      |      |       |       |      |
|-----------|-------------|----------|-------|------|------|-------|-------|------|------|-------|-------|------|------|-------|-------|------|
|           |             | TOTOKE   |       |      |      | RTE   |       |      |      | TOTOK |       |      |      | FOXO  |       |      |
| _         |             | SOUTHB   | OUND  |      |      | WESTE | BOUND |      |      | NORTH | BOUND |      |      | EASTB | OUND  |      |
| Start     |             |          |       |      |      |       |       |      |      |       |       |      |      |       |       |      |
| Time      | Left        | Thru     | Right | Peds | Left | Thru  | Right | Peds | Left | Thru  | Right | Peds | Left | Thru  | Right | Peds |
| 07:00 AM  | 0           | 12       | 10    | 0    | 22   | 81    | 9     | 0    |      | 10    | 12    | 0    | 8    | 69    | 11    | 0    |
| 07:15 AM  | 9           | 13       | 13    | 0    | 25   | 82    | 8     | 0    | 12   | 15    | 20    | 0    | 21   | 68    | 12    | C    |
| 07:30 AM  | 1           | 15       | 5     | 0    | 32   | 81    | 4     | 0    | 12   | 7     | 23    | 0    | 2    | 60    | 16    | C    |
| 07:45 AM  | 5           | 16       | 7     | 0    | 38   | 84    | 1     | 0    | 17   | 5     | 21    | 0    | 6    | 68    | 18    | C    |
| 08:00 AM  | 1           | 16       | 2     | 1    | 23   | 65    | 1     | 0    | 24   | 3     | 27    | 0    | 1    | 64    | 13    | 0    |
| 08:15 AM  | 4           | 8        | 3     | 0    | 36   | 66    | 5     | 0    | 12   | 10    | 20    | 0    | 3    | 74    | 15    | 0    |
| 08:30 AM  | 6           | 14       | 2     | 0    | 22   | 68    | 0     | 0    | 19   | 6     | 21    | 0    | 2    | 69    | 20    | 0    |
| 08:45 AM  | 7           | 13       | 6     | 0    | 26   | 67    | 6     | 0    | 23   | 7     | 25    | 0    | 5    | 58    | 5     | 0    |
| 09:00 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 09:15 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 09:30 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 09:45 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 10:00 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 10:15 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 10:30 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 10:45 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 11:00 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 11:15 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 11:30 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 11:45 AM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 12:00 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 12:15 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 12:30 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 12:45 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 01:00 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 01:15 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 01:30 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 01:45 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 02:00 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 02:15 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 02:30 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 02:45 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 03:00 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 03:15 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 03:30 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 03:45 PM  | 0           | 0        | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    | 0    | 0     | 0     | 0    |
| 04:00 PM  | 10          | 15       | 5     | 0    | 35   | 99    | 5     | 0    | 14   | 16    | 30    | 0    | 3    | 84    | 21    | 0    |
| 04:15 PM  | 5           | 17       | 7     | 0    | 32   | 96    | 6     | 0    | 24   | 11    | 37    | 0    | 7    | 89    | 26    | 0    |
| 04:30 PM  | 7           | 14       | 5     | 0    | 34   | 105   | 1     | 0    | 15   | 21    | 30    | 0    | 5    | 73    | 26    | 0    |
| 04:45 PM  | 3           | 13       | 7     | 0    | 24   | 101   | 3     | 0    |      | 12    | 38    | 0    | 9    | 91    | 19    | 0    |
| 05:00 PM  | 4           | 14       | 9     | 0    | 34   | 105   | 4     | 0    | 31   | 20    | 39    | 0    | 6    | 93    | 27    | 0    |
| 05:15 PM  | 3           | 22       | 7     | 0    | 31   | 107   | 3     | 0    | 23   | 13    | 41    | 0    | 5    | 89    | 23    | 0    |
| 05:30 PM  | 6           | 10       | 3     | 0    | 36   | 88    | 2     | 1    | 20   | 15    | 23    | 0    | 5    | 78    | 24    | Ċ    |
| 05:45 PM  | 6           | 9        | 7     | 0    | 22   | 113   | 0     | 0    |      | 18    | 19    | 0    | 5    | 73    | 19    | 0    |
| 30.40 i W | O           | 9        | ,     | O    | 22   | . 13  | U     | U    | 20   | 10    | 13    | U    | 3    | 7.5   | 13    | U    |

# LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS (MOTORIZED VEHICLE MODE)

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. The criteria are given below.

| LEVEL-OF       | SERVICE CRITERIA<br>INTERSECTIO<br>MOTORIZED VEHICL | NS                    |
|----------------|-----------------------------------------------------|-----------------------|
| LOS By Volume- | to-Capacity Ratio <sup>1</sup>                      |                       |
| v/c ≤ 1.0      | v/c > 1.0                                           | CONTROL DELAY (s/veh) |
| Α              | F                                                   | ≤ 10                  |
| В              | F                                                   | > 10 AND \le 20       |
| С              | F                                                   | > 20 AND ≤ 35         |
| D              | F                                                   | > 35 AND ≤ 55         |
| E              | F                                                   | > 55 AND ≤ 80         |
| F              | F                                                   | > 80                  |

<sup>&</sup>lt;sup>1</sup> For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Specific descriptions of each LOS for signalized intersections are provided below:

<u>Level of Service A</u> describes operations with a control delay of 10 s/veh and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**Level of Service B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

<u>Level of Service C</u> describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

**Level of Service D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

**Level of Service E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

<u>Level of Service F</u> describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Reference: <u>Highway Capacity Manual 6</u>, Transportation Research Board, 2016.

## LEVEL OF SERVICE FOR TWO-WAY STOP SIGN CONTROLLED INTERSECTIONS

The level of service for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the Table. LOS criteria are given below:

| LEVEL-OF SERVICE CRITER | IA FOR AWSC INTERSECTIONS |
|-------------------------|---------------------------|
| LOS¹                    | CONTROL DELAY (s/veh)     |
| A                       | ≤ 10                      |
| В                       | > 10 AND ≤ 15             |
| С                       | > 15 AND ≤ 25             |
| D                       | > 25 AND ≤ 35             |
| E                       | > 35 AND ≤ 50             |
| F                       | > 50                      |

Note: LOS criteria apply to each lane on a given approach and to each approach on the minor street.

LOS is not calculated for major-street approaches or for the intersection as a whole.

LOS F is assigned to a movement if the volume-to-capacity ratio exceeds 1.0, regardless of the control delay

Reference: Highway Capacity Manual Version 6.0, Transportation Research Board, 2016.

| Intersection             |          |       |        |      |        |       |
|--------------------------|----------|-------|--------|------|--------|-------|
| Int Delay, s/veh         | 2.9      |       |        |      |        |       |
|                          | EBT      | EBR   | WBL    | WBT  | NBL    | NBR   |
| Movement                 |          | ERK   |        |      |        | NRK   |
| Lane Configurations      | <b>}</b> | •     | 100    | 100  | Y      | 400   |
| Traffic Vol, veh/h       | 357      | 2     | 129    | 463  | 1      | 133   |
| Future Vol, veh/h        | 357      | 2     | 129    | 463  | 1      | 133   |
| Conflicting Peds, #/hr   | _ 0      | _ 0   | 0      | _ 0  | 0      | 0     |
| Sign Control             | Free     | Free  | Free   | Free | Stop   | Stop  |
| RT Channelized           | -        | None  | -      | None | -      | None  |
| Storage Length           | -        | -     | 225    | -    | 0      | -     |
| Veh in Median Storage, # | 0        | -     | -      | 0    | 0      | -     |
| Grade, %                 | 0        | -     | -      | 0    | 0      | -     |
| Peak Hour Factor         | 73       | 73    | 73     | 73   | 73     | 73    |
| Heavy Vehicles, %        | 2        | 2     | 2      | 2    | 2      | 2     |
| Mvmt Flow                | 489      | 3     | 177    | 634  | 1      | 182   |
|                          |          |       |        |      | -      |       |
|                          |          |       |        |      |        |       |
| Major/Minor              | Major1   |       | Major2 |      | Minor1 |       |
| Conflicting Flow All     | 0        | 0     | 492    | 0    | 1479   | 491   |
| Stage 1                  | -        | -     | -      | -    | 491    | -     |
| Stage 2                  | -        | -     | -      | -    | 988    | -     |
| Critical Hdwy            | -        | -     | 4.12   | -    | 6.42   | 6.22  |
| Critical Hdwy Stg 1      | -        | _     |        | -    | 5.42   | -     |
| Critical Hdwy Stg 2      |          | _     | -      | -    | 5.42   | _     |
| Follow-up Hdwy           | -        | -     | 2.218  | -    | 3.518  | 3.318 |
| Pot Cap-1 Maneuver       | -        | -     | 1071   |      | 138    | 578   |
|                          | -        | -     | 1071   |      | 615    | 5/0   |
| Stage 1                  | -        | -     |        | -    |        |       |
| Stage 2                  | -        | -     | -      | -    | 361    | -     |
| Platoon blocked, %       | -        | -     |        | -    |        |       |
| Mov Cap-1 Maneuver       | -        | -     | 1071   | -    | 115    | 578   |
| Mov Cap-2 Maneuver       | -        | -     | -      | -    | 115    | -     |
| Stage 1                  | -        | -     | -      | -    | 615    | -     |
| Stage 2                  | -        | -     | -      | -    | 301    | -     |
|                          |          |       |        |      |        |       |
| A                        |          |       | MD     |      | ND     |       |
| Approach                 | EB       |       | WB     |      | NB     |       |
| HCM Control Delay, s     | 0        |       | 2      |      | 14.5   |       |
| HCM LOS                  |          |       |        |      | В      |       |
|                          |          |       |        |      |        |       |
| Minor Lane/Major Mvmt    |          | NBLn1 | EBT    | EBR  | WBL    | WBT   |
|                          |          |       |        |      |        |       |
| Capacity (veh/h)         |          | 561   | -      | -    | 1071   | -     |
| HCM Lane V/C Ratio       |          | 0.327 | -      | -    | 0.165  | -     |
| HCM Control Delay (s)    |          | 14.5  | -      | -    | 9      | -     |
| HCM Lane LOS             |          | В     | -      | -    | Α      | -     |
| HCM 95th %tile Q(veh)    |          | 1.4   | -      | -    | 0.6    | -     |
|                          |          |       |        |      |        |       |

| Intersection             |                      |       |        |               |           |        |        |       |        |           |           |           |  |
|--------------------------|----------------------|-------|--------|---------------|-----------|--------|--------|-------|--------|-----------|-----------|-----------|--|
| Int Delay, s/veh         | 0.6                  |       |        |               |           |        |        |       |        |           |           |           |  |
| Movement                 | EBL                  | EBT   | EBR    | WBL           | WBT       | WBR    | NBL    | NBT   | NBR    | SBL       | SBT       | SBR       |  |
| Lane Configurations      | LDL                  | 4     | LDIX   | WDL           | 4         | WOIN   | INDL   | 4     | INDIX  | ODL       | - 4       | ODIX      |  |
| Traffic Vol., veh/h      | 5                    | 326   | 4      | 8             | 387       | 1      | 3      | 0     | 4      | 5         | 0         | 11        |  |
| Future Vol. veh/h        | 5                    | 326   | 4      | 8             | 387       | 1      | 3      | 0     | 4      | 5         | 0         | 11        |  |
| 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           | riee -               | riee  | None   | riee<br>-     | riee<br>- | None   | Stop   | Siop  | None   | Stop<br>- | Stop<br>- | None      |  |
| Storage Length           | -                    | -     | None - | -             | -         | None - | _      | -     | None - |           | -         | None      |  |
|                          | -                    | 0     | -      | -             | 0         | -      | -      | 0     | -      | -         | 0         | -         |  |
| Veh in Median Storage, # |                      | 0     |        |               | ~         |        |        | 0     |        |           | 0         | -         |  |
| Grade, %                 | - 00                 | 88    | -      | -             | 0<br>88   | - 00   | -      | 88    | - 88   | -         |           | -         |  |
| Peak Hour Factor         | 88                   |       | 88     | 88            |           | 88     | 88     |       |        | 88        | 88        | 88        |  |
| Heavy Vehicles, %        | 2                    | 2     | 2      | 2             | 2         | 2      | 2      | 2     | 2      | 2         | 2         | 2         |  |
| Mvmt Flow                | 6                    | 370   | 5      | 9             | 440       | 1      | 3      | 0     | 5      | 6         | 0         | 13        |  |
| Major/Minor              | Major1               |       |        | Major?        |           |        | Minor1 |       |        | Minor2    |           |           |  |
|                          | <u>Major1</u><br>441 | ^     | ^      | Major2<br>375 | ^         | ^      |        | 844   | 373    |           | 0.40      | 441       |  |
| Conflicting Flow All     |                      | 0     | 0      |               | 0         | 0      | 850    |       |        | 846       | 846       | 441       |  |
| Stage 1                  | -                    | -     | -      | -             | -         | -      | 385    | 385   | -      | 459       | 459       | -         |  |
| Stage 2                  | -                    | -     | -      | -             | -         | -      | 465    | 459   | -      | 387       | 387       | -         |  |
| Critical Hdwy            | 4.12                 | -     | -      | 4.12          | -         | -      | 7.12   | 6.52  | 6.22   | 7.12      | 6.52      | 6.22      |  |
| Critical Hdwy Stg 1      | -                    | -     | -      | -             | -         | -      | 6.12   | 5.52  | -      | 6.12      | 5.52      | -         |  |
| Critical Hdwy Stg 2      |                      | -     | -      |               | -         | -      | 6.12   | 5.52  |        | 6.12      | 5.52      | • · · · · |  |
| Follow-up Hdwy           | 2.218                | -     | -      | 2.218         | -         | -      | 3.518  | 4.018 | 3.318  | 3.518     | 4.018     | 3.318     |  |
| Pot Cap-1 Maneuver       | 1119                 | -     | -      | 1183          | -         | -      | 280    | 300   | 673    | 282       | 299       | 616       |  |
| Stage 1                  | -                    | -     | -      | -             | -         | -      | 638    | 611   | -      | 582       | 566       | -         |  |
| Stage 2                  | -                    | -     | -      | -             | -         | -      | 578    | 566   | -      | 637       | 610       | -         |  |
| Platoon blocked, %       |                      | -     | -      |               | -         | -      |        |       |        |           |           |           |  |
| Mov Cap-1 Maneuver       | 1119                 | -     | -      | 1183          | -         | -      | 271    | 295   | 673    | 276       | 294       | 616       |  |
| Mov Cap-2 Maneuver       | -                    | -     | -      | -             | -         | -      | 271    | 295   | -      | 276       | 294       | -         |  |
| Stage 1                  | -                    | -     | -      | -             | -         | -      | 634    | 607   | -      | 578       | 560       | -         |  |
| Stage 2                  | -                    | -     | -      | -             | -         | -      | 561    | 560   | -      | 628       | 606       | -         |  |
|                          |                      |       |        | ,             |           |        |        |       |        |           |           |           |  |
| Approach                 | EB                   |       |        | WB            |           |        | NB     |       |        | SB        |           |           |  |
| HCM Control Delay, s     | 0.1                  |       |        | 0.2           |           |        | 13.9   |       |        | 13.4      |           |           |  |
| HCM LOS                  |                      |       |        |               |           |        | В      |       |        | В         |           |           |  |
| Minor Long/Maire Meret   |                      | NDI 4 | EDI    | EDT           | EBR       | WDI    | MDT    | WDD   | CDI4   |           |           |           |  |
| Minor Lane/Major Mvmt    |                      | NBLn1 | EBL    | EBT           |           | WBL    | WBT    | WBR   | SBLn1  |           |           |           |  |
| Capacity (veh/h)         |                      | 411   | 1119   | -             | -         | 1183   | -      | -     | 445    |           |           |           |  |
| HCM Lane V/C Ratio       |                      | 0.019 | 0.005  | -             | -         | 0.008  | -      | -     | 0.041  |           |           |           |  |
| HCM Control Delay (s)    |                      | 13.9  | 8.2    | 0             | -         | 8.1    | 0      | -     | 13.4   |           |           |           |  |
| HCM Lane LOS             |                      | В     | Α      | Α             | -         | Α      | Α      | -     | В      |           |           |           |  |
| HCM 95th %tile Q(veh)    |                      | 0.1   | 0      | -             | -         | 0      | -      | -     | 0.1    |           |           |           |  |

| Minimum Split (s) 9.0 21.9 9.0 21.9 12.3 12.3 12.3 12.3 12.3 22 Total Split (s) 16.0 41.9 14.0 41.9 35.3 35.3 35.3 35.3 35.3 35.3 35.3 35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        | •     | -     | $\rightarrow$ | •     | ←          | •    | 1      | <b>†</b> | ~     | -     | <b>↓</b> | 4     |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------|-------|---------------|-------|------------|------|--------|----------|-------|-------|----------|-------|--------|
| Traffic Volume (yph) 167 279 32 3 358 16 43 56 15 15 31 152 deal Flow (yphp) 167 279 32 3 358 16 43 56 15 15 31 152 deal Flow (yphp) 1900 1900 1900 1900 1900 1900 1900 190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ane Group              | EBL   | EBT   | EBR           | WBL   | WBT        | WBR  | NBL    | NBT      | NBR   | SBL   | SBT      | SBR   | Ø3     |
| raffic Volume (prh) 167 279 32 3 358 16 43 56 15 15 31 152 tabel Flow (prhp) 167 279 32 3 358 16 43 56 15 15 31 152 tabel Flow (prhp) 1900 1900 1900 1900 1900 1900 1900 190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ane Configurations     | 7     | ĵ.    |               | 7     | <b>∳</b> Љ |      |        | 4        |       |       | 4        | 7     |        |
| uture Volume (ynh)         167         279         32         3 388         16         43         56         15         15         31         152           Label Flow (ynhp)         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900         1900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |       |       | 32            |       |            | 16   | 43     |          |       | 15    |          |       |        |
| Seal Flow (phipping)   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990   1990    |                        |       |       |               |       |            | 16   |        | 56       |       |       | 31       |       |        |
| Introduction   Inte   |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Internate Lanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| ager Length (1) 25 60 25 25 25 25 17 100 100 100 100 100 100 100 100 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| ane UBL Reducer   1.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |       |       |               |       |            | •    |        |          | •     |       |          | •     |        |
| rit to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |       | 1.00  | 1 00          |       | 0.95       | 0.95 |        | 1 00     | 1 00  |       | 1 00     | 1 00  |        |
| It Protected   0.950                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        | 1.00  |       | 1.00          | 1.00  |            | 0.00 | 1.00   | 1.00     |       | 1.00  | 1.00     |       |        |
| saled, Flow (proty)   1770   1835   0   1770   3518   0   0   1824   1883   0   1833   1833   1833   1833   1833   1833   1833   1833   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   1834   |                        | 0.950 | 0.000 |               | 0.950 | 0.00       |      |        | 0 979    | 0.000 |       | 0 984    | 0.000 |        |
| It Permitted                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |       | 1835  | 0             |       | 3518       | 0    | 0      |          | 1583  | 0     |          | 1583  |        |
| state Flow (perm) sight Tum on Red yes yes yes yes state, Flow (RTOR) 5 5 4 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | \(\(\)\(\)             |       | 1000  | U             |       | 3310       | U    | U      |          | 1000  | U     |          | 1000  |        |
| SighT Lum on Red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |       | 1835  | 0             |       | 3518       | ٥    | 0      |          | 1583  | 0     |          | 1583  |        |
| Saled From (RTOR)   5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        | 033   | 1000  |               | 331   | 3310       |      | U      | 1340     |       | U     | 1013     |       |        |
| ink Spead (mph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       | 5     | 165           |       | 1          | 165  |        |          |       |       |          |       |        |
| ink Distance (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |       |       |               |       |            |      |        | 25       | 12    |       | 25       | 200   |        |
| ravel Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| eak Hour Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ( )                    |       |       |               |       |            |      |        |          |       |       |          |       |        |
| dig. Flow (vph)         229         382         44         4         490         22         59         77         21         21         42         208           ame Group Flow (vph)         229         426         0         4         512         0         0         136         21         0         63         208           um Type         pm-pt         NA         pm-pt         NA         perm         NA         perm         NA         pt-ov         Perm         NA         p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        | 0.70  |       | 0.70          | 0.70  |            | 0.70 | 0.70   |          | 0.70  | 0.70  |          | 0.70  |        |
| Thereof Lane Traffic (%) area Group Flow (rph) 229 426 0 4 512 0 0 136 21 0 63 208 urn Type pm+pt NA pm+pt NA pm-pt NA Perm NA pt-ov rotected Phases 1 6 5 2 4 4 45 4 14  ** retreated Phases 6 6 2 4 4 4 5 4 14  ** retreated Phases 1 6 6 5 2 4 4 4 5 4 14  ** retreated Phases 1 6 6 5 2 4 4 4 5 4 14  ** retreated Phases 1 6 6 5 2 4 4 4 5 4 14  ** retreated Phases 1 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| ane Group Flow (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        | 229   | 382   | 44            | 4     | 490        | 22   | 59     | 11       | 21    | 21    | 42       | 208   |        |
| um Type         pm+pt         NA         pm+pt         NA         Perm         NA         pt-ov rotected Phases           1         6         5         2         4         4         4         14           remitted Phases         1         6         5         2         4         4         4         14           victor Phase         1         6         5         2         4         4         4         4         14           witch Phase         1         6         5         0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0         7.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        | 225   | /00   |               |       | F 10       | •    | •      | 100      | •     |       |          | 000   |        |
| Protected Phases   1   6   5   2   4   4   5   4   14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | . , , ,                |       |       | 0             |       |            | 0    | -      |          |       | _     |          |       |        |
| Permitted Phases   6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |       |       |               |       |            |      | Perm   |          |       | Perm  |          |       |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       | 6     |               |       | 2          |      |        | 4        | 4 5   |       | 4        | 14    | 3      |
| witch Phase fininum Initial (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ermitted Phases        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Ininimum Initial (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        | 1     | 6     |               | 5     | 2          |      | 4      | 4        | 4 5   | 4     | 4        | 14    |        |
| Minimum Split (s)   9.0   21.9   9.0   21.9   12.3   12.3   12.3   12.3   2.3   2.3   2.3   2.3   2.3   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.5   3.   | Switch Phase           |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Otal Split (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | finimum Initial (s)    | 5.0   | 15.0  |               | 5.0   | 15.0       |      | 7.0    | 7.0      |       | 7.0   | 7.0      |       | 5.0    |
| Total Split (%) 13.3% 34.9% 11.6% 34.9% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29.4% 29 | /linimum Split (s)     | 9.0   | 21.9  |               | 9.0   | 21.9       |      | 12.3   | 12.3     |       | 12.3  | 12.3     |       | 27.0   |
| cotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | otal Split (s)         | 16.0  | 41.9  |               | 14.0  | 41.9       |      | 35.3   | 35.3     |       | 35.3  | 35.3     |       | 27.0   |
| Fellow Time (s)   3.0   5.0   3.0   5.0   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7   3.7    |                        | 13.3% | 34.9% |               | 11.6% | 34.9%      |      | 29.4%  | 29.4%    |       | 29.4% | 29.4%    |       | 22%    |
| All-Red Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |       | 5.0   |               |       | 5.0        |      |        | 3.7      |       | 3.7   |          |       | 4.0    |
| ost Time Adjust (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | \ /                    | 1.0   | 1.9   |               | 1.0   | 1.9        |      | 1.6    | 1.6      |       | 1.6   | 1.6      |       | 0.0    |
| State   Control   Contro   |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Lead/Lag   Lag   L |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| None      | . ,                    |       |       |               |       |            |      | l an   |          |       | Lan   |          |       | Lead   |
| Recall Mode   None   Min   None   Min   None   None   None   None   None   None   Note   Ct Effect Green (s)   34.4   28.2   26.9   18.1   12.1   22.1   12.1   26.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        | Loud  | Lug   |               | Loud  | Lug        |      | Lug    | Lug      |       | Lug   | Lug      |       | Loud   |
| Act Effect Green (s) 34.4 28.2 26.9 18.1 12.1 22.1 12.1 26.7 Actuated g/C Ratio 0.57 0.47 0.45 0.30 0.20 0.37 0.20 0.45 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 Actuated g/C Ratio 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | None  | Min   |               | None  | Min        |      | None   | None     |       | None  | None     |       | None   |
| Actuated g/C Ratio 0.57 0.47 0.45 0.30 0.20 0.37 0.20 0.45 1/2 Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 1/2 Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 1/2 Ratio 0.41 0.49 0.01 0.48 0.44 0.03 0.19 0.25 1/2 Ratio 0.41 0.49 0.00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |       |       |               |       |            |      | INOTIC |          | 22.1  | NOHE  |          | 26.7  | INOILE |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Soutrol Delay   11.8   18.1   11.3   21.2   29.2   0.1   25.3   3.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Queue Delay         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| fotal Delay         11.8         18.1         11.3         21.2         29.2         0.1         25.3         3.7           OS         B         B         B         B         C         C         A         C         A           Approach LOS         B         C         C         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         A         C         D         A         C         D         A         C         D         A         C         D         A         C         D </td <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Section   Color   Co   |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| pproach Delay 15.9 21.1 25.3 8.7 approach LOS B C C C A ctops (vph) 74 205 2 277 76 0 35 15 approach LOS B C C C A ctops (vph) 74 205 2 277 76 0 35 15 approach LOS B I D C C C A ctops (vph) 74 205 2 277 76 0 35 15 approach LOS B I D C C C C C C C C C C C C C C C C C C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| A   Company      |                        | В     |       |               | В     |            |      |        |          | А     |       |          | А     |        |
| Stops (vph)   74   205   2   277   76   0   35   15     Stell Used(gal)   3   7   0   8   1   0   1   1     CO Emissions (g/hr)   200   460   4   553   85   4   37   47     IOX Emissions (g/hr)   39   89   1   107   16   1   7   9     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   8   11     IOX Emissions (g/hr)   46   107   1   128   20   1   1   1     IOX Emissions (g/hr)   46   107   1   128   20   1   1   1     IOX Emissions (g/hr)   46   107   1   128   20   1   1   1     IOX Emissions (g/hr)   46   107   1   1   1   1   1     IOX Emissions (g/hr)   46   107   1   1   1   1   1   1     IOX Emissions (g/hr)   46   107   1   1   1   1   1   1   1     IOX Emissions (g/hr)   46   107   1   1   1   1   1   1   1   1   1                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| fuel Used(gal)         3         7         0         8         1         0         1         1           CO Emissions (g/hr)         200         460         4         553         85         4         37         47           IOx Emissions (g/hr)         39         89         1         107         16         1         7         9           VOC Emissions (g/hr)         46         107         1         128         20         1         8         11           bilemma Vehicles (#)         0         22         0         26         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| CO Emissions (g/hr) 200 460 4 553 85 4 37 47 10x Emissions (g/hr) 39 89 1 107 16 1 7 9 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 107 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 100x Emissions (g/hr) 46 107 1 128 20 1 8 11 100x Emissions (g/hr) 25 64 1 62 20 1 8 11 20 10x Emissions (g/hr) 25 64 1 62 20 1 8 11 20 20 1 20 20 20 20 20 20 20 20 20 20 20 20 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Nox Emissions (g/hr)   39   89   1   107   16   1   7   9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| OC Emissions (g/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| bilemma Vehicles (#) 0 22 0 26 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |       |       |               | 1     |            |      |        |          |       |       |          |       |        |
| Queue Length 50th (ft)         25         64         1         62         34         0         15         0           Queue Length 95th (ft)         116         264         6         160         111         0         59         19           Internal Link Dist (ft)         1347         368         311         305         305           Furn Bay Length (ft)         300         90         150         170           Paisse Capacity (vph)         638         1252         665         2269         854         922         892         1019           Starvation Cap Reductn         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <td></td> <td>46</td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td>20</td> <td></td> <td></td> <td>8</td> <td>11</td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        | 46    |       |               | 1     |            |      |        | 20       |       |       | 8        | 11    |        |
| Queue Length 95th (ft)         116         264         6         160         111         0         59         19           Internal Link Dist (ft)         1347         368         311         305           Furn Bay Length (ft)         300         90         150         170           Idase Capacity (vph)         638         1252         665         2269         854         922         892         1019           Idaryation Cap Reductn         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |       |       |               | 0     |            |      |        |          | 0     |       | 0        | 0     |        |
| Rueue Length 95th (ft)         116         264         6         160         111         0         59         19           Internal Link Dist (ft)         1347         368         311         305           urn Bay Length (ft)         300         90         150         170           iase Capacity (vph)         638         1252         665         2269         854         922         892         1019           itarvation Cap Reductn         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Queue Length 50th (ft) | 25    |       |               | 1     |            |      |        | 34       | 0     |       | 15       | 0     |        |
| Internal Link Dist (ft) 1347 368 311 305 at large Capacity (vph) 638 1252 665 2269 854 922 892 1019 at larvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |       |       |               | 6     | 160        |      |        |          | 0     |       | 59       | 19    |        |
| furn Bay Length (ft)         300         90         150         170           dase Capacity (vph)         638         1252         665         2269         854         922         892         1019           starvation Cap Reductn         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | nternal Link Dist (ft) |       |       |               |       |            |      |        |          |       |       | 305      |       |        |
| Hase Capacity (vph) 638 1252 665 2269 854 922 892 1019 Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 Spillback Cap Reductn 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0 0 0 0 0 0 0 0 0 Storage Cap Reductn 0 0.36 0.34 0.01 0.23 0.16 0.02 0.07 0.20  Intersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | urn Bay Length (ft)    | 300   |       |               | 90    |            |      |        |          | 150   |       |          | 170   |        |
| Starvation Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |       | 1252  |               |       | 2269       |      |        | 854      |       |       | 892      |       |        |
| Spillback Cap Reductn         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| torage Cap Reductn 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| Reduced v/c Ratio 0.36 0.34 0.01 0.23 0.16 0.02 0.07 0.20  htersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| ntersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |       |       |               |       |            |      |        |          |       |       |          |       |        |
| ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | 0.00  | 0.04  |               | 0.01  | 0.20       |      |        | 0.10     | 0.02  |       | 0.01     | 0.20  |        |
| raa Tyna: Other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | tersection Summary     |       |       |               |       |            |      |        |          |       |       |          |       |        |
| od Typo. Ottlet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | rea Type:              | Other |       |               |       |            |      |        |          |       |       |          |       |        |

| Actuated Cycle Length: 59.9                              |                        |              |  |
|----------------------------------------------------------|------------------------|--------------|--|
| Natural Cycle: 80                                        |                        |              |  |
| Control Type: Actuated-Uncoordinated                     |                        |              |  |
| Maximum v/c Ratio: 0.49                                  |                        |              |  |
| Intersection Signal Delay: 17.3                          | Intersection LOS: B    |              |  |
| Intersection Capacity Utilization 47.2%                  | ICU Level of Service A |              |  |
| Analysis Period (min) 15                                 |                        |              |  |
|                                                          |                        |              |  |
| Splits and Phases: 2: River Rd/Wheelbarrow Ln & Route 80 |                        |              |  |
| y <sub>01</sub>                                          | <b>∦\$</b> ø3          | <b>1</b> 100 |  |
| Ø1                                                       |                        | 1121         |  |
| 16 s 41.9 s                                              | 27 s                   | 35.3 s       |  |
| <b>€</b> 05 → 26                                         |                        |              |  |
| 14s 41.9s                                                |                        |              |  |

|                                 | •          | -     | •    | •          | ←     | •    | 1          | <b>†</b> | ~    | -          | Ţ     | 1    |      |
|---------------------------------|------------|-------|------|------------|-------|------|------------|----------|------|------------|-------|------|------|
| Lane Group                      | EBL        | EBT   | EBR  | WBL        | WBT   | WBR  | NBL        | NBT      | NBR  | SBL        | SBT   | SBR  | Ø3   |
| Lane Configurations             |            | 4     |      | 7          | ₽     |      |            | 4        |      |            | 4     |      |      |
| Traffic Volume (vph)            | 37         | 274   | 58   | 121        | 333   | 22   | 54         | 37       | 77   | 15         | 58    | 38   |      |
| Future Volume (vph)             | 37         | 274   | 58   | 121        | 333   | 22   | 54         | 37       | 77   | 15         | 58    | 38   |      |
| Ideal Flow (vphpl)              | 1900       | 1900  | 1900 | 1900       | 1900  | 1900 | 1900       | 1900     | 1900 | 1900       | 1900  | 1900 |      |
| Lane Width (ft)                 | 12         | 12    | 12   | 11         | 12    | 12   | 12         | 16       | 12   | 12         | 16    | 12   |      |
| Storage Length (ft)             | 0          |       | 0    | 100        |       | 0    | 0          |          | 0    | 0          |       | 0    |      |
| Storage Lanes                   | 0          |       | 0    | 1          |       | 0    | 0          |          | 0    | 0          |       | 0    |      |
| Taper Length (ft)               | 25<br>1.00 | 1.00  | 1.00 | 60<br>1.00 | 1.00  | 1.00 | 25<br>1.00 | 1.00     | 1.00 | 25<br>1.00 | 1.00  | 1.00 |      |
| Lane Util. Factor<br>Frt        | 1.00       | 0.979 | 1.00 | 1.00       | 0.991 | 1.00 | 1.00       | 0.938    | 1.00 | 1.00       | 0.954 | 1.00 |      |
| Flt Protected                   |            | 0.995 |      | 0.950      | 0.331 |      |            | 0.984    |      |            | 0.993 |      |      |
| Satd. Flow (prot)               | 0          | 1815  | 0    | 1711       | 1846  | 0    | 0          | 1949     | 0    | 0          | 2000  | 0    |      |
| Flt Permitted                   | U          | 0.923 | U    | 0.444      | 10-10 | U    | 0          | 0.872    | U    | U          | 0.956 | · ·  |      |
| Satd. Flow (perm)               | 0          | 1683  | 0    | 799        | 1846  | 0    | 0          | 1727     | 0    | 0          | 1925  | 0    |      |
| Right Turn on Red               | Ū          | 1000  | No   | 100        | 1010  | Yes  | •          | 1121     | Yes  | •          | 1020  | No   |      |
| Satd. Flow (RTOR)               |            |       |      |            | 4     |      |            | 38       |      |            |       | .,,  |      |
| Link Speed (mph)                |            | 45    |      |            | 45    |      |            | 25       |      |            | 25    |      |      |
| Link Distance (ft)              |            | 2685  |      |            | 684   |      |            | 503      |      |            | 419   |      |      |
| Travel Time (s)                 |            | 40.7  |      |            | 10.4  |      |            | 13.7     |      |            | 11.4  |      |      |
| Peak Hour Factor                | 0.92       | 0.92  | 0.92 | 0.92       | 0.92  | 0.92 | 0.92       | 0.92     | 0.92 | 0.92       | 0.92  | 0.92 |      |
| Adj. Flow (vph)                 | 40         | 298   | 63   | 132        | 362   | 24   | 59         | 40       | 84   | 16         | 63    | 41   |      |
| Shared Lane Traffic (%)         |            |       |      |            |       |      |            |          |      |            |       |      |      |
| Lane Group Flow (vph)           | 0          | 401   | 0    | 132        | 386   | 0    | 0          | 183      | 0    | 0          | 120   | 0    |      |
| Turn Type                       | Perm       | NA    |      | D.P+P      | NA    |      | Perm       | NA       |      | Perm       | NA    |      |      |
| Protected Phases                |            | 2     |      | 1          | 12    |      |            | 4        |      |            | 4     |      | 3    |
| Permitted Phases                | 2          |       |      | 2          |       |      | 4          |          |      | 4          |       |      |      |
| Detector Phase                  | 2          | 2     |      | 1          | 12    |      | 4          | 4        |      | 4          | 4     |      |      |
| Switch Phase                    |            |       |      |            |       |      |            |          |      |            |       |      |      |
| Minimum Initial (s)             | 15.0       | 15.0  |      | 5.0        |       |      | 9.0        | 9.0      |      | 9.0        | 9.0   |      | 7.0  |
| Minimum Split (s)               | 21.7       | 21.7  |      | 9.0        |       |      | 13.6       | 13.6     |      | 13.6       | 13.6  |      | 21.0 |
| Total Split (s)                 | 41.7       | 41.7  |      | 14.0       |       |      | 29.6       | 29.6     |      | 29.6       | 29.6  |      | 21.0 |
| Total Split (%)                 | 39.2%      | 39.2% |      | 13.2%      |       |      | 27.8%      | 27.8%    |      | 27.8%      | 27.8% |      | 20%  |
| Yellow Time (s)                 | 4.4        | 4.4   |      | 3.0        |       |      | 3.3        | 3.3      |      | 3.3        | 3.3   |      | 4.0  |
| All-Red Time (s)                | 2.3        | 2.3   |      | 1.0        |       |      | 1.3        | 1.3      |      | 1.3        | 1.3   |      | 0.0  |
| Lost Time Adjust (s)            |            | 0.0   |      | 0.0        |       |      |            | 0.0      |      |            | 0.0   |      |      |
| Total Lost Time (s)<br>Lead/Lag | Log        | 6.7   |      | 4.0        |       |      | Log        | 4.6      |      | Log        | 4.6   |      | Lead |
| Lead-Lag Optimize?              | Lag        | Lag   |      | Lead       |       |      | Lag        | Lag      |      | Lag        | Lag   |      | Leau |
| Recall Mode                     | Min        | Min   |      | Min        |       |      | None       | None     |      | None       | None  |      | None |
| Act Effct Green (s)             | IVIIII     | 21.3  |      | 33.8       | 38.1  |      | NOHE       | 11.8     |      | INOTIC     | 11.8  |      | NOHE |
| Actuated g/C Ratio              |            | 0.34  |      | 0.55       | 0.62  |      |            | 0.19     |      |            | 0.19  |      |      |
| v/c Ratio                       |            | 0.69  |      | 0.23       | 0.34  |      |            | 0.13     |      |            | 0.33  |      |      |
| Control Delay                   |            | 26.3  |      | 8.3        | 8.5   |      |            | 26.2     |      |            | 28.2  |      |      |
| Queue Delay                     |            | 0.0   |      | 0.0        | 0.0   |      |            | 0.0      |      |            | 0.0   |      |      |
| Total Delay                     |            | 26.3  |      | 8.3        | 8.5   |      |            | 26.2     |      |            | 28.2  |      |      |
| LOS                             |            | C     |      | A          | A     |      |            | C        |      |            | C     |      |      |
| Approach Delay                  |            | 26.3  |      |            | 8.4   |      |            | 26.2     |      |            | 28.2  |      |      |
| Approach LOS                    |            | С     |      |            | Α     |      |            | С        |      |            | С     |      |      |
| Stops (vph)                     |            | 291   |      | 48         | 151   |      |            | 108      |      |            | 85    |      |      |
| Fuel Used(gal)                  |            | 12    |      | 1          | 4     |      |            | 2        |      |            | 1     |      |      |
| CO Emissions (g/hr)             |            | 841   |      | 93         | 284   |      |            | 142      |      |            | 94    |      |      |
| NOx Emissions (g/hr)            |            | 164   |      | 18         | 55    |      |            | 28       |      |            | 18    |      |      |
| VOC Emissions (g/hr)            |            | 195   |      | 22         | 66    |      |            | 33       |      |            | 22    |      |      |
| Dilemma Vehicles (#)            |            | 25    |      | 0          | 29    |      |            | 0        |      |            | 0     |      |      |
| Queue Length 50th (ft)          |            | 107   |      | 12         | 42    |      |            | 42       |      |            | 34    |      |      |
| Queue Length 95th (ft)          |            | 325   |      | 75         | 212   |      |            | 152      |      |            | 120   |      |      |
| Internal Link Dist (ft)         |            | 2605  |      |            | 604   |      |            | 423      |      |            | 339   |      |      |
| Turn Bay Length (ft)            |            |       |      | 100        |       |      |            |          |      |            |       |      |      |
| Base Capacity (vph)             |            | 1030  |      | 611        | 1546  |      |            | 776      |      |            | 841   |      |      |
| Starvation Cap Reductn          |            | 0     |      | 0          | 0     |      |            | 0        |      |            | 0     |      |      |
| Spillback Cap Reductn           |            | 0     |      | 0          | 0     |      |            | 0        |      |            | 0     |      |      |
| Storage Cap Reductn             |            | 0     |      | 0          | 0     |      |            | 0        |      |            | 0     |      |      |
| Reduced v/c Ratio               |            | 0.39  |      | 0.22       | 0.25  |      |            | 0.24     |      |            | 0.14  |      |      |
| Intersection Summary            |            |       |      |            |       |      |            |          |      |            |       |      |      |
| Area Type:                      | Other      |       |      |            |       |      |            |          |      |            |       |      |      |

Cycle Length: 106.3

Actuated Cycle Length: 61.8

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 18.9

Intersection Capacity Utilization 67.9%

ICU Level of Service C

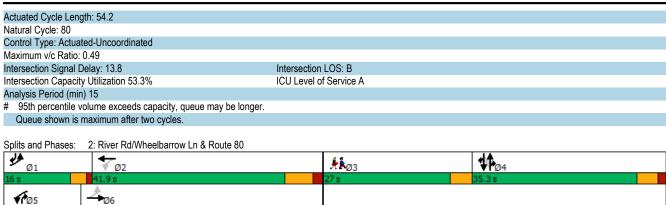
Analysis Period (min) 15

Splits and Phases: 4: Totoket Rd & Route 80

| Intersection                            |              |          |          |            |          |          |
|-----------------------------------------|--------------|----------|----------|------------|----------|----------|
| Int Delay, s/veh                        | 2.9          |          |          |            |          |          |
| Movement                                | EBT          | EBR      | WBL      | WBT        | NBL      | NBR      |
|                                         |              | LDR      | VVDL     |            |          | INDIX    |
| Lane Configurations                     | <b>∱</b>     | 2        |          | 450        | <b>Y</b> | 126      |
| Traffic Vol, veh/h                      | 467<br>467   | 2        | 184      | 450<br>450 | 3        | 136      |
| Future Vol, veh/h                       |              | 2        | 184      |            | 3        | 136      |
| Conflicting Peds, #/hr                  | 0            | 0        | 0        | 0          | 0        | 0        |
| Sign Control                            | Free         | Free     | Free     | Free       | Stop     | Stop     |
| RT Channelized                          | -            | None     | -        | None       | -        | None     |
| Storage Length                          | -            | -        | 225      | -          | 0        | -        |
| Veh in Median Storage, #                | 0            | -        | -        | 0          | 0        | -        |
| Grade, %                                | 0            | -        | -        | 0          | 0        | -        |
| Peak Hour Factor                        | 95           | 95       | 95       | 95         | 95       | 95       |
| Heavy Vehicles, %                       | 2            | 2        | 2        | 2          | 2        | 2        |
| Mvmt Flow                               | 492          | 2        | 194      | 474        | 3        | 143      |
|                                         |              |          |          |            |          |          |
| Major/Minor                             | Major4       |          | MajorO   |            | Minord   |          |
| Major/Minor                             | Major1       |          | Major2   |            | Minor1   | 105      |
| Conflicting Flow All                    | 0            | 0        | 494      | 0          | 1355     | 493      |
| Stage 1                                 | -            | -        | -        | -          | 493      | -        |
| Stage 2                                 | -            | -        | -        | -          | 862      | -        |
| Critical Hdwy                           | -            | -        | 4.12     | -          | 6.42     | 6.22     |
| Critical Hdwy Stg 1                     | -            | -        | -        | -          | 5.42     | -        |
| Critical Hdwy Stg 2                     | -            | -        | -        | -          | 5.42     | -        |
| Follow-up Hdwy                          | -            | -        | 2.218    | -          | 3.518    | 3.318    |
| Pot Cap-1 Maneuver                      | -            | -        | 1070     | -          | 165      | 576      |
| Stage 1                                 | -            | -        | -        | -          | 614      | -        |
| Stage 2                                 | -            | -        | -        | -          | 414      | -        |
| Platoon blocked. %                      | -            | -        |          |            |          |          |
| Mov Cap-1 Maneuver                      | _            | _        | 1070     | _          | 135      | 576      |
| Mov Cap-2 Maneuver                      | _            | _        | -        |            | 135      | -        |
| Stage 1                                 | -            | _        | -        | -          | 614      |          |
| Stage 2                                 |              | -        | -        | -          | 339      | -        |
| Stage 2                                 | <del>-</del> | <u> </u> | <u> </u> |            | 303      | <u> </u> |
|                                         |              |          |          |            |          |          |
| Approach                                | EB           |          | WB       |            | NB       |          |
| HCM Control Delay, s                    | 0            |          | 2.6      |            | 14.2     |          |
| HCM LOS                                 |              |          |          |            | В        |          |
|                                         |              |          |          |            | _        |          |
|                                         |              | N.D.     |          |            |          |          |
| Minor Lane/Major Mvmt                   |              | NBLn1    | EBT      | EBR        | WBL      | WBT      |
| Capacity (veh/h)                        |              | 538      | -        | -          | 1070     | -        |
| HCM Lane V/C Ratio                      |              | 0.272    | -        | -          | 0.181    | -        |
| HCM Control Delay (s)                   |              | 14.2     | -        | -          | 9.1      | -        |
| HCM Lane LOS                            |              | В        | -        | -          | Α        | -        |
| HCM 95th %tile Q(veh)                   |              | 1.1      | -        | -          | 0.7      | -        |
| 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |              |          |          |            |          |          |

| Movement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |        |           |          |        |      |          |        |      |           |        |      |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------|-----------|----------|--------|------|----------|--------|------|-----------|--------|------|-------|
| Movement   EBL   EBT   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT   SBR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Intersection             |        |           |          |        |      |          |        |      |           |        |      |       |
| April                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Int Delay, s/veh         |        |           |          |        |      |          |        |      |           |        |      |       |
| Traffic Vol., veh/h  11 378 19 36 429 7 14 0 19 8 0 1  Conflicting Peds, #hr  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Movement                 | EBL    |           | EBR      | WBL    |      | WBR      | NBL    |      | NBR       | SBL    |      | SBR   |
| Future Vol, veh/h  11 378 19 36 429 7 14 0 19 8 0 1  Conflicting Peds, #hr  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  Treatment Peds, #hr  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  Treatment Peds, #hr  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  Treatment Peds, #hr  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lane Configurations      |        | 4         |          |        | 4    |          |        | 4    |           |        | 4    |       |
| Conflicting Peds, #hr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Traffic Vol, veh/h       | 11     | 378       | 19       | 36     | 429  | 7        | 14     | 0    | 19        | 8      | 0    | 1     |
| Sign Control   Free   Stop   Stop   Stop   Stop   Stop   Stop   Stop   Storage Length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Future Vol, veh/h        | 11     | 378       | 19       | 36     | 429  | 7        | 14     | 0    | 19        | 8      | 0    | 1     |
| None     | Conflicting Peds, #/hr   | 0      | 0         | 0        | 0      | 0    | 0        | 0      | 0    | 0         | 0      | 0    | 0     |
| Storage Length                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sign Control             | Free   | Free      | Free     | Free   | Free | Free     | Stop   | Stop | Stop      | Stop   | Stop | Stop  |
| Veh in Median Storage, # - 0 0 0 0 0 0 0 0 0 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0                                        | RT Channelized           | -      | -         | None     | -      | -    | None     | -      | -    | None      | -      | -    | None  |
| Grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Storage Length           | -      | -         | -        | -      | -    | -        | -      | -    | -         | -      | -    | -     |
| Peak Hour Factor 92 92 92 92 92 92 92 92 92 92 92 92 92                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Veh in Median Storage, # | -      |           | -        | -      | _    | -        | -      | ~    | -         | -      | 0    | -     |
| Heavy Vehicles, %   2   2   2   2   2   2   2   2   2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Grade, %                 |        |           |          |        |      |          |        |      |           |        |      |       |
| Major/Minor   Major   Major   Major   Minor   Minor   Minor   Minor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Peak Hour Factor         |        |           |          |        |      |          |        |      |           |        |      |       |
| Majori/Minor   Major1   Major2   Minor1   Minor2   Minor2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Heavy Vehicles, %        | _      |           |          |        | 2    | 2        | _      |      |           |        |      |       |
| Conflicting Flow All                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mvmt Flow                | 12     | 411       | 21       | 39     | 466  | 8        | 15     | 0    | 21        | 9      | 0    | 1     |
| Conflicting Flow All                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |        |           |          |        |      |          |        |      |           |        |      |       |
| Conflicting Flow All                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Major/Minor              | Major1 |           |          | Major2 |      |          | Minor1 |      |           | Minor2 |      |       |
| Stage 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |        | 0         | 0        |        | 0    | 0        |        | 998  | 422       |        | 1004 | 470   |
| Stage 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |        | -         |          |        |      |          |        |      |           |        |      | -     |
| Critical Hdwy Stg 1 4.12 7.12 6.52 6.22 7.12 6.52 6.22 Critical Hdwy Stg 1 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 - Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12 5.52 6.12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |        |           | _        | _      | -    | -        |        |      | -         |        |      | -     |
| Critical Hdwy Stg 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          | 4 12   | _         | _        | 4 12   | -    | _        |        |      | 6 22      |        |      | 6 22  |
| Critical Hdwy Stg 2 6.12 5.52 - 6.12 5.52 Follow-up Hdwy 2.218 2.218 2.218 3.518 4.018 3.318 3.518 4.018 3.318 Pot Cap-1 Maneuver 1088 - 11128 - 224 244 632 220 242 594 Stage 1 591 574 - 521 517 - 517 Stage 2 520 515 - 584 568 - Platon blocked, %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |        |           | _        |        | -    | -        |        |      |           |        |      |       |
| Follow-up Hdwy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |        | _         | -        | -      | -    | -        |        |      | -         |        |      | _     |
| Pot Cap-1 Maneuver 1088 1128 224 244 632 220 242 594  Stage 1 591 574 - 521 517 - Stage 2 520 515 - 584 568 -  Platoon blocked, %  Wov Cap-1 Maneuver 1088 1128 213 229 632 203 227 594  Mov Cap-2 Maneuver 213 229 - 203 227 - Stage 1 582 565 - 513 493 - Stage 2 582 565 - 513 493 - Stage 2 495 491 - 556 559 -  Approach EB WB NB SB  HCM Control Delay, s 0.2 0.6 16.6 22.2  HCM LOS C C  Minor Lane/Major Mvmt NBLn1 EBL EBT EBR WBL WBT WBR SBLn1  Capacity (veh/h) 345 1088 1128 219  HCM Lane V/C Ratio 0.104 0.011 0.035 0.045  HCM Control Delay (s) 16.6 8.3 0 - 8.3 0 - 22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          | 2 218  |           | _        | 2 218  | -    | _        |        |      | 3 318     |        |      | 3 318 |
| Stage 1         -         -         -         -         591         574         -         521         517         -           Stage 2         -         -         -         -         -         520         515         -         584         568         -           Platoon blocked, %         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |        | _         | -        |        | -    | -        |        |      |           |        |      |       |
| Stage 2         -         -         -         -         520         515         -         584         568         -           Platoon blocked, %         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | •                        | -      |           | _        | -      |      | _        | 591    | 574  | -         |        | 517  | -     |
| Platoon blocked, %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |        | _         | -        | -      | -    | -        |        |      | -         |        |      | _     |
| Mov Cap-1 Maneuver         1088         -         -         1128         -         -         213         229         632         203         227         594           Mov Cap-2 Maneuver         -         -         -         -         -         213         229         -         203         227         -           Stage 1         -         -         -         -         -         582         565         -         513         493         -           Stage 2         -         -         -         -         -         495         491         -         556         559         -           Approach         EB         WB         NB         NB         SB         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <td>· ·</td> <td></td> <td></td> <td>_</td> <td></td> <td>-</td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | · ·                      |        |           | _        |        | -    | _        |        |      |           |        |      |       |
| Mov Cap-2 Maneuver         -         -         -         -         -         213         229         -         203         227         -           Stage 1         -         -         -         -         -         582         565         -         513         493         -           Stage 2         -         -         -         -         495         491         -         556         559         -           Approach         EB         WB         NB         NB         SB         -         -         -         C         C         C         C         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                          | 1088   | _         | _        | 1128   | -    | _        | 213    | 229  | 632       | 203    | 227  | 594   |
| Stage 1         -         -         -         -         582         565         -         513         493         -           Stage 2         -         -         -         -         -         495         491         -         556         559         -           Approach         EB         WB         NB         NB         SB           HCM Control Delay, s         0.2         0.6         16.6         22.2           HCM LOS         C         C         C           Minor Lane/Major Mvmt         NBLn1         EBL         EBT         EBR         WBL         WBT         WBR         SBLn1           Capacity (veh/h)         345         1088         -         -         1128         -         -         219           HCM Lane V/C Ratio         0.104         0.011         -         -         0.035         -         -         0.045           HCM Control Delay (s)         16.6         8.3         0         -         8.3         0         -         22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |        | -         | -        |        | -    | -        |        |      |           |        |      |       |
| Stage 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          | -      | _         | _        | _      | -    | _        |        |      |           |        |      | _     |
| Approach   EB   WB   NB   SB   SB   HCM Control Delay, s   0.2   0.6   16.6   22.2   C   C   C   C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          | -      |           |          | -      | -    | -        |        |      | -         |        |      | -     |
| Minor Lane/Major Mvmt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |        |           |          |        |      |          |        |      |           |        |      |       |
| Minor Lane/Major Mvmt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Annroach                 | FR     |           |          | WB     |      |          | NB     |      |           | SB     |      |       |
| C   C   Minor Lane/Major Mvmt   NBLn1   EBL   EBT   EBR   WBL   WBT   WBR   SBLn1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |        |           |          |        |      |          |        |      |           |        |      |       |
| Minor Lane/Major Mvmt         NBLn1         EBL         EBT         EBR         WBL         WBT         WBR         SBLn1           Capacity (veh/h)         345         1088         -         -         1128         -         -         219           HCM Lane V/C Ratio         0.104         0.011         -         -         0.035         -         -         0.045           HCM Control Delay (s)         16.6         8.3         0         -         8.3         0         -         22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          | 0.2    |           |          | 0.0    |      |          |        |      |           |        |      |       |
| Capacity (veh/h)     345     1088     -     -     1128     -     -     219       HCM Lane V/C Ratio     0.104     0.011     -     -     0.035     -     -     0.045       HCM Control Delay (s)     16.6     8.3     0     -     8.3     0     -     22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TIOW LOO                 |        |           |          |        |      |          | J      |      |           |        |      |       |
| Capacity (veh/h)     345     1088     -     -     1128     -     -     219       HCM Lane V/C Ratio     0.104     0.011     -     -     0.035     -     -     0.045       HCM Control Delay (s)     16.6     8.3     0     -     8.3     0     -     22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Minor Lane/Major Mymt    |        | NRI n1    | FRI      | FRT    | FRR  | WRI      | WRT    | WRP  | SRI n1    |        |      |       |
| HCM Lane V/C Ratio 0.104 0.011 0.035 0.045<br>HCM Control Delay (s) 16.6 8.3 0 - 8.3 0 - 22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |        |           |          |        |      |          |        |      |           |        |      |       |
| HCM Control Delay (s) 16.6 8.3 0 - 8.3 0 - 22.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1 / /                    |        |           |          |        |      |          |        |      |           |        |      |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |        |           |          |        |      |          |        |      |           |        |      |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | HCM Lane LOS             |        | 10.0<br>C | 6.3<br>A | A      | -    | 6.5<br>A | A      | -    | 22.2<br>C |        |      |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | HCM 95th %tile Q(veh)    |        |           |          | A      |      |          | A      |      |           |        |      |       |
| אסטוי אינוי | HOW SOUL WILLE (Vell)    |        | 0.3       | U        | -      |      | 0.1      |        |      | U. I      |        |      |       |

|                                  | •     | -     | *    | •     | •          | •    | 1     | Ī     | ~     | -     | ¥     | 1     |      |
|----------------------------------|-------|-------|------|-------|------------|------|-------|-------|-------|-------|-------|-------|------|
| Lane Group                       | EBL   | EBT   | EBR  | WBL   | WBT        | WBR  | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   | Ø3   |
| Lane Configurations              | ሻ     | ĵ.    |      | 7     | <b>↑</b> ↑ |      |       | 4     | 7     |       | 4     | 7     |      |
| Traffic Volume (vph)             | 59    | 449   | 57   | 22    | 466        | 7    | 31    | 2     | 17    | 7     | 4     | 87    |      |
| Future Volume (vph)              | 59    | 449   | 57   | 22    | 466        | 7    | 31    | 2     | 17    | 7     | 4     | 87    |      |
| Ideal Flow (vphpl)               | 1900  | 1900  | 1900 | 1900  | 1900       | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |      |
| Storage Length (ft)              | 300   |       | 0    | 90    |            | 0    | 0     |       | 150   | 0     |       | 170   |      |
| Storage Lanes                    | 1     |       | 0    | 1     |            | 0    | 0     |       | 1     | 0     |       | 1     |      |
| Taper Length (ft)                | 25    |       |      | 60    |            |      | 25    |       |       | 25    |       |       |      |
| Lane Util. Factor                | 1.00  | 1.00  | 1.00 | 1.00  | 0.95       | 0.95 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |      |
| Frt                              |       | 0.983 |      |       | 0.998      |      |       |       | 0.850 |       |       | 0.850 |      |
| Flt Protected                    | 0.950 |       |      | 0.950 |            |      |       | 0.955 |       |       | 0.969 |       |      |
| Satd. Flow (prot)                | 1770  | 1831  | 0    | 1770  | 3532       | 0    | 0     | 1779  | 1583  | 0     | 1805  | 1583  |      |
| FIt Permitted                    | 0.430 |       |      | 0.414 |            |      |       | 0.731 |       |       | 0.787 |       |      |
| Satd. Flow (perm)                | 801   | 1831  | 0    | 771   | 3532       | 0    | 0     | 1362  | 1583  | 0     | 1466  | 1583  |      |
| Right Turn on Red                |       |       | Yes  |       |            | Yes  |       |       | Yes   |       |       | Yes   |      |
| Satd. Flow (RTOR)                |       | 5     |      |       | 1          |      |       |       | 72    |       |       | 91    |      |
| Link Speed (mph)                 |       | 45    |      |       | 45         |      |       | 25    |       |       | 25    |       |      |
| Link Distance (ft)               |       | 1421  |      |       | 460        |      |       | 391   |       |       | 385   |       |      |
| Travel Time (s)                  |       | 21.5  |      |       | 7.0        |      |       | 10.7  |       |       | 10.5  |       |      |
| Peak Hour Factor                 | 0.96  | 0.96  | 0.96 | 0.96  | 0.96       | 0.96 | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  | 0.96  |      |
| Adj. Flow (vph)                  | 61    | 468   | 59   | 23    | 485        | 7    | 32    | 2     | 18    | 7     | 4     | 91    |      |
| Shared Lane Traffic (%)          |       |       |      |       | ,          |      |       |       |       |       |       |       |      |
| Lane Group Flow (vph)            | 61    | 527   | 0    | 23    | 492        | 0    | 0     | 34    | 18    | 0     | 11    | 91    |      |
| Turn Type                        | pm+pt | NA    |      | pm+pt | NA         |      | Perm  | NA    | pt+ov | Perm  | NA    | pt+ov |      |
| Protected Phases                 | 1     | 6     |      | 5     | 2          |      |       | 4     | 4 5   |       | 4     | 14    | 3    |
| Permitted Phases                 | 6     |       |      | 2     |            |      | 4     |       |       | 4     |       |       |      |
| Detector Phase                   | 1     | 6     |      | 5     | 2          |      | 4     | 4     | 4 5   | 4     | 4     | 14    |      |
| Switch Phase                     |       |       |      |       |            |      |       |       |       |       |       |       |      |
| Minimum Initial (s)              | 5.0   | 15.0  |      | 5.0   | 15.0       |      | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 5.0  |
| Minimum Split (s)                | 9.0   | 21.9  |      | 9.0   | 21.9       |      | 12.3  | 12.3  |       | 12.3  | 12.3  |       | 27.0 |
| Total Split (s)                  | 16.0  | 41.9  |      | 14.0  | 41.9       |      | 35.3  | 35.3  |       | 35.3  | 35.3  |       | 27.0 |
| Total Split (%)                  | 13.3% | 34.9% |      | 11.6% | 34.9%      |      | 29.4% | 29.4% |       | 29.4% | 29.4% |       | 22%  |
| Yellow Time (s)                  | 3.0   | 5.0   |      | 3.0   | 5.0        |      | 3.7   | 3.7   |       | 3.7   | 3.7   |       | 4.0  |
| All-Red Time (s)                 | 1.0   | 1.9   |      | 1.0   | 1.9        |      | 1.6   | 1.6   |       | 1.6   | 1.6   |       | 0.0  |
| Lost Time Adjust (s)             | 0.0   | 0.0   |      | 0.0   | 0.0        |      |       | 0.0   |       |       | 0.0   |       |      |
| Total Lost Time (s)              | 4.0   | 6.9   |      | 4.0   | 6.9        |      |       | 5.3   |       |       | 5.3   |       |      |
| Lead/Lag                         | Lead  | Lag   |      | Lead  | Lag        |      | Lag   | Lag   |       | Lag   | Lag   |       | Lead |
| Lead-Lag Optimize?               |       |       |      |       |            |      |       |       |       |       |       |       |      |
| Recall Mode                      | None  | Min   |      | None  | Min        |      | None  | None  |       | None  | None  |       | None |
| Act Effct Green (s)              | 35.0  | 31.8  |      | 32.6  | 27.1       |      |       | 8.3   | 15.9  |       | 8.3   | 17.5  |      |
| Actuated g/C Ratio               | 0.65  | 0.59  |      | 0.60  | 0.50       |      |       | 0.15  | 0.29  |       | 0.15  | 0.32  |      |
| v/c Ratio                        | 0.10  | 0.49  |      | 0.04  | 0.28       |      |       | 0.16  | 0.04  |       | 0.05  | 0.16  |      |
| Control Delay                    | 7.1   | 15.3  |      | 7.4   | 13.5       |      |       | 29.8  | 0.1   |       | 29.1  | 6.6   |      |
| Queue Delay                      | 0.0   | 0.0   |      | 0.0   | 0.0        |      |       | 0.0   | 0.0   |       | 0.0   | 0.0   |      |
| Total Delay                      | 7.1   | 15.3  |      | 7.4   | 13.5       |      |       | 29.8  | 0.1   |       | 29.1  | 6.6   |      |
| LOS                              | A     | В     |      | Α     | В          |      |       | C     | Α     |       | С     | Α     |      |
| Approach Delay                   |       | 14.5  |      |       | 13.3       |      |       | 19.5  |       |       | 9.0   |       |      |
| Approach LOS                     | •     | В     |      |       | В          |      |       | В     | •     |       | A     | 40    |      |
| Stops (vph)                      | 23    | 305   |      | 11    | 277        |      |       | 30    | 0     |       | 13    | 16    |      |
| Fuel Used(gal)                   | 1     | 10    |      | 0     | 8          |      |       | 0     | 0     |       | 0     | 0     |      |
| CO Emissions (g/hr)              | 64    | 702   |      | 24    | 585        |      |       | 30    | 4     |       | 11    | 32    |      |
| NOx Emissions (g/hr)             | 12    | 137   |      | 5     | 114        |      |       | 6     | 1     |       | 2     | 6     |      |
| VOC Emissions (g/hr)             | 15    | 163   |      | 5     | 136        |      |       | 7     | 1     |       | 2     | 8     |      |
| Dilemma Vehicles (#)             | 0     | 34    |      | 0     | 31         |      |       | 0     | 0     |       | 0     | 0     |      |
| Queue Length 50th (ft)           | 5     | 67    |      | 2     | 46         |      |       | 7     | 0     |       | 2     | 0     |      |
| Queue Length 95th (ft)           | 38    | #409  |      | 19    | 158        |      |       | 49    | 0     |       | 23    | 37    |      |
| Internal Link Dist (ft)          | 200   | 1341  |      | 00    | 380        |      |       | 311   | 450   |       | 305   | 470   |      |
| Turn Bay Length (ft)             | 300   | 4000  |      | 90    | 0540       |      |       | 0.40  | 150   |       | 004   | 170   |      |
| Base Capacity (vph)              | 772   | 1393  |      | 715   | 2542       |      |       | 840   | 1003  |       | 904   | 1051  |      |
| Starvation Cap Reductn           | 0     | 0     |      | 0     | 0          |      |       | 0     | 0     |       | 0     | 0     |      |
| Spillback Cap Reductn            | 0     | 0     |      | 0     | 0          |      |       | 0     | 0     |       | 0     | 0     |      |
| Storage Cap Reductn              | 0     | 0     |      | 0     | 0 10       |      |       | 0     | 0 00  |       | 0     | 0     |      |
| Reduced v/c Ratio                | 0.08  | 0.38  |      | 0.03  | 0.19       |      |       | 0.04  | 0.02  |       | 0.01  | 0.09  |      |
| Intersection Summary             |       |       |      |       |            |      |       |       |       |       |       |       |      |
| mitorood and in out and in in it |       |       |      |       |            |      |       |       |       |       |       |       |      |
| Area Type:                       | Other |       |      |       |            |      |       |       |       |       |       |       |      |



|                         | ۶        | -     | $\rightarrow$ | •     | ←     | •    | 1     | <b>†</b> | <b>/</b> | -     | ţ     | 4    |      |
|-------------------------|----------|-------|---------------|-------|-------|------|-------|----------|----------|-------|-------|------|------|
| ane Group               | EBL      | EBT   | EBR           | WBL   | WBT   | WBR  | NBL   | NBT      | NBR      | SBL   | SBT   | SBR  | Ø3   |
| ane Configurations      |          | 4     |               | ሻ     | 1>    |      |       | 4        |          |       | 4     |      |      |
| Traffic Volume (vph)    | 25       | 357   | 94            | 126   | 410   | 12   | 100   | 61       | 142      | 16    | 60    | 26   |      |
| -uture Volume (vph)     | 25       | 357   | 94            | 126   | 410   | 12   | 100   | 61       | 142      | 16    | 60    | 26   |      |
| deal Flow (vphpl)       | 1900     | 1900  | 1900          | 1900  | 1900  | 1900 | 1900  | 1900     | 1900     | 1900  | 1900  | 1900 |      |
| Lane Width (ft)         | 12       | 12    | 12            | 11    | 12    | 12   | 12    | 16       | 12       | 12    | 16    | 12   |      |
| Storage Length (ft)     | 0        |       | 0             | 100   |       | 0    | 0     |          | 0        | 0     |       | 0    |      |
| Storage Lanes           | 0        |       | 0             | 1     |       | 0    | 0     |          | 0        | 0     |       | 0    |      |
| Taper Length (ft)       | 25       |       |               | 60    |       |      | 25    |          |          | 25    |       |      |      |
| ane Util. Factor        | 1.00     | 1.00  | 1.00          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00     | 1.00     | 1.00  | 1.00  | 1.00 |      |
| -rt                     |          | 0.973 |               |       | 0.996 |      |       | 0.937    |          |       | 0.965 |      |      |
| FIt Protected           |          | 0.997 |               | 0.950 |       |      |       | 0.984    |          |       | 0.992 |      |      |
| Satd. Flow (prot)       | 0        | 1807  | 0             | 1711  | 1855  | 0    | 0     | 1946     | 0        | 0     | 2021  | 0    |      |
| It Permitted            |          | 0.959 |               | 0.343 |       |      |       | 0.850    |          |       | 0.915 |      |      |
| Satd. Flow (perm)       | 0        | 1738  | 0             | 618   | 1855  | 0    | 0     | 1681     | 0        | 0     | 1864  | 0    |      |
| Right Turn on Red       |          |       | No            |       |       | Yes  |       |          | Yes      |       |       | No   |      |
| Satd. Flow (RTOR)       |          |       |               |       | 2     |      |       | 39       |          |       |       |      |      |
| ink Speed (mph)         |          | 45    |               |       | 45    |      |       | 25       |          |       | 25    |      |      |
| ink Distance (ft)       |          | 2664  |               |       | 684   |      |       | 503      |          |       | 419   |      |      |
| Fravel Time (s)         |          | 40.4  |               |       | 10.4  |      |       | 13.7     |          |       | 11.4  |      |      |
| Peak Hour Factor        | 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)         | 27       | 392   | 103           | 138   | 451   | 13   | 110   | 67       | 156      | 18    | 66    | 29   |      |
| Shared Lane Traffic (%) |          |       |               |       |       |      |       |          |          |       |       |      |      |
| ane Group Flow (vph)    | 0        | 522   | 0             | 138   | 464   | 0    | 0     | 333      | 0        | 0     | 113   | 0    |      |
| Furn Type               | Perm     | NA    |               | D.P+P | NA    |      | Perm  | NA       |          | Perm  | NA    |      |      |
| Protected Phases        |          | 2     |               | 1     | 12    |      |       | 4        |          |       | 4     |      | 3    |
| Permitted Phases        | 2        |       |               | 2     |       |      | 4     |          |          | 4     |       |      |      |
| Detector Phase          | 2        | 2     |               | 1     | 12    |      | 4     | 4        |          | 4     | 4     |      |      |
| Switch Phase            |          |       |               |       |       |      |       |          |          |       |       |      |      |
| Minimum Initial (s)     | 15.0     | 15.0  |               | 5.0   |       |      | 9.0   | 9.0      |          | 9.0   | 9.0   |      | 7.0  |
| Minimum Split (s)       | 21.7     | 21.7  |               | 9.0   |       |      | 13.6  | 13.6     |          | 13.6  | 13.6  |      | 21.0 |
| otal Split (s)          | 41.7     | 41.7  |               | 14.0  |       |      | 29.6  | 29.6     |          | 29.6  | 29.6  |      | 21.0 |
| Total Split (%)         | 39.2%    | 39.2% |               | 13.2% |       |      | 27.8% | 27.8%    |          | 27.8% | 27.8% |      | 20%  |
| Yellow Time (s)         | 4.4      | 4.4   |               | 3.0   |       |      | 3.3   | 3.3      |          | 3.3   | 3.3   |      | 4.0  |
| All-Red Time (s)        | 2.3      | 2.3   |               | 1.0   |       |      | 1.3   | 1.3      |          | 1.3   | 1.3   |      | 0.0  |
| ost Time Adjust (s)     |          | 0.0   |               | 0.0   |       |      |       | 0.0      |          |       | 0.0   |      |      |
| Total Lost Time (s)     |          | 6.7   |               | 4.0   |       |      |       | 4.6      |          |       | 4.6   |      |      |
| _ead/Lag                | Lag      | Lag   |               | Lead  |       |      | Lag   | Lag      |          | Lag   | Lag   |      | Lead |
| ead-Lag Optimize?       | <u> </u> |       |               |       |       |      |       |          |          |       |       |      |      |
| Recall Mode             | Min      | Min   |               | Min   |       |      | None  | None     |          | None  | None  |      | None |
| Act Effct Green (s)     |          | 30.4  |               | 43.4  | 47.6  |      |       | 19.2     |          |       | 19.2  |      |      |
| Actuated g/C Ratio      |          | 0.39  |               | 0.55  | 0.60  |      |       | 0.24     |          |       | 0.24  |      |      |
| /c Ratio                |          | 0.78  |               | 0.29  | 0.41  |      |       | 0.76     |          |       | 0.25  |      |      |
| Control Delay           |          | 33.1  |               | 11.1  | 11.9  |      |       | 38.6     |          |       | 28.4  |      |      |
| Queue Delay             |          | 0.0   |               | 0.0   | 0.0   |      |       | 0.0      |          |       | 0.0   |      |      |
| Total Delay             |          | 33.1  |               | 11.1  | 11.9  |      |       | 38.6     |          |       | 28.4  |      |      |
| .OS                     |          | C     |               | В     | В     |      |       | D        |          |       | C     |      |      |
| Approach Delay          |          | 33.1  |               |       | 11.7  |      |       | 38.6     |          |       | 28.4  |      |      |
| Approach LOS            |          | C     |               |       | В     |      |       | D D      |          |       | C     |      |      |
| Stops (vph)             |          | 365   |               | 54    | 210   |      |       | 227      |          |       | 76    |      |      |
| Fuel Used(gal)          |          | 16    |               | 2     | 6     |      |       | 5        |          |       | 1     |      |      |
| CO Emissions (g/hr)     |          | 1115  |               | 106   | 385   |      |       | 318      |          |       | 88    |      |      |
| NOx Emissions (g/hr)    |          | 217   |               | 21    | 75    |      |       | 62       |          |       | 17    |      |      |
| /OC Emissions (g/hr)    |          | 258   |               | 25    | 89    |      |       | 74       |          |       | 20    |      |      |
| Dilemma Vehicles (#)    |          | 25    |               | 0     | 26    |      |       | 0        |          |       | 0     |      |      |
| Queue Length 50th (ft)  |          | 203   |               | 24    | 96    |      |       | 133      |          |       | 44    |      |      |
| Queue Length 95th (ft)  |          | #541  |               | 87    | 301   |      |       | #326     |          |       | 113   |      |      |
| nternal Link Dist (ft)  |          | 2584  |               | 01    | 604   |      |       | 423      |          |       | 339   |      |      |
| urn Bay Length (ft)     |          | 2004  |               | 100   | 004   |      |       | 720      |          |       | 000   |      |      |
| Base Capacity (vph)     |          | 805   |               | 486   | 1245  |      |       | 582      |          |       | 617   |      |      |
| Starvation Cap Reductn  |          | 0     |               | 486   | 1245  |      |       | 0        |          |       | 017   |      |      |
| Spillback Cap Reductn   |          | 0     |               | 0     | 0     |      |       | 0        |          |       | 0     |      |      |
| Storage Cap Reductn     |          | 0     |               | 0     | 0     |      |       | 0        |          |       | 0     |      |      |
| Reduced v/c Ratio       |          | 0.65  |               | 0.28  | 0.37  |      |       | 0.57     |          |       | 0.18  |      |      |
|                         |          | 0.00  |               | 0.20  | 0.31  |      |       | 0.07     |          |       | 0.10  |      |      |
| ntersection Summary     |          |       |               |       |       |      |       |          |          |       |       |      |      |
| rea Type:               | Other    |       |               |       |       |      |       |          |          |       |       |      |      |

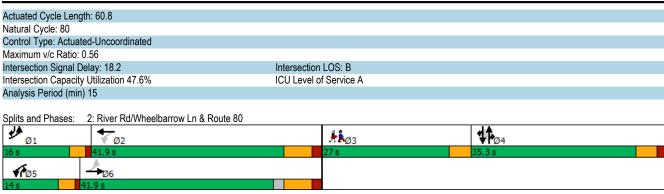
Cycle Length: 106.3 Actuated Cycle Length: 78.9 Natural Cycle: 90 Control Type: Actuated-Uncoordinated Maximum v/c Ratio: 0.78 Intersection Signal Delay: 25.7 Intersection LOS: C Intersection Capacity Utilization 85.0% ICU Level of Service E Analysis Period (min) 15 # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles. Splits and Phases: 4: Totoket Rd & Route 80 ₩<sub>Ø4</sub> ₩ ₩ Ø2  $\tau_{\text{Ø1}}$ ₹kø3

| Intersection             |          |       |           |      |           |       |
|--------------------------|----------|-------|-----------|------|-----------|-------|
| Int Delay, s/veh         | 3        |       |           |      |           |       |
| Movement                 | EBT      | EBR   | WBL       | WBT  | NBL       | NBR   |
| Lane Configurations      | <u>₽</u> | LDIX  | YVDL<br>T |      | W/        | HOIL  |
| Traffic Vol., veh/h      | 373      | 2     | 149       | 516  | <u></u>   | 142   |
| Future Vol, veh/h        | 373      | 2     | 149       | 516  | 1         | 142   |
| Conflicting Peds, #/hr   | 0        | 0     | 0         | 0    | 0         | 0     |
| Sign Control             | Free     | Free  | Free      | Free | Stop      | Stop  |
| RT Channelized           | -        | None  | -         | None | Stop<br>- | None  |
| Storage Length           | _        | -     | 225       | -    | 0         | -     |
| Veh in Median Storage, # | 0        | _     | -         | 0    | 0         | _     |
| Grade, %                 | 0        | _     | _         | 0    | 0         | _     |
| Peak Hour Factor         | 73       | 73    | 73        | 73   | 73        | 73    |
| Heavy Vehicles, %        | 2        | 2     | 2         | 2    | 2         | 2     |
| Mymt Flow                | 511      | 3     | 204       | 707  | 1         | 195   |
| IVIVIIIL I IOW           | 311      | J     | 204       | 101  |           | 190   |
|                          |          |       |           |      |           |       |
| Major/Minor              | Major1   |       | Major2    |      | Minor1    |       |
| Conflicting Flow All     | 0        | 0     | 514       | 0    | 1628      | 513   |
| Stage 1                  | -        | -     | -         | -    | 513       | -     |
| Stage 2                  | -        | -     | -         | -    | 1115      | -     |
| Critical Hdwy            | -        | -     | 4.12      | -    | 6.42      | 6.22  |
| Critical Hdwy Stg 1      | -        | -     | -         | -    | 5.42      | -     |
| Critical Hdwy Stg 2      | -        | -     | -         | -    | 5.42      | -     |
| Follow-up Hdwy           | -        | -     | 2.218     | -    | 3.518     | 3.318 |
| Pot Cap-1 Maneuver       | -        | -     | 1052      | -    | 112       | 561   |
| Stage 1                  | -        | -     | -         | -    | 601       | -     |
| Stage 2                  | -        | -     | -         | -    | 314       | -     |
| Platoon blocked, %       | -        | -     |           | -    |           |       |
| Mov Cap-1 Maneuver       | -        | -     | 1052      | -    | 90        | 561   |
| Mov Cap-2 Maneuver       | -        | -     | -         | -    | 90        | -     |
| Stage 1                  | -        | -     | -         | -    | 601       | -     |
| Stage 2                  | -        | -     | -         | -    | 253       | -     |
| , and the second second  |          |       |           |      |           |       |
| Annragah                 | ED.      |       | WD        |      | ND        |       |
| Approach                 | EB       |       | WB        |      | NB        |       |
| HCM Control Delay, s     | 0        |       | 2.1       |      | 15.4      |       |
| HCM LOS                  |          |       |           |      | С         |       |
|                          |          |       |           |      |           |       |
| Minor Lane/Major Mvmt    |          | NBLn1 | EBT       | EBR  | WBL       | WBT   |
| Capacity (veh/h)         |          | 541   | -         | -    | 1052      | -     |
| HCM Lane V/C Ratio       |          | 0.362 | _         | _    | 0.194     | _     |
| HCM Control Delay (s)    |          | 15.4  | _         | -    | 9.2       | -     |
| HCM Lane LOS             |          | C     | _         | _    | A         | -     |
| HCM 95th %tile Q(veh)    |          | 1.6   | _         | -    | 0.7       | -     |
| TIOM JOHN JULIE Q(VOII)  |          | 1.0   |           |      | 0.7       |       |

| Intersection                         |        |            |       |        |            |        |           |               |       |           |       |       |
|--------------------------------------|--------|------------|-------|--------|------------|--------|-----------|---------------|-------|-----------|-------|-------|
| Int Delay, s/veh                     | 0.6    |            |       |        |            |        |           |               |       |           |       |       |
|                                      | EBL    | EBT        | EBR   | WBL    | WBT        | WBR    | NBL       | NBT           | NBR   | SBL       | SBT   | CDD   |
| Movement                             | EBL    |            | EBK   | WBL    |            | WBR    | NBL       |               | INBK  | SBL       |       | SBR   |
| Lane Configurations                  |        | <b>♣</b>   | 4     | 0      | <b>♣</b>   | 4      | 2         | <b>↔</b><br>0 | 1     |           | ♣     | 11    |
| Traffic Vol, veh/h Future Vol, veh/h | 5<br>5 | 346<br>346 | 4     | 8      | 395<br>395 | 1<br>1 | 3         | 0             | 4     | 5<br>5    | 0     | 11    |
|                                      | 0      | 346        |       | 0      | 395        | 0      | 0         |               |       | 0         | 0     | 0     |
| Conflicting Peds, #/hr               | *      | ~          | 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                       | -      | -          | -     | -      | -          | -      | -         | -             | -     | -         | -     | -     |
| Veh in Median Storage, #             | -      | 0          | -     | -      | 0          | -      | -         | 0             | -     | -         | 0     | -     |
| Grade, %                             | -      | 0          | -     | -      | 0          | -      | -         | 0             | -     | -         | 0     | -     |
| Peak Hour Factor                     | 88     | 88         | 88    | 88     | 88         | 88     | 88        | 88            | 88    | 88        | 88    | 88    |
| Heavy Vehicles, %                    | 2      | 2          | 2     | 2      | 2          | 2      | 2         | 2             | 2     | 2         | 2     | 2     |
| Mvmt Flow                            | 6      | 393        | 5     | 9      | 449        | 1      | 3         | 0             | 5     | 6         | 0     | 13    |
|                                      |        |            |       |        |            |        |           |               |       |           |       |       |
| Major/Minor                          | Major1 |            |       | Major2 |            |        | Minor1    |               |       | Minor2    |       |       |
| Conflicting Flow All                 | 450    | 0          | 0     | 398    | 0          | 0      | 882       | 876           | 396   | 878       | 878   | 450   |
| Stage 1                              | -      | -          | -     | -      | -          | -      | 408       | 408           | -     | 468       | 468   | -     |
| Stage 2                              | -      | -          | -     | -      | -          | -      | 474       | 468           | -     | 410       | 410   | -     |
| Critical Hdwy                        | 4.12   | -          | -     | 4.12   | -          | -      | 7.12      | 6.52          | 6.22  | 7.12      | 6.52  | 6.22  |
| Critical Hdwy Stg 1                  | -      | -          | -     | -      | -          | -      | 6.12      | 5.52          | -     | 6.12      | 5.52  | -     |
| Critical Hdwy Stg 2                  | -      | -          | -     | -      | -          | -      | 6.12      | 5.52          | -     | 6.12      | 5.52  | -     |
| Follow-up Hdwy                       | 2.218  | -          | -     | 2.218  | -          | -      | 3.518     | 4.018         | 3.318 | 3.518     | 4.018 | 3.318 |
| Pot Cap-1 Maneuver                   | 1110   | -          | -     | 1161   | -          | -      | 267       | 287           | 653   | 268       | 287   | 609   |
| Stage 1                              | -      | -          | -     | -      | -          | -      | 620       | 597           | -     | 575       | 561   | -     |
| Stage 2                              | -      | -          | -     | -      | -          | -      | 571       | 561           | -     | 619       | 595   | -     |
| Platoon blocked, %                   |        | -          | -     |        | -          | -      |           |               |       |           |       |       |
| Mov Cap-1 Maneuver                   | 1110   | -          | -     | 1161   | -          | -      | 258       | 282           | 653   | 263       | 282   | 609   |
| Mov Cap-2 Maneuver                   | -      | -          | -     | -      | -          | -      | 258       | 282           | -     | 263       | 282   | -     |
| Stage 1                              | -      | -          | -     | -      | -          | -      | 616       | 593           | -     | 571       | 555   | -     |
| Stage 2                              | -      | -          | -     | -      | -          | -      | 554       | 555           | -     | 610       | 591   | -     |
|                                      |        |            |       |        |            |        |           |               |       |           |       |       |
| Approach                             | EB     |            |       | WB     |            |        | NB        |               |       | SB        |       |       |
| HCM Control Delay, s                 | 0.1    |            |       | 0.2    |            |        | 14.3      |               |       | 13.7      |       |       |
| HCM LOS                              | 0.1    |            |       | 0.2    |            |        | 14.3<br>B |               |       | 13.7<br>B |       |       |
| TIONI LOO                            |        |            |       |        |            |        | U         |               |       | U         |       |       |
| Minor Lane/Major Mvmt                |        | NBLn1      | EBL   | EBT    | EBR        | WBL    | WBT       | WBR           | SBLn1 |           |       |       |
|                                      |        | 394        | 1110  |        |            | 1161   |           | WBR           | 432   |           |       |       |
| Capacity (veh/h)                     |        |            |       | -      | -          |        | -         |               |       |           |       |       |
| HCM Cartral Palace (a)               |        | 0.02       | 0.005 | -      | -          | 0.008  | -         | -             | 0.042 |           |       |       |
| HCM Control Delay (s)                |        | 14.3       | 8.3   | 0      |            | 8.1    | 0         | -             | 13.7  |           |       |       |
| HCM Lane LOS                         |        | В          | A     | Α      | -          | A      | Α         | -             | В     |           |       |       |
| HCM 95th %tile Q(veh)                |        | 0.1        | 0     | -      | -          | 0      | -         | -             | 0.1   |           |       |       |

| Intersection                                |        |              |          |      |          |               |
|---------------------------------------------|--------|--------------|----------|------|----------|---------------|
| Int Delay, s/veh                            | 1.9    |              |          |      |          |               |
| Movement                                    | EBL    | EBT          | WBT      | WBR  | SBL      | SBR           |
|                                             | EDL    |              |          | WDK  |          | SBK           |
| Lane Configurations                         | 07     | <b>4</b>     | <b>}</b> | C    | <b>Y</b> | 70            |
| Traffic Vol, veh/h                          | 27     | 309          | 401      | 8    | 20       | 78            |
| Future Vol, veh/h                           | 27     | 309          | 401      | 8    | 20       | 78            |
| Conflicting Peds, #/hr                      | 0      | 0            | 0        | 0    | 0        | 0             |
| Sign Control                                | Free   | Free         | Free     | Free | Stop     | Stop          |
| RT Channelized                              | -      | None         | -        | None | -        | None          |
| Storage Length                              | -      | -            | -        | -    | 0        | -             |
| Veh in Median Storage, #                    | -      | 0            | 0        | -    | 0        | -             |
| Grade, %                                    | -      | 0            | 0        | -    | 0        | -             |
| Peak Hour Factor                            | 92     | 92           | 92       | 92   | 92       | 92            |
| Heavy Vehicles, %                           | 2      | 2            | 2        | 2    | 2        | 2             |
| Mvmt Flow                                   | 29     | 336          | 436      | 9    | 22       | 85            |
|                                             |        |              |          |      |          |               |
|                                             |        |              |          |      |          |               |
| Major/Minor                                 | Major1 |              | Major2   |      | Minor2   |               |
| Conflicting Flow All                        | 445    | 0            | -        | 0    | 835      | 441           |
| Stage 1                                     | -      | -            | -        | -    | 441      | -             |
| Stage 2                                     | -      | -            | -        | -    | 394      | -             |
| Critical Hdwy                               | 4.12   | -            | -        | -    | 6.42     | 6.22          |
| Critical Hdwy Stg 1                         | -      | -            | -        | -    | 5.42     | -             |
| Critical Hdwy Stg 2                         | -      | -            | -        | -    | 5.42     | -             |
| Follow-up Hdwy                              | 2.218  | _            | -        | -    | 3.518    | 3.318         |
| Pot Cap-1 Maneuver                          | 1115   | _            | _        | _    | 338      | 616           |
| Stage 1                                     | -      | -            | -        | -    | 648      | -             |
| Stage 2                                     | -      | -            |          | -    | 681      | -             |
| Platoon blocked. %                          |        |              | -        | -    | 001      |               |
|                                             | 4445   | -            | -        |      | 207      | 040           |
| Mov Cap-1 Maneuver                          | 1115   |              | -        | -    | 327      | 616           |
| Mov Cap-2 Maneuver                          | -      | -            | -        | -    | 327      | -             |
| Stage 1                                     | -      | -            | -        | -    | 627      | -             |
| Stage 2                                     | -      | -            | -        | -    | 681      | -             |
|                                             |        |              |          |      |          |               |
| Approach                                    | EB     |              | WB       |      | SB       |               |
| - ' '                                       |        |              |          |      |          |               |
| HCM Control Delay, s                        | 0.7    |              | 0        |      | 13.7     |               |
| HCM LOS                                     |        |              |          |      | В        |               |
|                                             |        |              |          |      |          |               |
| Minor Lane/Major Mvmt                       |        | EBL          | EBT      | WBT  | WBR      | SBLn1         |
|                                             |        |              |          | -    | -        | 522           |
| Canacity (yeh/h)                            |        | 1115         | _        |      |          | JZZ           |
| Capacity (veh/h)                            |        | 1115         | -        |      |          |               |
| HCM Lane V/C Ratio                          |        | 0.026        | -        | -    | -        | 0.204         |
| HCM Lane V/C Ratio<br>HCM Control Delay (s) |        | 0.026<br>8.3 | - 0      | -    | -        | 0.204<br>13.7 |
| HCM Lane V/C Ratio                          |        | 0.026        | -        |      | -        | 0.204         |

| Lane Group  Lane Configurations  Fraffic Volume (vph)  Future Volume (vph)  Getal Flow (vphpl)  Storage Length (ft)  Storage Lanes  Faper Length (ft)  Lane Util. Factor  Fit  Fit Protected  Satd. Flow (prot)  Fit Permitted  Satd. Flow (perm)  Right Turn on Red  Satd. Flow (RTOR)  Link Distance (ft)  Fravel Time (s)  Peak Hour Factor  Adj. Flow (vph)  Shared Lane Traffic (%)  Lane Group Flow (vph)  Furn Type  Protected Phases  Permitted Phases  Detector Phase  Switch Phase  Minimum Split (s)  Fotal Split (s)  Fotal Split (%)  Fellow Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 167<br>167<br>1900<br>300<br>1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581 | \$304<br>304<br>1900<br>1.00<br>0.986<br>1837 | 32<br>32<br>1900<br>0<br>0 | WBL<br>8<br>8<br>1900<br>90<br>1<br>60<br>1.00 | WBT<br>431<br>431<br>1900 | 16<br>16<br>1900<br>0 | 43<br>43<br>1900<br>0 | NBT<br>56<br>56<br>1900 | NBR<br>17<br>17<br>17<br>1900 | 15<br>15<br>1900 | SBT<br>31<br>31<br>1900 | SBR<br>152<br>152<br>1900 | Ø3         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------|----------------------------|------------------------------------------------|---------------------------|-----------------------|-----------------------|-------------------------|-------------------------------|------------------|-------------------------|---------------------------|------------|
| Fraffic Volume (vph) Future Volume (vph) deal Flow (vphpl) Storage Length (ft) Storage Lanes Faper Length (ft) Lane Util. Factor Frt Fit Protected Statd. Flow (prot) Statd. Flow (perm) Right Turn on Red Statd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Fravel Time (s) Peak Hour Factor Adj. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Furn Type Protected Phases Permitted Phase Switch Phase Minimum Initial (s) Minimum Split (s) Fotal Split (s) Fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 167<br>167<br>1900<br>300<br>1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581 | 304<br>304<br>1900<br>1.00<br>0.986<br>1837   | 32<br>1900<br>0<br>0       | 8<br>8<br>1900<br>90<br>1<br>60<br>1.00        | 431<br>431<br>1900        | 16<br>1900<br>0       | 43<br>1900<br>0       | 56<br>56                | 17<br>17<br>1900              | 15               | 31<br>31                | 152<br>152                |            |
| uture Volume (vph) deal Flow (vphpl) deal Flow (vphpl) drorage Length (ft) drorage Length (ft) ane Util. Factor frt dit Protected dratd. Flow (prot) drit Permitted dratd. Flow (perm) drith Tim on Red dratd. Flow (RTOR) ink Speed (mph) ink Distance (ft) dravel Time (s) dravel Time (s) dravel Time (s) dravel Tope drotected Phases dermitted Phases devitch Phase dinimum Initial (s) dravel Split (s) drotal Split (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 167<br>1900<br>300<br>1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581        | 304<br>1900<br>1.00<br>0.986<br>1837          | 32<br>1900<br>0<br>0       | 8<br>1900<br>90<br>1<br>60<br>1.00             | 431<br>1900               | 16<br>1900<br>0       | 43<br>1900<br>0       | 56                      | 17<br>1900                    | 15               | 31                      | 152                       |            |
| deal Flow (vphpl) storage Length (ft) storage Length (ft) ane Util. Factor int lit Protected satd. Flow (prot) lit Permitted satd. Flow (perm) stight Turn on Red satd. Flow (RTOR) ink Speed (mph) ink Distance (ft) iravel Time (s) leak Hour Factor dj. Flow (vph) shared Lane Traffic (%) ane Group Flow (vph) furn Type learnitted Phases learnitted Phases levitch Phase linimum Initial (s) fotal Split (s) fotal Split (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1900<br>300<br>1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581               | 1.00<br>0.986<br>1837                         | 1900<br>0<br>0             | 1900<br>90<br>1<br>60<br>1.00                  | 1900                      | 1900                  | 1900<br>0             |                         | 1900                          |                  |                         |                           |            |
| storage Length (ft) storage Lanes raper Length (ft) ane Util. Factor rit It Protected satd. Flow (prot) It Permitted satd. Flow (perm) stight Turn on Red satd. Flow (RTOR) ink Speed (mph) ink Distance (ft) ravel Time (s) reak Hour Factor dj. Flow (vph) shared Lane Traffic (%) ane Group Flow (vph) furn Type rotected Phases remitted Phases switch Phase linimum Initial (s) finimum Split (s) fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 300<br>1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581                       | 1.00<br>0.986<br>1837                         | 0<br>0<br>1.00             | 90<br>1<br>60<br>1.00                          |                           | 0                     | 0                     | 1900                    |                               | 1900             | 1900                    | 1900                      |            |
| storage Lanes aper Length (ft) ane Util. Factor int It Protected satd. Flow (prot) It Permitted satd. Flow (perm) stight Turn on Red satd. Flow (RTOR) sink Speed (mph) sink Distance (ft) ink Distance (ft) invel Time (s) seak Hour Factor dj. Flow (vph) shared Lane Traffic (%) ane Group Flow (vph) surn Type rotected Phases sermitted Phases switch Phase switch Phase switch Phase sinimum Initial (s) dinimum Split (s) sotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1<br>25<br>1.00<br>0.950<br>1770<br>0.312<br>581                              | 0.986<br>1837                                 | 1.00                       | 1<br>60<br>1.00                                | 0 95                      |                       |                       |                         |                               |                  |                         | 1000                      |            |
| Taper Length (ft) Anne Util. Factor Fit Alt Protected Batd. Flow (prot) Alt Permitted Batd. Flow (perm) Batd. Flow (perm) Batd. Flow (RTOR) Batd. Flow (Protected Flow (Protected Phases Betector Phase Batd. Flow (Phase Batd. Flow | 25<br>1.00<br>0.950<br>1770<br>0.312<br>581                                   | 0.986<br>1837                                 | 1.00                       | 60<br>1.00                                     | 0.95                      | 0                     |                       |                         | 150                           | 0                |                         | 170                       |            |
| ane Util. Factor int ilt Protected isatd. Flow (prot) ilt Permitted isatd. Flow (perm) itight Turn on Red isatd. Flow (RTOR) ink Speed (mph) ink Distance (ft) iravel Time (s) iveak Hour Factor idj. Flow (vph) ishared Lane Traffic (%) isane Group Flow (vph) irurn Type irrotected Phases ivermitted Phases ivermitted Phase ivermitt | 1.00<br>0.950<br>1770<br>0.312<br>581                                         | 0.986<br>1837                                 |                            | 1.00                                           | 0.95                      |                       | 0                     |                         | 1                             | 0                |                         | 1                         |            |
| Firt Filt Protected Gatd. Flow (prot) Filt Permitted Gatd. Flow (perm) Filt Permitted Gatd. Flow (perm) Filt Permitted Gatd. Flow (perm) Filt Permitted Filt Flow (RTOR) Filt Flow (RTOR) Filt Flow (ph) Filt Flow (prot) F | 0.950<br>1770<br>0.312<br>581                                                 | 0.986<br>1837                                 |                            |                                                | 0.95                      |                       | 25                    |                         |                               | 25               |                         |                           |            |
| Elt Protected Satd. Flow (prot) Elt Permitted Satd. Flow (perm) Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Fravel Time (s) Peak Hour Factor Adj. Flow (vph) Lane Group Flow (vph) Furn Type Protected Phases Permitted Phases Switch Phase Minimum Initial (s) Minimum Split (s) Fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1770<br>0.312<br>581                                                          | 1837                                          | 0                          |                                                | 0.00                      | 0.95                  | 1.00                  | 1.00                    | 1.00                          | 1.00             | 1.00                    | 1.00                      |            |
| Satd. Flow (prot) Satd. Flow (prot) Satd. Flow (perm) Satd. Flow (perm) Satd. Flow (RTOR) Satd. Flow (Protector Satd. Flow (Protector Plase Security Plase Satd. Flow (Protector Satd. Flow (Protector Plase Satd. | 1770<br>0.312<br>581                                                          |                                               | 0                          |                                                | 0.995                     |                       |                       |                         | 0.850                         |                  |                         | 0.850                     |            |
| Elt Permitted Gatd. Flow (perm) Right Turn on Red Gatd. Flow (RTOR) Gate Hour Factor Gate Hour Factor Gate Hour Factor Gate Hour Factor Gate Hour Flow (vph) Garne Group Flow (vph)  | 0.312<br>581                                                                  |                                               | 0                          | 0.950                                          |                           |                       |                       | 0.979                   |                               |                  | 0.984                   |                           |            |
| Elt Permitted Gatd. Flow (perm) Right Turn on Red Gatd. Flow (RTOR) Gate Hour Factor Gate Hour Factor Gate Hour Factor Gate Hour Factor Gate Hour Flow (vph) Garne Group Flow (vph)  | 581                                                                           | 1837                                          |                            | 1770                                           | 3522                      | 0                     | 0                     | 1824                    | 1583                          | 0                | 1833                    | 1583                      |            |
| Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Liravel Time (s) Leak Hour Factor Link Flow (vph) Link |                                                                               | 1837                                          |                            | 0.498                                          |                           |                       |                       | 0.830                   |                               |                  | 0.868                   |                           |            |
| Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Liravel Time (s) Leak Hour Factor Link Flow (vph) Link |                                                                               |                                               | 0                          | 928                                            | 3522                      | 0                     | 0                     | 1546                    | 1583                          | 0                | 1617                    | 1583                      |            |
| ink Jean (RTOR) ink Speed (mph) ink Distance (ft) iravel Time (s) leak Hour Factor dj. Flow (vph) shared Lane Traffic (%) ane Group Flow (vph) furn Type revoected Phases letector Phase dwitch Phase dinimum Initial (s) finimum Split (s) fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                               |                                               | Yes                        |                                                |                           | Yes                   |                       |                         | Yes                           |                  |                         | Yes                       |            |
| ink Speed (mph) ink Distance (ft) ravel Time (s) leak Hour Factor dj. Flow (vph) thared Lane Traffic (%) ane Group Flow (vph) furn Type learnitted Phases letector Phase witch Phase finimum Initial (s) finimum Split (s) otal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                               | 5                                             |                            |                                                | 3                         |                       |                       |                         | 72                            |                  |                         | 208                       |            |
| ink Distance (ft) ravel Time (s) eak Hour Factor dj. Flow (vph) hared Lane Traffic (%) ane Group Flow (vph) urn Type rotected Phases etrector Phase witch Phase linimum Initial (s) linimum Split (s) otal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                               | 45                                            |                            |                                                | 45                        |                       |                       | 25                      |                               |                  | 25                      |                           |            |
| ravel Time (s) leak Hour Factor ldj. Flow (vph) shared Lane Traffic (%) ane Group Flow (vph) furn Type rotected Phases lermitted Phases levitch Phase linimum Initial (s) finimum Split (s) lotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                               | 1427                                          |                            |                                                | 448                       |                       |                       | 391                     |                               |                  | 385                     |                           |            |
| leak Hour Factor  Idj. Flow (vph)  Idhared Lane Traffic (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               | 21.6                                          |                            |                                                | 6.8                       |                       |                       | 10.7                    |                               |                  | 10.5                    |                           |            |
| dj. Flow (vph) chared Lane Traffic (%) ane Group Flow (vph) curn Type crotected Phases cermitted Phases detector Phase dinimum Initial (s) dinimum Split (s) cotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.73                                                                          | 0.73                                          | 0.73                       | 0.73                                           | 0.73                      | 0.73                  | 0.73                  | 0.73                    | 0.73                          | 0.73             | 0.73                    | 0.73                      |            |
| Shared Lane Traffic (%) Lane Group Flow (vph) Furn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 229                                                                           | 416                                           | 44                         | 11                                             | 590                       | 22                    | 59                    | 77                      | 23                            | 21               | 42                      | 208                       |            |
| ane Group Flow (vph) furn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 223                                                                           | 710                                           | 77                         | - 11                                           | 330                       | LL                    | 33                    | - 11                    | 20                            | <b>Z</b> I       | 72                      | 200                       |            |
| rurn Type Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Motal Split (s) Motal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 229                                                                           | 460                                           | 0                          | 11                                             | 612                       | 0                     | 0                     | 136                     | 23                            | 0                | 63                      | 208                       |            |
| Protected Phases Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                               | NA                                            | U                          |                                                | NA                        | U                     | Perm                  | NA                      | pt+ov                         | Perm             | NA                      | pt+ov                     |            |
| Permitted Phases Detector Phase Switch Phase Minimum Initial (s) Minimum Split (s) Total Split (s) Total Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | pm+pt                                                                         | NA<br>6                                       |                            | pm+pt                                          | NA<br>2                   |                       | Pelli                 | NA<br>4                 | pt+ov<br>4 5                  | r eiiii          | NA<br>4                 | 1 4                       | 3          |
| Detector Phase Switch Phase  Inimum Initial (s)  Inimum Split (s)  Inimum Split (s)  Inimum Split (s)  Inimum Split (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1 6                                                                           | О                                             |                            | 5<br>2                                         | 2                         |                       | 4                     | 4                       | 4 5                           | 4                | 4                       | 14                        | 3          |
| Switch Phase finimum Initial (s) finimum Split (s) fotal Split (s) fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                               | ^                                             |                            |                                                | 0                         |                       |                       |                         | 4.5                           |                  | 4                       | 4.4                       |            |
| finimum Initial (s) finimum Split (s) fotal Split (s) fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                                                             | 6                                             |                            | 5                                              | 2                         |                       | 4                     | 4                       | 4 5                           | 4                | 4                       | 14                        |            |
| finimum Split (s)<br>fotal Split (s)<br>fotal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5.0                                                                           | 45.0                                          |                            | <b>5</b> 0                                     | 45.0                      |                       | 7.0                   | 7.0                     |                               | 7.0              | 7.0                     |                           | <b>5</b> 0 |
| otal Split (s)<br>otal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 5.0                                                                           | 15.0                                          |                            | 5.0                                            | 15.0                      |                       | 7.0                   | 7.0                     |                               | 7.0              | 7.0                     |                           | 5.0        |
| otal Split (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 9.0                                                                           | 21.9                                          |                            | 9.0                                            | 21.9                      |                       | 12.3                  | 12.3                    |                               | 12.3             | 12.3                    |                           | 27.0       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16.0                                                                          | 41.9                                          |                            | 14.0                                           | 41.9                      |                       | 35.3                  | 35.3                    |                               | 35.3             | 35.3                    |                           | 27.0       |
| 'ellow Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 13.3%                                                                         | 34.9%                                         |                            | 11.6%                                          | 34.9%                     |                       | 29.4%                 | 29.4%                   |                               | 29.4%            | 29.4%                   |                           | 22%        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3.0                                                                           | 5.0                                           |                            | 3.0                                            | 5.0                       |                       | 3.7                   | 3.7                     |                               | 3.7              | 3.7                     |                           | 4.0        |
| II-Red Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.0                                                                           | 1.9                                           |                            | 1.0                                            | 1.9                       |                       | 1.6                   | 1.6                     |                               | 1.6              | 1.6                     |                           | 0.0        |
| ost Time Adjust (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.0                                                                           | 0.0                                           |                            | 0.0                                            | 0.0                       |                       |                       | 0.0                     |                               |                  | 0.0                     |                           |            |
| otal Lost Time (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4.0                                                                           | 6.9                                           |                            | 4.0                                            | 6.9                       |                       |                       | 5.3                     |                               |                  | 5.3                     |                           |            |
| ead/Lag                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lead                                                                          | Lag                                           |                            | Lead                                           | Lag                       |                       | Lag                   | Lag                     |                               | Lag              | Lag                     |                           | Lead       |
| ead-Lag Optimize?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                               |                                               |                            |                                                |                           |                       |                       |                         |                               |                  |                         |                           |            |
| Recall Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | None                                                                          | Min                                           |                            | None                                           | Min                       |                       | None                  | None                    |                               | None             | None                    |                           | None       |
| ct Effct Green (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35.1                                                                          | 28.9                                          |                            | 27.6                                           | 18.8                      |                       |                       | 12.3                    | 22.4                          |                  | 12.3                    | 26.9                      |            |
| ctuated g/C Ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.58                                                                          | 0.48                                          |                            | 0.45                                           | 0.31                      |                       |                       | 0.20                    | 0.37                          |                  | 0.20                    | 0.44                      |            |
| /c Ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.45                                                                          | 0.53                                          |                            | 0.02                                           | 0.56                      |                       |                       | 0.43                    | 0.04                          |                  | 0.19                    | 0.26                      |            |
| Control Delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12.5                                                                          | 18.7                                          |                            | 11.0                                           | 22.3                      |                       |                       | 29.5                    | 0.1                           |                  | 25.7                    | 3.8                       |            |
| Queue Delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.0                                                                           | 0.0                                           |                            | 0.0                                            | 0.0                       |                       |                       | 0.0                     | 0.0                           |                  | 0.0                     | 0.0                       |            |
| otal Delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12.5                                                                          | 18.7                                          |                            | 11.0                                           | 22.3                      |                       |                       | 29.5                    | 0.1                           |                  | 25.7                    | 3.8                       |            |
| OS S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 12.3<br>B                                                                     | В                                             |                            | В                                              | C                         |                       |                       | 23.5<br>C               | Α                             |                  | 23.7<br>C               | A.0                       |            |
| pproach Delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                               | 16.7                                          |                            |                                                | 22.1                      |                       |                       | 25.3                    | /\                            |                  | 8.9                     |                           |            |
| pproach LOS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                               | В                                             |                            |                                                | C                         |                       |                       | 23.3<br>C               |                               |                  | 0.9<br>A                |                           |            |
| Stops (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 73                                                                            | 223                                           |                            | 5                                              | 340                       |                       |                       | 76                      | 0                             |                  | 35                      | 15                        |            |
| uel Used(gal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3                                                                             | 7                                             |                            | 0                                              | 10                        |                       |                       | 1                       | 0                             |                  | 1                       | 1                         |            |
| CO Emissions (g/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 201                                                                           | 501                                           |                            | 10                                             | 675                       |                       |                       | 85                      | 4                             |                  | 37                      | 47                        |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                               |                                               |                            |                                                |                           |                       |                       |                         |                               |                  |                         |                           |            |
| IOx Emissions (g/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 39                                                                            | 97                                            |                            | 2                                              | 131                       |                       |                       | 17                      | 1                             |                  | 7<br>9                  | 9                         |            |
| OC Emissions (g/hr)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 47                                                                            | 116                                           |                            | 2                                              | 156                       |                       |                       | 20                      | 1                             |                  |                         | 11                        |            |
| ilemma Vehicles (#)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                                                                             | 23                                            |                            | 0                                              | 30                        |                       |                       | 0                       | 0                             |                  | 0                       | 0                         |            |
| Queue Length 50th (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 26                                                                            | 72                                            |                            | 1                                              | 78                        |                       |                       | 34                      | 0                             |                  | 15                      | 0                         |            |
| ueue Length 95th (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 117                                                                           | 293                                           |                            | 11                                             | 193                       |                       |                       | 111                     | 0                             |                  | 58                      | 20                        |            |
| nternal Link Dist (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 222                                                                           | 1347                                          |                            |                                                | 368                       |                       |                       | 311                     | 4=0                           |                  | 305                     | 4=0                       |            |
| urn Bay Length (ft)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 300                                                                           |                                               |                            | 90                                             |                           |                       |                       |                         | 150                           |                  |                         | 170                       |            |
| ase Capacity (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 594                                                                           | 1236                                          |                            | 656                                            | 2240                      |                       |                       | 842                     | 911                           |                  | 881                     | 1009                      |            |
| tarvation Cap Reductn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0                                                                             | 0                                             |                            | 0                                              | 0                         |                       |                       | 0                       | 0                             |                  | 0                       | 0                         |            |
| pillback Cap Reductn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0                                                                             | 0                                             |                            | 0                                              | 0                         |                       |                       | 0                       | 0                             |                  | 0                       | 0                         |            |
| torage Cap Reductn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -                                                                             | ^                                             |                            |                                                |                           |                       |                       | ^                       | ^                             |                  |                         |                           |            |
| teduced v/c Ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0                                                                             | 0                                             |                            | 0                                              | 0                         |                       |                       | 0                       | 0                             |                  | 0                       | 0                         |            |
| stores of on Correspond                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -                                                                             | 0.37                                          |                            | 0<br>0.02                                      | 0<br>0.27                 |                       |                       | 0.16                    | 0.03                          |                  | 0.07                    | 0<br>0.21                 |            |
| ntersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                                                                             |                                               |                            |                                                |                           |                       |                       |                         |                               |                  |                         |                           |            |
| rea Type:<br>ycle Length: 120.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0                                                                             |                                               |                            |                                                |                           |                       |                       |                         |                               |                  |                         |                           |            |



|                                | •     | <b>→</b> | $\rightarrow$ | •          | ←        | •    | 4     | <b>†</b>  | /    | <b>&gt;</b> | <b>↓</b>   | 4    |      |
|--------------------------------|-------|----------|---------------|------------|----------|------|-------|-----------|------|-------------|------------|------|------|
| Lane Group                     | EBL   | EBT      | EBR           | WBL        | WBT      | WBR  | NBL   | NBT       | NBR  | SBL         | SBT        | SBR  | Ø3   |
| Lane Configurations            |       | 4        |               | 7          | f)       |      |       | 4         |      |             | 4          |      |      |
| Traffic Volume (vph)           | 42    | 284      | 63            | 121        | 337      | 22   | 56    | 37        | 77   | 15          | 58         | 40   |      |
| Future Volume (vph)            | 42    | 284      | 63            | 121        | 337      | 22   | 56    | 37        | 77   | 15          | 58         | 40   |      |
| Ideal Flow (vphpl)             | 1900  | 1900     | 1900          | 1900       | 1900     | 1900 | 1900  | 1900      | 1900 | 1900        | 1900       | 1900 |      |
| Lane Width (ft)                | 12    | 12       | 12            | 11         | 12       | 12   | 12    | 16        | 12   | 12          | 16         | 12   |      |
| Storage Length (ft)            | 0     |          | 0             | 100        |          | 0    | 0     |           | 0    | 0           |            | 0    |      |
| Storage Lanes                  | 0     |          | 0             | 1          |          | 0    | 0     |           | 0    | 0           |            | 0    |      |
| Taper Length (ft)              | 25    |          |               | 60         |          |      | 25    |           |      | 25          |            |      |      |
| Lane Util. Factor              | 1.00  | 1.00     | 1.00          | 1.00       | 1.00     | 1.00 | 1.00  | 1.00      | 1.00 | 1.00        | 1.00       | 1.00 |      |
| Frt                            |       | 0.978    |               |            | 0.991    |      |       | 0.939     |      |             | 0.952      |      |      |
| Flt Protected                  | •     | 0.995    | •             | 0.950      | 1010     |      | •     | 0.984     |      |             | 0.993      |      |      |
| Satd. Flow (prot)              | 0     | 1813     | 0             | 1711       | 1846     | 0    | 0     | 1951      | 0    | 0           | 1996       | 0    |      |
| Flt Permitted                  |       | 0.914    | •             | 0.431      | 1010     |      | •     | 0.863     | •    |             | 0.956      | •    |      |
| Satd. Flow (perm)              | 0     | 1665     | . 0           | 776        | 1846     | 0    | 0     | 1711      | 0    | 0           | 1921       | .0   |      |
| Right Turn on Red              |       |          | No            |            |          | Yes  |       | 0=        | Yes  |             |            | No   |      |
| Satd. Flow (RTOR)              |       | 4-       |               |            | 4        |      |       | 37        |      |             | 0.5        |      |      |
| Link Speed (mph)               |       | 45       |               |            | 45       |      |       | 25        |      |             | 25         |      |      |
| Link Distance (ft)             |       | 2685     |               |            | 684      |      |       | 503       |      |             | 419        |      |      |
| Travel Time (s)                | 0.00  | 40.7     | 0.00          | 0.00       | 10.4     | 0.00 | 0.00  | 13.7      | 0.00 | 0.00        | 11.4       | 0.00 |      |
| Peak Hour Factor               | 0.92  | 0.92     | 0.92          | 0.92       | 0.92     | 0.92 | 0.92  | 0.92      | 0.92 | 0.92        | 0.92       | 0.92 |      |
| Adj. Flow (vph)                | 46    | 309      | 68            | 132        | 366      | 24   | 61    | 40        | 84   | 16          | 63         | 43   |      |
| Shared Lane Traffic (%)        |       | 400      | _             | 400        | 200      | _    | _     | 405       | _    |             | 400        | _    |      |
| Lane Group Flow (vph)          | 0     | 423      | 0             | 132        | 390      | 0    | 0     | 185       | 0    | 0           | 122        | 0    |      |
| Turn Type                      | Perm  | NA       |               | D.P+P      | NA       |      | Perm  | NA        |      | Perm        | NA         |      | ^    |
| Protected Phases               |       | 2        |               | 1          | 12       |      |       | 4         |      |             | 4          |      | 3    |
| Permitted Phases               | 2     | _        |               | 2          | 4.0      |      | 4     |           |      | 4           | 4          |      |      |
| Detector Phase                 | 2     | 2        |               | 1          | 12       |      | 4     | 4         |      | 4           | 4          |      |      |
| Switch Phase                   | 45.0  | 45.0     |               | <b>5</b> 0 |          |      | 0.0   | 0.0       |      | 0.0         | 0.0        |      | 7.0  |
| Minimum Initial (s)            | 15.0  | 15.0     |               | 5.0        |          |      | 9.0   | 9.0       |      | 9.0         | 9.0        |      | 7.0  |
| Minimum Split (s)              | 21.7  | 21.7     |               | 9.0        |          |      | 13.6  | 13.6      |      | 13.6        | 13.6       |      | 21.0 |
| Total Split (s)                | 41.7  | 41.7     |               | 14.0       |          |      | 29.6  | 29.6      |      | 29.6        | 29.6       |      | 21.0 |
| Total Split (%)                | 39.2% | 39.2%    |               | 13.2%      |          |      | 27.8% | 27.8%     |      | 27.8%       | 27.8%      |      | 20%  |
| Yellow Time (s)                | 4.4   | 4.4      |               | 3.0        |          |      | 3.3   | 3.3       |      | 3.3         | 3.3        |      | 4.0  |
| All-Red Time (s)               | 2.3   | 2.3      |               | 1.0        |          |      | 1.3   | 1.3       |      | 1.3         | 1.3<br>0.0 |      | 0.0  |
| Lost Time Adjust (s)           |       | 0.0      |               | 0.0        |          |      |       | 0.0       |      |             |            |      |      |
| Total Lost Time (s)            | Loc   | 6.7      |               | 4.0        |          |      | l an  | 4.6       |      | Lon         | 4.6        |      | Lood |
| Lead/Lag                       | Lag   | Lag      |               | Lead       |          |      | Lag   | Lag       |      | Lag         | Lag        |      | Lead |
| Lead-Lag Optimize? Recall Mode | Min   | Min      |               | Min        |          |      | None  | None      |      | Mono        | None       |      | None |
| Act Effct Green (s)            | IVIIN | 22.5     |               | 35.0       | 39.3     |      | None  | 12.0      |      | None        | 12.0       |      | None |
| \ /                            |       | 0.36     |               | 0.55       | 0.62     |      |       | 0.19      |      |             | 0.19       |      |      |
| Actuated g/C Ratio v/c Ratio   |       | 0.30     |               | 0.53       | 0.02     |      |       | 0.19      |      |             | 0.19       |      |      |
| Control Delay                  |       | 27.1     |               | 8.3        | 8.5      |      |       | 27.3      |      |             | 28.9       |      |      |
| Queue Delay                    |       | 0.0      |               | 0.0        | 0.0      |      |       | 0.0       |      |             | 0.0        |      |      |
| Total Delay                    |       | 27.1     |               | 8.3        | 8.5      |      |       | 27.3      |      |             | 28.9       |      |      |
| LOS                            |       | C C      |               | 0.5<br>A   | 0.5<br>A |      |       | 27.3<br>C |      |             | 20.9<br>C  |      |      |
| Approach Delay                 |       | 27.1     |               |            | 8.5      |      |       | 27.3      |      |             | 28.9       |      |      |
| Approach LOS                   |       | C C      |               |            | Α        |      |       | 27.3<br>C |      |             | 20.3<br>C  |      |      |
| Stops (vph)                    |       | 308      |               | 47         | 152      |      |       | 112       |      |             | 87         |      |      |
| Fuel Used(gal)                 |       | 13       |               | 1          | 4        |      |       | 2         |      |             | 1          |      |      |
| CO Emissions (g/hr)            |       | 892      |               | 93         | 287      |      |       | 147       |      |             | 97         |      |      |
| NOx Emissions (g/hr)           |       | 173      |               | 18         | 56       |      |       | 29        |      |             | 19         |      |      |
| VOC Emissions (g/hr)           |       | 207      |               | 21         | 67       |      |       | 34        |      |             | 23         |      |      |
| Dilemma Vehicles (#)           |       | 26       |               | 0          | 28       |      |       | 0         |      |             | 0          |      |      |
| Queue Length 50th (ft)         |       | 117      |               | 13         | 44       |      |       | 45        |      |             | 36         |      |      |
| Queue Length 95th (ft)         |       | 351      |               | 75         | 217      |      |       | 155       |      |             | 122        |      |      |
| Internal Link Dist (ft)        |       | 2605     |               |            | 604      |      |       | 423       |      |             | 339        |      |      |
| Turn Bay Length (ft)           |       |          |               | 100        |          |      |       |           |      |             |            |      |      |
| Base Capacity (vph)            |       | 993      |               | 603        | 1544     |      |       | 750       |      |             | 818        |      |      |
| 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              |       | 0.43     |               | 0.22       | 0.25     |      |       | 0.25      |      |             | 0.15       |      |      |
|                                |       |          |               |            |          |      |       |           |      |             | •          |      |      |
| Intersection Summary           |       |          |               |            |          |      |       |           |      |             |            |      |      |
| Area Type:                     | Other |          |               |            |          |      |       |           |      |             |            |      |      |
|                                |       |          |               |            |          |      |       |           |      |             |            |      |      |

Cycle Length: 106.3
Actuated Cycle Length: 63.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 19.5
Intersection LOS: B
Intersection Capacity Utilization 69.3%
ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Totoket Rd & Route 80

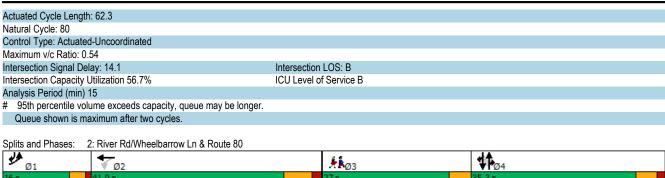
| Intersection             |        |       |        |      |        |       |
|--------------------------|--------|-------|--------|------|--------|-------|
| Int Delay, s/veh         | 3.2    |       |        |      |        |       |
| Movement                 | EBT    | EBR   | WBL    | WBT  | NBL    | NBR   |
| Lane Configurations      | 1>     | LDIK  | YVDL   |      | ₩.     | HUIT  |
| Traffic Vol, veh/h       | 510    | 2     | 196    | 482  | 3      | 157   |
| Future Vol. veh/h        | 510    | 2     | 196    | 482  | 3      | 157   |
| Conflicting Peds, #/hr   | 0      | 0     | 0      | 0    | 0      | 0     |
| Sign Control             | Free   | Free  | Free   | Free | Stop   | Stop  |
| RT Channelized           | -      | None  | -      | None | - Stop | None  |
| Storage Length           | -      | -     | 225    | -    | 0      | -     |
| Veh in Median Storage, # | 0      |       | -      | 0    | 0      | _     |
| Grade, %                 | 0      | -     | -      | 0    | 0      | -     |
| Peak Hour Factor         | 95     | 95    | 95     | 95   | 95     | 95    |
| Heavy Vehicles, %        | 95     | 95    | 95     | 95   | 95     | 95    |
|                          |        |       | 206    |      | 3      | 165   |
| Mvmt Flow                | 537    | 2     | 200    | 507  | 3      | 105   |
|                          |        |       |        |      |        |       |
| Major/Minor              | Major1 |       | Major2 |      | Minor1 |       |
| Conflicting Flow All     | 0      | 0     | 539    | 0    | 1457   | 538   |
| Stage 1                  | -      | -     | -      | -    | 538    | -     |
| Stage 2                  | _      | -     | -      |      | 919    | -     |
| Critical Hdwy            | _      | _     | 4.12   | -    | 6.42   | 6.22  |
| Critical Hdwy Stg 1      | -      | _     |        | -    | 5.42   | -     |
| Critical Hdwy Stg 2      |        | _     | _      | _    | 5.42   | _     |
| Follow-up Hdwy           | -      | -     | 2.218  | -    | 3.518  | 3.318 |
| Pot Cap-1 Maneuver       |        |       | 1029   | -    | 143    | 543   |
| Stage 1                  |        | -     | 1023   | -    | 585    | -     |
| Stage 2                  |        |       |        | -    | 389    | -     |
| Platoon blocked, %       |        | -     | _      | -    | 303    |       |
| Mov Cap-1 Maneuver       | -      | -     | 1029   | -    | 114    | 543   |
|                          | -      |       | 1029   |      | 114    | 543   |
| Mov Cap-2 Maneuver       | -      | -     | -      | -    | 585    | -     |
| Stage 1                  | -      | -     | -      |      |        | -     |
| Stage 2                  | -      | -     | -      | -    | 311    | -     |
|                          |        |       |        |      |        |       |
| Approach                 | EB     |       | WB     |      | NB     |       |
| HCM Control Delay, s     | 0      |       | 2.7    |      | 15.6   |       |
| HCM LOS                  | · ·    |       | ,      |      | C      |       |
|                          |        |       |        |      |        |       |
|                          |        | N.D.  |        |      |        | 11/   |
| Minor Lane/Major Mvmt    |        | NBLn1 | EBT    | EBR  | WBL    | WBT   |
| Capacity (veh/h)         |        | 507   | -      | -    | 1029   | -     |
| HCM Lane V/C Ratio       |        | 0.332 | -      | -    | 0.201  | -     |
| HCM Control Delay (s)    |        | 15.6  | -      | -    | 9.4    | -     |
| HCM Lane LOS             |        | С     | -      | -    | Α      | -     |
| HCM 95th %tile Q(veh)    |        | 1.4   | -      | -    | 0.7    | -     |
| ,                        |        |       |        |      |        |       |

| Intersection             |        |           |          |        |      |          |        |       |           |        |       |              |  |
|--------------------------|--------|-----------|----------|--------|------|----------|--------|-------|-----------|--------|-------|--------------|--|
| Int Delay, s/veh         | 1.2    |           |          |        |      |          |        |       |           |        |       |              |  |
|                          |        | EDT       | EDD      | MDI    | MOT  | MDD      | NDI    | NDT   | NDD       | ODI    | ODT   | 000          |  |
| Movement                 | EBL    | EBT       | EBR      | WBL    | WBT  | WBR      | NBL    | NBT   | NBR       | SBL    | SBT   | SBR          |  |
| Lane Configurations      |        | 4         |          |        | 4    | _        |        | 4     |           | _      | 4     |              |  |
| Traffic Vol, veh/h       | 11     | 390       | 19       | 36     | 449  | 7        | 14     | 0     | 19        | 8      | 0     | 1            |  |
| Future Vol, veh/h        | 11     | 390       | 19       | 36     | 449  | 7        | 14     | 0     | 19        | 8      | 0     | 1            |  |
| 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           | -      | -         | -        | -      | -    | -        | -      | -     | -         | -      | -     | -            |  |
| Veh in Median Storage, # | -      | 0         | -        | -      | 0    | -        | -      | 0     | -         | -      | 0     | -            |  |
| Grade, %                 | -      | 0         | -        | -      | 0    | -        | -      | 0     | -         | -      | 0     | -            |  |
| Peak Hour Factor         | 92     | 92        | 92       | 92     | 92   | 92       | 92     | 92    | 92        | 92     | 92    | 92           |  |
| Heavy Vehicles, %        | 2      | 2         | 2        | 2      | 2    | 2        | 2      | 2     | 2         | 2      | 2     | 2            |  |
| Mvmt Flow                | 12     | 424       | 21       | 39     | 488  | 8        | 15     | 0     | 21        | 9      | 0     | 1            |  |
|                          |        |           |          |        |      |          |        |       |           |        |       |              |  |
| Major/Minor              | Major1 |           |          | Major2 |      |          | Minor1 |       |           | Minor2 |       |              |  |
| Conflicting Flow All     | 496    | 0         | 0        | 445    | 0    | 0        | 1030   | 1033  | 435       | 1039   | 1039  | 492          |  |
| Stage 1                  | -      | _         | -        | -      | -    | -        | 459    | 459   | -         | 570    | 570   | -            |  |
| Stage 2                  | -      |           | -        |        | -    | -        | 571    | 574   | -         | 469    | 469   | -            |  |
| Critical Hdwy            | 4.12   | -         |          | 4.12   |      |          | 7.12   | 6.52  | 6.22      | 7.12   | 6.52  | 6.22         |  |
| Critical Hdwy Stg 1      | 4.12   | -         | -        | 4.12   | -    | -        | 6.12   | 5.52  | 0.22      | 6.12   | 5.52  | 0.22         |  |
| Critical Hdwy Stg 2      | -      | -         | -        | -      |      | -        | 6.12   | 5.52  | -         | 6.12   | 5.52  | -            |  |
| Follow-up Hdwy           | 2.218  | -         |          | 2.218  | -    | -        | 3.518  | 4.018 | 3.318     | 3.518  | 4.018 | 3.318        |  |
|                          | 1068   |           | -        | 1115   | -    |          | 3.518  | 4.018 | 3.318     | 209    | 231   | 3.318<br>577 |  |
| Pot Cap-1 Maneuver       |        | -         | -        |        |      | -        |        |       | -         |        |       |              |  |
| Stage 1                  | -      | -         | -        | -      | -    | -        | 582    | 566   | -         | 506    | 505   | -            |  |
| Stage 2                  | -      | -         | -        | -      | -    | -        | 506    | 503   | -         | 575    | 561   | -            |  |
| Platoon blocked, %       | 1005   | -         | -        | 444=   | -    | -        | 005    | 0.15  | 00/       | 105    | 0.15  |              |  |
| Mov Cap-1 Maneuver       | 1068   | -         | -        | 1115   | -    | -        | 202    | 218   | 621       | 192    | 217   | 577          |  |
| Mov Cap-2 Maneuver       | -      | -         | -        | -      | -    | -        | 202    | 218   | -         | 192    | 217   | -            |  |
| Stage 1                  | -      | -         | -        | -      | -    | -        | 573    | 558   | -         | 498    | 481   | -            |  |
| Stage 2                  | -      | -         | -        | -      | -    | -        | 481    | 479   | -         | 548    | 553   | -            |  |
|                          |        |           |          |        |      |          |        |       |           |        |       |              |  |
| Approach                 | EB     |           |          | WB     |      |          | NB     |       |           | SB     |       |              |  |
| HCM Control Delay, s     | 0.2    |           |          | 0.6    |      |          | 17.2   |       |           | 23.3   |       |              |  |
| HCM LOS                  | V-L    |           |          | - 0.0  |      |          | C      |       |           | C      |       |              |  |
|                          |        |           |          |        |      |          |        |       |           |        |       |              |  |
| Minor Lane/Major Mvmt    |        | NBLn1     | EBL      | EBT    | EBR  | WBL      | WBT    | WBR   | SBLn1     |        |       |              |  |
| Capacity (veh/h)         |        | 330       | 1068     | -      | -    | 1115     | -      | -     | 207       |        |       |              |  |
| HCM Lane V/C Ratio       |        | 0.109     | 0.011    | -      | -    | 0.035    | -      |       | 0.047     |        |       |              |  |
| HCM Control Delay (s)    |        | 17.2      | 8.4      | 0      | -    | 8.3      | 0      | -     | 23.3      |        |       |              |  |
| HCM Lane LOS             |        | 17.2<br>C | 0.4<br>A | A      | -    | 0.3<br>A | A      | -     | 23.3<br>C |        |       |              |  |
|                          |        |           | A<br>0   | А      | -    |          | А      | -     |           |        |       |              |  |
| HCM 95th %tile Q(veh)    |        | 0.4       | U        |        | -    | 0.1      | -      | -     | 0.1       |        |       |              |  |

| Intersection             |        |       |          |      |        |           |
|--------------------------|--------|-------|----------|------|--------|-----------|
| Int Delay, s/veh         | 1.4    |       |          |      |        |           |
| Movement                 | EBL    | EBT   | WBT      | WBR  | SBL    | SBR       |
| Lane Configurations      |        | 4     | <b>1</b> |      | W      |           |
| Traffic Vol, veh/h       | 69     | 473   | 444      | 20   | 12     | 47        |
| Future Vol, veh/h        | 69     | 473   | 444      | 20   | 12     | 47        |
| Conflicting Peds, #/hr   | 0      | 0     | 0        | 0    | 0      | 0         |
| Sign Control             | Free   | Free  | Free     | Free | Stop   | Stop      |
| RT Channelized           | -      | None  | -        | None | -      | None      |
| Storage Length           | -      | -     | -        | -    | 0      | -         |
| Veh in Median Storage, # | -      | 0     | 0        | -    | 0      | _         |
| Grade, %                 |        | 0     | 0        | -    | 0      | _         |
| Peak Hour Factor         | 92     | 92    | 92       | 92   | 92     | 92        |
| Heavy Vehicles, %        | 2      | 2     | 2        | 2    | 2      | 2         |
| Mymt Flow                | 75     | 514   | 483      | 22   | 13     | 51        |
| IVIVIIIC I IOW           | 13     | 017   | 700      | LL   | 10     | V I       |
|                          |        |       |          |      |        |           |
| Major/Minor              | Major1 |       | Major2   |      | Minor2 |           |
| Conflicting Flow All     | 505    | 0     | -        | 0    | 1158   | 494       |
| Stage 1                  | -      | -     | -        | -    | 494    | -         |
| Stage 2                  | -      | -     | -        | -    | 664    | -         |
| Critical Hdwy            | 4.12   | -     | -        | -    | 6.42   | 6.22      |
| Critical Hdwy Stg 1      | -      | -     | -        | -    | 5.42   | -         |
| Critical Hdwy Stg 2      | -      | -     | -        | -    | 5.42   | -         |
| Follow-up Hdwy           | 2.218  | -     | -        | -    | 3.518  | 3.318     |
| Pot Cap-1 Maneuver       | 1060   | -     | -        | -    | 217    | 575       |
| Stage 1                  | -      | -     |          | -    | 613    | -         |
| Stage 2                  | -      | -     | -        | -    | 512    | -         |
| Platoon blocked. %       |        | -     | -        | -    |        |           |
| Mov Cap-1 Maneuver       | 1060   | -     | _        | -    | 196    | 575       |
| Mov Cap-2 Maneuver       | -      | _     | -        | _    | 196    | -         |
| Stage 1                  | _      | _     | _        | _    | 552    | _         |
| Stage 2                  |        | -     | -        | -    | 512    | -         |
| Olago 2                  |        | _     | _        | _    | J12    |           |
|                          |        |       |          |      |        |           |
| Approach                 | EB     |       | WB       |      | SB     |           |
| HCM Control Delay, s     | 1.1    |       | 0        |      | 15.3   |           |
| HCM LOS                  |        |       |          |      | С      |           |
|                          |        |       |          |      |        |           |
| Minor Lane/Major Mvmt    |        | EBL   | EBT      | WBT  | WBR    | SBLn1     |
| Capacity (veh/h)         |        | 1060  | -        | -    | -      | 413       |
| HCM Lane V/C Ratio       |        | 0.071 | -        | -    | -      | 0.155     |
| HCM Control Delay (s)    |        | 8.7   | 0        | _    | _      | 15.3      |
| HCM Lane LOS             |        | Α     | A        | _    | -      | 13.5<br>C |
| HCM 95th %tile Q(veh)    |        | 0.2   | A -      | _    | -      | 0.5       |
| HOW SOUL WILLE (VEIL)    |        | 0.2   | -        | -    | -      | 0.5       |

| Lane Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |      |       |            |      | ١,                  | <b>†</b>  |       | -       | •        | •        |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|-------|------------|------|---------------------|-----------|-------|---------|----------|----------|-------|
| raffic Volume (vph) 59 future Volume (vph) 1900 forage Length (ft) 300 forage Length (ft) 300 forage Length (ft) 25 fane Util. Factor 1.00 fut Brotected 0.950 fatt Protected 0.950 fatt Protected 0.950 fatt Permitted 0.433 fatt. Flow (prot) 1770 fit Permitted 0.433 fatt. Flow (perm) 807 fatt. Flow (perm) 807 fatt. Flow (RTOR) fink Speed (mph) fink Distance (ft) fravel Time (s) forage Imme Imme Imme Imme Imme Imme Imme Im                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EBT       | EBR  | WBL   | WBT        | WBR  | NBL                 | NBT       | NBR   | SBL     | SBT      | SBR      | Ø3    |
| Future Volume (vph)  deal Flow (vphpl)  deal Flow (vphpl)  Storage Length (ft)  Storage Lengt | 1>        |      | ሻ     | <b>↑</b> ↑ |      |                     | सी        | 7     |         | ર્ન      | 7        |       |
| Future Volume (vph)  deal Flow (vphpl)  deal Flow (vphpl)  Storage Length (ft)  Storage Long  Storage Length (ft)  | 513       | 57   | 25    | 510        | 7    | 31                  | 2         | 22    | 7       | 4        | 87       |       |
| Storage Length (ft) 300 Storage Lanes 1 Faper Length (ft) 25 Jane Util. Factor 1.00 Firt 1.00 Fi | 513       | 57   | 25    | 510        | 7    | 31                  | 2         | 22    | 7       | 4        | 87       |       |
| Storage Lanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1900      | 1900 | 1900  | 1900       | 1900 | 1900                | 1900      | 1900  | 1900    | 1900     | 1900     |       |
| Storage Lanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           | 0    | 90    |            | 0    | 0                   |           | 150   | 0       |          | 170      |       |
| Taper Length (ft) 25 Lane Util. Factor 1.00 Fit 1.00 Fit 1.00 Fit 2.11 Protected 0.950 Fit 2.11 Protected 0.950 Fit 3.12 Protected 0.950 Fit 4.12 Permitted 0.433 Fit 5.12 Protected 0.433 Fit 6.12 Protected 0.433 Fit 6.13  |           | 0    | 1     |            | 0    | 0                   |           | 1     | 0       |          | 1        |       |
| Anne Util. Factor   1.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |      | 60    |            | ·    | 25                  |           | •     | 25      |          | •        |       |
| Et Protected 0.950 Catd. Flow (prot) 1770 Catd. Flow (prot) 1770 Catd. Flow (perm) 807 Catd. Flow (RTOR) Catd. Flow (RTOR) Catd. Flow (RTOR) Catd. Flow (RTOR) Catd. Flow (yph) Catal Flow (yph) 61 Catal Flow (yph) 62 Catal Flow (yph) 62 Catal Flow (yph) 63 Catal Flow (yph) 63 Catal Flow (yph) 64 Catal Flow (yph) 764 Catal Fl | 1.00      | 1.00 | 1.00  | 0.95       | 0.95 | 1.00                | 1.00      | 1.00  | 1.00    | 1.00     | 1.00     |       |
| Strain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.985     | 1.00 | 1.00  | 0.998      | 0.50 | 1.00                | 1.00      | 0.850 | 1.00    | 1.00     | 0.850    |       |
| Satd. Flow (prot) 1770  Cit Permitted 0.433  Satd. Flow (perm) 807  Right Turn on Red  Satd. Flow (RTOR)  Link Speed (mph)  Link Distance (ft)  Fravel Time (s)  Peak Hour Factor 0.96  Adj. Flow (vph) 61  Corner Type pm+pt  Protected Phases 6  Detector Phase 1  Switch Phase  Minimum Initial (s) 5.0  Minimum Split (s) 9.0  Total Split (s) 16.0  Total Split (s) 13.3%  Cellow Time (s) 3.0  All-Red Time (s) 4.0  Lead/Lag Lead  Lead-Lag Optimize?  Recall Mode None  Act Effct Green (s) 41.8  Actuated g/C Ratio 0.67  Control Delay 0.9  Control Del | 0.303     |      | 0.950 | 0.330      |      |                     | 0.955     | 0.000 |         | 0.969    | 0.000    |       |
| Step                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1835      | 0    | 1770  | 3532       | 0    | 0                   | 1779      | 1583  | 0       | 1805     | 1583     |       |
| Satd. Flow (perm)  Right Turn on Red Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft)  Travel Time (s) Peak Hour Factor Log. Flow (vph) Shared Lane Traffic (%) Lane Group Flow (vph) Lane Group Flow (vph) Laren Type Protected Phases Sermitted Phases Sermitted Phases Alberted Phase Alberted Phase Alimimum Initial (s) Log. Total Split (s) Lotal Split (s) Lotal Split (s) Lotal Split (s) Lotal Lost Time (s) Lotal Lost Time (s) Lead/Lag Lead Lead-Lag Optimize? Recall Mode Lotal Time (s) Lotal Delay Local D | 1000      | U    |       | 3332       | U    | U                   |           | 1303  | U       |          | 1303     |       |
| Right Turn on Red Satd. Flow (RTOR) sink Speed (mph) ink Distance (ft) fravel Time (s) seak Hour Factor 0.96 adj. Flow (vph) 61 shared Lane Traffic (%) sane Group Flow (vph) 61 chared Lane Traffic (%) sane Group Flow (vph) 61 chared Lane Traffic (%) sane Group Flow (vph) 61 chared Lane Traffic (%) sane Group Flow (vph) 61 chared Lane Traffic (%) sane Group Flow (vph) 61 chared Lane Traffic (%) pm+pt (%) shared Lane Traffic (%) pm+pt (%) shared Lane Traffic (%) pm+pt (%) shared Lane Lane Lane Lane Lane Lane Lane Lane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4005      | _    | 0.342 | 0500       | ^    |                     | 0.731     | 4500  |         | 0.787    | 4500     |       |
| Satd. Flow (RTOR) Link Speed (mph) Link Distance (ft) Link Distance (f | 1835      | 0    | 637   | 3532       | 0    | 0                   | 1362      | 1583  | 0       | 1466     | 1583     |       |
| ink Speed (mph) ink Distance (ft) fravel Time (s) Peak Hour Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | Yes  |       |            | Yes  |                     |           | Yes   |         |          | Yes      |       |
| ink Distance (ft)  fravel Time (s)  Peak Hour Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5         |      |       | 1          |      |                     |           | 72    |         |          | 91       |       |
| ravel Time (s)  Peak Hour Factor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 45        |      |       | 45         |      |                     | 25        |       |         | 25       |          |       |
| Peak Hour Factor         0.96           Adj. Flow (vph)         61           Shared Lane Traffic (%)         61           Shared Lane Traffic (%)         61           Shared Lane Traffic (%)         61           Furn Type         pm+pt           Protected Phases         1           Permitted Phases         6           Detector Phase         1           Switch Phase         1           Minimum Initial (s)         5.0           Minimum Split (s)         9.0           Votal Split (%)         13.3%           Millered Time (s)         1.0           Solal Red Time (s)         1.0           Solal Red Time (s)         4.0           Lead Lag         Lead           Lead-Lag Optimize?         Recall Mode           None act Effect Green (s)         41.8           Act Latted g/C Ratio         0.67           Control Delay         6.9           Queue Delay         0.0           Control Delay         6.9           Queue Delay         0.0           Approach Delay         0.0           Approach Delay         0.0           Approach LOS         10           Stops (vph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1421      |      |       | 460        |      |                     | 391       |       |         | 385      |          |       |
| Adj. Flow (vph) Shared Lane Traffic (%) ane Group Flow (vph) For tected Phases For t | 21.5      |      |       | 7.0        |      |                     | 10.7      |       |         | 10.5     |          |       |
| Adj. Flow (vph) Shared Lane Traffic (%) ane Group Flow (vph) For tected Phases For t | 0.96      | 0.96 | 0.96  | 0.96       | 0.96 | 0.96                | 0.96      | 0.96  | 0.96    | 0.96     | 0.96     |       |
| Shared Lane Traffic (%)  Lane Group Flow (vph) 61  Turn Type pm+pt  Protected Phases 1  Permitted Phases 6  Detector Phase 1  Switch Phase 1  Switch Phase 5  Detector Phase 1  Switch Phase 1 | 534       | 59   | 26    | 531        | 7    | 32                  | 2         | 23    | 7       | 4        | 91       |       |
| ane Group Flow (vph) 61 furn Type pm+pt furn Type pm+pt furn Type pm+pt for tected Phases 1 formitted Phases 6 for the phase 1 fowitch Phase 1 | 001       | 30   | _0    |            |      | <b>7</b> L          | _         |       |         |          | J.       |       |
| rurn Type pm+pt Protected Phases 1 Permitted Phases 6 Petector Phase 1 Powitch Phase 1 Protected Phase 5 Petector Phase 1 Protected Phase 5 Petector Phase 6 Protected Phase 5 Petector Phase 1 Protected Phase 6 Petector Phase 7 Protected Phase 7 Protected Phase 8 Petermitted Phases 6 Petermitted Phase 8 Pe | 593       | 0    | 26    | 538        | 0    | 0                   | 34        | 23    | 0       | 11       | 91       |       |
| Protected Phases 1 Permitted Phases 6 Permitted Phases 6 Permitted Phases 6 Permitted Phase 1 Powitch Phase 1 Powitch Phase 1 Powitch Phase 2 Powitch Phase 3 Powitch Phase 3 Powitch Phase 3 Powitch Phase 3 Powitch Phase 4 Powitch Phase 4 Powitch Phase 5 Powitch Phase 5 Powitch Phase 6 Powitch Phase 7  | NA        | U    |       | NA         | U    | Perm                | NA        | pt+ov | Perm    | NA       | pt+ov    |       |
| Permitted Phases 6 Detector Phase 1 Dete |           |      | pm+pt | 2          |      | r <del>c</del> iiii | 1NA<br>4  |       | r ellil |          |          | 3     |
| Detector Phase 1 Switch Phase  Minimum Initial (s) 5.0  Minimum Split (s) 9.0  Total Split (s) 16.0  Total Split (s) 13.3%  Fellow Time (s) 3.0  MI-Red Time (s) 1.0  Total Lost Time (s) 4.0  Total Delay 0.0   | 6         |      | 5     | 2          |      | 4                   | 4         | 4 5   | 4       | 4        | 14       | 3     |
| Switch Phase  ### Minimum Initial (s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |      | 2     |            |      | 4                   |           |       | 4       |          |          |       |
| Minimum Initial (s) 5.0  Minimum Split (s) 9.0  Minimum Split (s) 9.0  Minimum Split (s) 16.0  Minimum | 6         |      | 5     | 2          |      | 4                   | 4         | 4 5   | 4       | 4        | 14       |       |
| Alinimum Split (s)         9.0           Total Split (s)         16.0           Total Split (s)         13.3%           Yellow Time (s)         3.0           All-Red Time (s)         1.0           Lost Time Adjust (s)         0.0           Yead Lag         Lead           Lead Lag Optimize?         Lead           Recall Mode         None           Vect Effet Green (s)         41.8           Vectuated g/C Ratio         0.67           Year Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Year Delay         6.9           Osa         A           Approach Delay         6.9           Osa Delay         6.9 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |      |       |            |      |                     |           |       |         |          |          |       |
| Total Split (s)         16.0           Total Split (%)         13.3%           Yellow Time (s)         3.0           All-Red Time (s)         1.0           ost Time Adjust (s)         0.0           Yead Lost Time (s)         4.0           ead-Lag Optimize?         Recall Mode           Recall Mode         None           Act Effet Green (s)         41.8           Actuated g/C Ratio         0.67           Ye Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Year Total Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           Group Losed (gal)         1           FOC Emissions (g/hr)         61           HOX Emissions (g/hr)         14           Oblemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15.0      |      | 5.0   | 15.0       |      | 7.0                 | 7.0       |       | 7.0     | 7.0      |          | 5.0   |
| Total Split (%)         13.3%           Yellow Time (s)         3.0           All-Red Time (s)         1.0           ost Time Adjust (s)         0.0           Yellow Time (s)         4.0           Lead Lag         Lead           Lead-Lag Optimize?         Recall Mode           Recall Mode         None           Act Effet Green (s)         41.8           Actuated g/C Ratio         0.67           /c Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Yellow Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           Yellow Delay         1           Yellow Delay         1 </td <td>21.9</td> <td></td> <td>9.0</td> <td>21.9</td> <td></td> <td>12.3</td> <td>12.3</td> <td></td> <td>12.3</td> <td>12.3</td> <td></td> <td>27.0</td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 21.9      |      | 9.0   | 21.9       |      | 12.3                | 12.3      |       | 12.3    | 12.3     |          | 27.0  |
| Kellow Time (s)         3.0           All-Red Time (s)         1.0           oost Time Adjust (s)         0.0           otal Lost Time (s)         4.0           ead/Lag         Lead           ead-Lag Optimize?         Recall Mode           loct Effct Green (s)         41.8           loct Effct Green (s)         41.8           loct Lated g/C Ratio         0.67           lock Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Iotal Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           iucl Used(gal)         1           IOC Emissions (g/hr)         61           IOX Emissions (g/hr)         14           Diemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 41.9      |      | 14.0  | 41.9       |      | 35.3                | 35.3      |       | 35.3    | 35.3     |          | 27.0  |
| Kellow Time (s)         3.0           All-Red Time (s)         1.0           oost Time Adjust (s)         0.0           otal Lost Time (s)         4.0           ead/Lag         Lead           ead-Lag Optimize?         Recall Mode           loct Effct Green (s)         41.8           loct Effct Green (s)         41.8           loct Lated g/C Ratio         0.67           lock Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Iotal Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           iucl Used(gal)         1           IOC Emissions (g/hr)         61           IOX Emissions (g/hr)         14           Diemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 34.9%     |      | 11.6% | 34.9%      |      | 29.4%               | 29.4%     |       | 29.4%   | 29.4%    |          | 22%   |
| All-Red Time (s) 1.0  Lost Time Adjust (s) 0.0  Total Lost Time (s) 4.0  Lead/Lag Lead  Lead-Lag Optimize?  Recall Mode None Act Effct Green (s) 41.8  Actuated g/C Ratio 0.67  Lord Ratio 0.10  Control Delay 6.9  Loueue Delay 0.0  Total Delay 6.9  Lopeueue Delay 0.0  Lotal Delay 6.9  Lopeueue Used(gal) 1  Lopeueue Used(gal) 1  Lopeueue Used(gal) 1  Lopeueue Length (g/hr) 14  Lopeueue Length 50th (ft) 5  Lopeueue Length 95th (ft) 38  Internal Link Dist (ft)  Lord Base Capacity (vph) 764  Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5.0       |      | 3.0   | 5.0        |      | 3.7                 | 3.7       |       | 3.7     | 3.7      |          | 4.0   |
| Cost Time Adjust (s)   0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.9       |      | 1.0   | 1.9        |      | 1.6                 | 1.6       |       | 1.6     | 1.6      |          | 0.0   |
| Total Lost Time (s)   4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.0       |      | 0.0   | 0.0        |      | 1.0                 | 0.0       |       | 1.0     | 0.0      |          | 0.0   |
| Lead/Lag         Lead           Lead-Lag Optimize?         Recall Mode         None           Recall Mode         None         At 1.8           Actuated g/C Ratio         0.67         0.67           Vc Ratio         0.10         0.10           Control Delay         6.9         0.0           Queue Delay         0.0         0.0           Ootal Delay         6.9         0.9           Approach LOS         Approach LOS         0.0           Stops (vph)         20         0.0           CO Emissions (g/hr)         1         0.0           LOO Emissions (g/hr)         12         0.0           VOC Emissions (g/hr)         14         0.0           Deueue Length 50th (ft)         5         0.0           Queue Length 50th (ft)         5         0.0           Queue Length 50th (ft)         38         0.0           Dasse Capacity (vph)         764         0.0           Catriation Cap Reductn         0         0.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.9       |      | 4.0   | 6.9        |      |                     | 5.3       |       |         | 5.3      |          |       |
| Lead-Lag Optimize?           Recall Mode         None           Act Effet Green (s)         41.8           Actuated g/C Ratio         0.67           I/c Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Oos         A           Approach Delay         6.9           Approach LOS         6.9           Stops (vph)         20           Euel Used(gal)         1           CO Emissions (g/hr)         61           MOx Emissions (g/hr)         12           //OC Emissions (g/hr)         14           Dilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)           Gase Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |      |       |            |      | Las                 |           |       | 1       |          |          | اممما |
| Recall Mode         None           Act Effet Green (s)         41.8           Actuated g/C Ratio         0.67           V/c Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Total Delay         6.9           Approach Delay         6.9           Approach LOS         6.9           Stops (vph)         20           Evel Used(gal)         1           CO Emissions (g/hr)         61           MOX Emissions (g/hr)         12           V/OC Emissions (g/hr)         14           Dilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Lag       |      | Lead  | Lag        |      | Lag                 | Lag       |       | Lag     | Lag      |          | Lead  |
| Act Effet Green (s) 41.8 Actuated g/C Ratio 0.67 Act Ratio 0.10 Control Delay 6.9 Queue Delay 0.0 Total Delay 6.9 Approach Delay Approach LOS Stops (vph) 20 Cole Hissions (g/hr) 12 ACO Emissions (g/hr) 12 ACO Emissions (g/hr) 14 Dilemma Vehicles (#) 0 Queue Length 50th (ft) 5 Queue Length 95th (ft) 38 Internal Link Dist (ft) Turn Bay Length (ft) 300 Base Capacity (vph) 764 Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |      |       |            |      |                     |           |       |         |          |          |       |
| Actuated g/C Ratio 0.67  Actuated g/C Ratio 0.10  Control Delay 6.9  Queue Delay 0.0  Total Delay 6.9  Approach Delay  Approach LOS  Stops (vph) 20  Col Emissions (g/hr) 12  ACC Emissions (g/hr) 14  Dilemma Vehicles (#) 0  Queue Length 50th (ft) 5  Queue Length 95th (ft) 38  Internal Link Dist (ft)  Case Capacity (vph) 764  Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Min       |      | None  | Min        |      | None                | None      |       | None    | None     |          | None  |
| I/c Ratio         0.10           Control Delay         6.9           Queue Delay         0.0           Oos         A           Approach Delay         Approach LOS           Stops (vph)         20           cuel Used(gal)         1           CO Emissions (g/hr)         61           IOX Emissions (g/hr)         12           O'CC Emissions (g/hr)         14           Diemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)           Turn Bay Length (ft)         300           Sase Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 37.1      |      | 40.4  | 34.6       |      |                     | 7.9       | 15.6  |         | 7.9      | 17.2     |       |
| Control Delay 6.9 Queue Delay 0.0 Cotal Delay 6.9 COS A Approach Delay Approach LOS Stops (vph) 20 CO Emissions (g/hr) 12 CO Emissions (g/hr) 14 CO Emissions (g/hr) 14 CO Emissions (g/hr) 14 CO Emissions (g/hr) 15 CO Emissions (g/hr) 15 CO Emissions (g/hr) 16 CO Emissions (g/hr) 17 CO Emissions (g/hr) 18 CO Emissions (g/hr) 19 CO Emissions (g | 0.60      |      | 0.65  | 0.56       |      |                     | 0.13      | 0.25  |         | 0.13     | 0.28     |       |
| Queue Delay         0.0           Cotal Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           ivel Used(gal)         1           iOC Emissions (g/hr)         61           IOX Emissions (g/hr)         14           Oilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.54      |      | 0.05  | 0.27       |      |                     | 0.20      | 0.05  |         | 0.06     | 0.18     |       |
| Queue Delay         0.0           Cotal Delay         6.9           OS         A           Approach Delay         Approach LOS           Stops (vph)         20           ivel Used(gal)         1           iOC Emissions (g/hr)         61           IOX Emissions (g/hr)         14           Oilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 16.8      |      | 7.1   | 12.5       |      |                     | 33.1      | 0.2   |         | 31.5     | 7.0      |       |
| Cotal Delay   Cotal Delay   Cotal Delay   Cotal Delay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.0       |      | 0.0   | 0.0        |      |                     | 0.0       | 0.0   |         | 0.0      | 0.0      |       |
| Approach Delay Approach LOS Stops (vph) 20 Fuel Used(gal) 1 FOC Emissions (g/hr) 61 FOC Emissions (g/hr) 12 FOC Emissions (g/hr) 14 FOC Emissions (g/hr) 14 FOC Emissions (g/hr) 15 FOC Emissions (g/hr) 16 FOC Emissions (g/hr) 17 FOC Emissions (g/hr) 18 FOC Emissions (g/hr) 19 FOC Emissions (g/h | 16.8      |      | 7.1   | 12.5       |      |                     | 33.1      | 0.2   |         | 31.5     | 7.0      |       |
| Approach Delay Approach LOS Stops (vph) 20 Euel Used(gal) 1 EO Emissions (g/hr) 61 EO Emissions (g/hr) 12 EO Emissions (g/hr) 14 Dilemma Vehicles (#) 0 Eueue Length 50th (ft) 5 Eueue Length 95th (ft) 38 Enternal Link Dist (ft) Eurn Bay Length (ft) 300 Estarvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | В         |      | Α.    | 12.3<br>B  |      |                     | C         | Α     |         | C C      | 7.0<br>A |       |
| pproach LOS  tops (vph) 20  uel Used(gal) 1  CO Emissions (g/hr) 61  IOX Emissions (g/hr) 12  VOC Emissions (g/hr) 14  bilemma Vehicles (#) 0  Queue Length 50th (ft) 5  Queue Length 95th (ft) 38  nternal Link Dist (ft)  urn Bay Length (ft) 300  tase Capacity (vph) 764  bitarvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 15.9      |      |       | 12.2       |      |                     | 19.8      |       |         | 9.7      | Α        |       |
| tops (vph) 20 fuel Used(gal) 1 fuel Used | 15.9<br>B |      |       | 12.2<br>B  |      |                     | 19.0<br>B |       |         | 9.7<br>A |          |       |
| tuel Used(gal) 1 CO Emissions (g/hr) 61 IOX Emissions (g/hr) 12 IOX Emissions (g/hr) 14 Dilemma Vehicles (#) 0 Queue Length 50th (ft) 5 Queue Length 95th (ft) 38 Internal Link Dist (ft) Turn Bay Length (ft) 300 Base Capacity (vph) 764 Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |      | 11    |            |      |                     |           | ^     |         |          | 10       |       |
| CO Emissions (g/hr) 61  IOX Emissions (g/hr) 12  IOX Emissions (g/hr) 14  Dilemma Vehicles (#) 0  Queue Length 50th (ft) 5  Queue Length 95th (ft) 38  Internal Link Dist (ft)  Turn Bay Length (ft) 300  Base Capacity (vph) 764  Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 334       |      | 11    | 276        |      |                     | 31        | 0     |         | 13       | 16       |       |
| AOX Emissions (g/hr) 12  AOX Emissions (g/hr) 14  Dilemma Vehicles (#) 0  Queue Length 50th (ft) 5  Queue Length 95th (ft) 38  Internal Link Dist (ft)  Turn Bay Length (ft) 300  Base Capacity (vph) 764  Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 11        |      | 0     | 9          |      |                     | 0         | 0     |         | 0        | 0        |       |
| /OC Emissions (g/hr)         14           Dilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 793       |      | 26    | 609        |      |                     | 32        | 5     |         | 11       | 33       |       |
| Dilemma Vehicles (#)         0           Queue Length 50th (ft)         5           Queue Length 95th (ft)         38           Internal Link Dist (ft)         300           Furn Bay Length (ft)         300           Base Capacity (vph)         764           Starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 154       |      | 5     | 118        |      |                     | 6         | 1     |         | 2        | 6        |       |
| Queue Length 50th (ft) 5 Queue Length 95th (ft) 38 Internal Link Dist (ft) Turn Bay Length (ft) 300 Base Capacity (vph) 764 Starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 184       |      | 6     | 141        |      |                     | 7         | 1     |         | 3        | 8        |       |
| Queue Length 95th (ft)     38       Internal Link Dist (ft)     300       Furn Bay Length (ft)     300       Base Capacity (vph)     764       Starvation Cap Reductn     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 33        |      | 0     | 29         |      |                     | 0         | 0     |         | 0        | 0        |       |
| Queue Length 95th (ft)     38       Internal Link Dist (ft)     300       Furn Bay Length (ft)     300       Base Capacity (vph)     764       Starvation Cap Reductn     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 134       |      | 2     | 51         |      |                     | 11        | 0     |         | 3        | 0        |       |
| nternal Link Dist (ft) furn Bay Length (ft) 300 lase Capacity (vph) 764 starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | #526      |      | 20    | 173        |      |                     | 49        | 0     |         | 23       | 38       |       |
| furn Bay Length (ft)         300           dase Capacity (vph)         764           starvation Cap Reductn         0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1341      |      |       | 380        |      |                     | 311       |       |         | 305      |          |       |
| ase Capacity (vph) 764<br>tarvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | .0.11     |      | 90    | 000        |      |                     | 0/1       | 150   |         | 030      | 170      |       |
| starvation Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1265      |      | 638   | 2340       |      |                     | 693       | 842   |         | 746      | 884      |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |      |       |            |      |                     |           |       |         |          |          |       |
| philipack Cap Reductin 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0         |      | 0     | 0          |      |                     | 0         | 0     |         | 0        | 0        |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0         |      | 0     | 0          |      |                     | 0         | 0     |         | 0        | 0        |       |
| Storage Cap Reductn 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0         |      | 0     | 0          |      |                     | 0         | 0     |         | 0        | 0        |       |
| Reduced v/c Ratio 0.08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.47      |      | 0.04  | 0.23       |      |                     | 0.05      | 0.03  |         | 0.01     | 0.10     |       |
| ntersection Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |      |       |            |      |                     |           |       |         |          |          |       |
| •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |      |       |            |      |                     |           |       |         |          |          |       |
| rea Type: Other Sycle Length: 120.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |      |       |            |      |                     |           |       |         |          |          |       |

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|                                           | ٠       | -            | $\rightarrow$ | •        | <b>←</b>     | •    | 4       | <b>†</b>    | <b>/</b> | -       | ļ           | 4    |      |
|-------------------------------------------|---------|--------------|---------------|----------|--------------|------|---------|-------------|----------|---------|-------------|------|------|
| Lane Group                                | EBL     | EBT          | EBR           | WBL      | WBT          | WBR  | NBL     | NBT         | NBR      | SBL     | SBT         | SBR  | Ø3   |
| Lane Configurations                       |         | 4            |               | 7        | 1>           |      |         | 4           |          |         | 4           |      |      |
| Traffic Volume (vph)                      | 28      | 363          | 97            | 126      | 420          | 12   | 105     | 61          | 142      | 16      | 60          | 31   |      |
| Future Volume (vph)                       | 28      | 363          | 97            | 126      | 420          | 12   | 105     | 61          | 142      | 16      | 60          | 31   |      |
| deal Flow (vphpl)                         | 1900    | 1900         | 1900          | 1900     | 1900         | 1900 | 1900    | 1900        | 1900     | 1900    | 1900        | 1900 |      |
| Lane Width (ft)                           | 12      | 12           | 12            | 11       | 12           | 12   | 12      | 16          | 12       | 12      | 16          | 12   |      |
| Storage Length (ft)                       | 0       |              | 0             | 100      |              | 0    | 0       |             | 0        | 0       |             | 0    |      |
| Storage Lanes                             | 0       |              | 0             | 1        |              | 0    | 0       |             | 0        | 0       |             | 0    |      |
| Taper Length (ft)                         | 25      |              |               | 60       |              |      | 25      |             |          | 25      |             |      |      |
| Lane Util. Factor                         | 1.00    | 1.00         | 1.00          | 1.00     | 1.00         | 1.00 | 1.00    | 1.00        | 1.00     | 1.00    | 1.00        | 1.00 |      |
| Frt                                       |         | 0.973        |               |          | 0.996        |      |         | 0.938       |          |         | 0.961       |      |      |
| FIt Protected                             |         | 0.997        |               | 0.950    |              | _    |         | 0.983       |          | _       | 0.992       |      |      |
| Satd. Flow (prot)                         | 0       | 1807         | 0             | 1711     | 1855         | 0    | 0       | 1947        | 0        | 0       | 2013        | 0    |      |
| FIt Permitted                             | •       | 0.952        |               | 0.341    | 40==         | •    | •       | 0.837       |          |         | 0.917       |      |      |
| Satd. Flow (perm)                         | 0       | 1725         | 0             | 614      | 1855         | 0    | 0       | 1657        | 0        | 0       | 1860        | 0    |      |
| Right Turn on Red                         |         |              | No            |          | •            | Yes  |         | 00          | Yes      |         |             | No   |      |
| Satd. Flow (RTOR)                         |         | 45           |               |          | 2            |      |         | 38          |          |         | ٥٢          |      |      |
| Link Speed (mph)                          |         | 45           |               |          | 45           |      |         | 25          |          |         | 25          |      |      |
| Link Distance (ft)                        |         | 2664<br>40.4 |               |          | 684          |      |         | 503<br>13.7 |          |         | 419<br>11.4 |      |      |
| Travel Time (s) Peak Hour Factor          | 0.91    | 0.91         | 0.91          | 0.91     | 10.4<br>0.91 | 0.91 | 0.91    | 0.91        | 0.91     | 0.91    | 0.91        | 0.91 |      |
| Peak Hour Factor<br>Adj. Flow (vph)       | 31      | 399          | 107           | 138      | 462          | 13   | 115     | 67          | 156      | 18      | 0.91        | 34   |      |
| Shared Lane Traffic (%)                   | 31      | 333          | 107           | 130      | 402          | 13   | 110     | 07          | 100      | 10      | 00          | 34   |      |
| Lane Group Flow (vph)                     | 0       | 537          | 0             | 138      | 475          | 0    | 0       | 338         | 0        | 0       | 118         | 0    |      |
| Turn Type                                 | Perm    | NA           | U             | D.P+P    | NA           | U    | Perm    | NA          | U        | Perm    | NA          | U    |      |
| Protected Phases                          | I CIIII | 2            |               | 1        | 12           |      | I CIIII | 4           |          | I CIIII | 4           |      | 3    |
| Permitted Phases                          | 2       |              |               | 2        | 12           |      | 4       |             |          | 4       | 7           |      |      |
| Detector Phase                            | 2       | 2            |               | 1        | 12           |      | 4       | 4           |          | 4       | 4           |      |      |
| Switch Phase                              | _       | _            |               |          |              |      |         |             |          |         | •           |      |      |
| Minimum Initial (s)                       | 15.0    | 15.0         |               | 5.0      |              |      | 9.0     | 9.0         |          | 9.0     | 9.0         |      | 7.0  |
| Minimum Split (s)                         | 21.7    | 21.7         |               | 9.0      |              |      | 13.6    | 13.6        |          | 13.6    | 13.6        |      | 21.0 |
| Total Split (s)                           | 41.7    | 41.7         |               | 14.0     |              |      | 29.6    | 29.6        |          | 29.6    | 29.6        |      | 21.0 |
| Total Split (%)                           | 39.2%   | 39.2%        |               | 13.2%    |              |      | 27.8%   | 27.8%       |          | 27.8%   | 27.8%       |      | 20%  |
| Yellow Time (s)                           | 4.4     | 4.4          |               | 3.0      |              |      | 3.3     | 3.3         |          | 3.3     | 3.3         |      | 4.0  |
| All-Red Time (s)                          | 2.3     | 2.3          |               | 1.0      |              |      | 1.3     | 1.3         |          | 1.3     | 1.3         |      | 0.0  |
| Lost Time Adjust (s)                      |         | 0.0          |               | 0.0      |              |      |         | 0.0         |          |         | 0.0         |      |      |
| Total Lost Time (s)                       |         | 6.7          |               | 4.0      |              |      |         | 4.6         |          |         | 4.6         |      |      |
| Lead/Lag                                  | Lag     | Lag          |               | Lead     |              |      | Lag     | Lag         |          | Lag     | Lag         |      | Lead |
| Lead-Lag Optimize?                        |         |              |               |          |              |      |         |             |          |         |             |      |      |
| Recall Mode                               | Min     | Min          |               | Min      |              |      | None    | None        |          | None    | None        |      | None |
| Act Effct Green (s)                       |         | 32.4         |               | 45.4     | 49.5         |      |         | 20.0        |          |         | 20.0        |      |      |
| Actuated g/C Ratio                        |         | 0.40         |               | 0.56     | 0.61         |      |         | 0.25        |          |         | 0.25        |      |      |
| v/c Ratio                                 |         | 0.78         |               | 0.29     | 0.42         |      |         | 0.78        |          |         | 0.26        |      |      |
| Control Delay                             |         | 33.4         |               | 11.2     | 12.1         |      |         | 40.6        |          |         | 28.7        |      |      |
| Queue Delay                               |         | 0.0          |               | 0.0      | 0.0          |      |         | 0.0         |          |         | 0.0         |      |      |
| Total Delay                               |         | 33.4         |               | 11.2     | 12.1         |      |         | 40.6        |          |         | 28.7        |      |      |
| LOS                                       |         | C            |               | В        | В            |      |         | D           |          |         | C           |      |      |
| Approach Delay                            |         | 33.4         |               |          | 11.9         |      |         | 40.6        |          |         | 28.7        |      |      |
| Approach LOS                              |         | C            |               | - 1      | В            |      |         | D           |          |         | C           |      |      |
| Stops (vph)                               |         | 372          |               | 54       | 218          |      |         | 231         |          |         | 80          |      |      |
| Fuel Used(gal)                            |         | 16           |               | 2        | 6            |      |         | 5           |          |         | 1           |      |      |
| CO Emissions (g/hr)                       |         | 1147         |               | 106      | 398          |      |         | 332         |          |         | 92          |      |      |
| NOx Emissions (g/hr) VOC Emissions (g/hr) |         | 223          |               | 21       | 77<br>92     |      |         | 65<br>77    |          |         | 18<br>21    |      |      |
| Dilemma Vehicles (#)                      |         | 266<br>26    |               | 25<br>0  | 26           |      |         | 0           |          |         | 0           |      |      |
| Queue Length 50th (ft)                    |         | 218          |               | 24       | 104          |      |         | 140         |          |         | 48          |      |      |
| Queue Length 95th (ft)                    |         | #567         |               | 24<br>87 | 310          |      |         | #340        |          |         | 117         |      |      |
| Internal Link Dist (ft)                   |         | 2584         |               | 01       | 604          |      |         | #340<br>423 |          |         | 339         |      |      |
| Turn Bay Length (ft)                      |         | 2304         |               | 100      | 004          |      |         | 423         |          |         | 333         |      |      |
| Base Capacity (vph)                       |         | 764          |               | 481      | 1190         |      |         | 550         |          |         | 588         |      |      |
| Starvation Cap Reductn                    |         | 0            |               | 0        | 0            |      |         | 0           |          |         | 0           |      |      |
| Spillback Cap Reductn                     |         | 0            |               | 0        | 0            |      |         | 0           |          |         | 0           |      |      |
| Storage Cap Reductin                      |         | 0            |               | 0        | 0            |      |         | 0           |          |         | 0           |      |      |
| Reduced v/c Ratio                         |         | 0.70         |               | 0.29     | 0.40         |      |         | 0.61        |          |         | 0.20        |      |      |
| Intersection Summary                      |         |              |               |          |              |      |         |             |          |         |             |      |      |
| Area Type:                                | Other   |              |               |          |              |      |         |             |          |         |             |      |      |

Cycle Length: 106.3

Actuated Cycle Length: 81.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 26.4

Intersection Capacity Utilization 86.5%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Totoket Rd & Route 80